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MEDICAL RECORD

A Weekly Journal of Medicine and Surgery

EDITED BY

GEORGE F. SHRADY, A.M., M.D.

CONSULTING SURGEON TO ST. FRANCIS HOSPITAL, TO THE GENERAL MEMORIAL HOSPITAL, TO THE COLUMBUS HOSPITAL, TO THE NEW YORK RED CROSS HOSPITAL, AND CONSULTING PHYSICIAN-IN-CHIEF TO THE HOSPITALS OF THE HEALTH DEPARTMENT OF THE CITY OF NEW YORK.

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Original Articles.

OBSERVATIONS IN CHINA AND THE TROPICS ON THE ARMY RATION AND THE POST EXCHANGE OR CANTEEN.*

BY MAJOR LOUIS LIVINGSTON SEAMAN, M. D. LL. B.,
NEW YORK,
LATE SURGEON FIRST U. S. VOLUNTEER ENGINEERS.

PEKING, United States Military Hospital No. 1, Camp Reilly, occupies one of the many compounds of the Temple of Agriculture, one of the most sacred and classic spots in the Celestial Empire. It is here that the "Son of Heaven," attended by high religious functionaries, comes annually in great pomp and splendor, on the Chinese New Year (corresponding with our 19th of February) to break the soil with his own hands, and to pray to the gods of air, and water, that sunshine and rain may bring bounteous crops to his land, and that prosperity and happiness may thereby come to his people. For reasons unnecessary to mention, for the first time in centuries, this beautiful and poetical ceremony was this year omitted. Occidental ideas in the way of punitive expeditions, revenge, lootings, ravishings, pillagings, the torch, drowning by thousands (twelve thousand innocents in one day driven into the Amur River at Blagoveshinski), being some of the methods now in vogue, for impressing a "higher civilization" on this unhappy land. But, as Kipling might say, "this is another story," only, it may be added, with patriotic pride, General Chaffee and the American forces were not participants in these acts of vandalism. They never forgot the laws of honorable warfare, and no deed can be attributed to them that will tarnish the bright escutcheon of this great Republic.

There is but one style of architecture in China, and its types never becomes monotonous because it is so artistically perfect. The larger temples, notably those in the forbidden City, the Ming Tombs, andthose in the Compounds of "Agriculture" and "Heaven" are built on a raised dais of granite or marble masonry. They have neither basement nor gallery. The curved overhanging tiled roof is supported by almost windowless walls, save for here and there latticed openings and by massive columns of wood with heavy crossbeams. The splendor of the interior decorations is dazzling. Red in lacquer is the prevailing tint of the walls, while the monster crossbeams and ceiling are covered with innumerable dragons in gold and silver, on a frescoed background of green and blue. It is in such a building of splendid magnificence that the Medical staff of "The Chinese Relief Expedition" has quartered itself, and where, by invitation, I found myself most pleasantly billetted for nearly two months of the past winter. The floor space of the Temple being greater than was needed by the staff, one end was partitioned off as a dispensary, but the principal medical supplies were housed in a separate building. Flanking the main Temple on either side of the compound, are two others, one used as a recreation hall for the soldiers, the other as a hospital, with abundance of room for medical, surgical and venereal wards, together with operating rooms and nurses' quarters. Both hospital corps men and trained female nurses are in attendance, and an extra diet kitchen supplies many delicacies. The service, under Major Ives, is most admirably conducted by Lieutenant Greenleaf and his able assistants, and the results obtained compare favorably with those of our best hospitals at home.

The "Report of Vital Statistics and Disease" for the week ending February 9, 1901, for the troops stationed at Peking, shows the mean strength of the command, including officers and men, of 1,559, with a total sick list of eighty, or .051 per cent.

The cases are of the nature usually found in a military hospital in America. Of the eighty, thirteen are diagnosed as suffering from "respiratory diseases," five from "accidents or injuries," four from "malarial fever," one from "typhoid," three from "digestive diseases," two unclassified, eleven as "circulatory," "muscular," "cutaneous," "special sense," "nervous" and other diseases, and forty-one as "venereal."

The climate of Peking in winter is cold, dry, and clear, ranging in January from 30 degrees Fahrenheit, to ten below zero, without a storm during the month, except the wind, which often blows a gale, driving the dust in blinding clouds. Anyone who has ever experienced a Peking dust-storm will never want to repeat it; he will find that inhalations of ancestral dust are not conducive to healthful respiration. It is not surprising, therefore, that a rather large proportion of cases should be found under the heading of "respiratory diseases," especially when it is remembered that the troops, prior to their arrival in China, had served nearly two years in the tropical Philippines. They were the only ones of the Allied Army quartered in tents, (Sibley's) and pneumonia was the dreaded enemy. You will observe in the list enumerated there is but one case of typhoid fever. In this connection, it is interesting to note, that, on their arrival in China, it was the boast of the medical officers of the German army, that "typhus" fever (our typhoid or enteric) and "dysentery" were comparatively unknown visitors to their camps. Criticisms of the losses of the American army from these causes during the Spanish-American War, by our Teutonic colleagues, are not yet forgotten, and perhaps the lesson to the Americans has not been without benefit. At any rate, within two months of the arrival of the German Army in China, its hospitals contained over five hundred cases of typhoid fever, followed by an appalling list of fatalities, while the wards of the American hospitals were, and are still, singularly free. I found but one case either in Tien Tsin or Peking, and this man was a convalescent, while the number in the German wards still remains in the hundreds. The Americans have six water-distilling plants, while our neighbors have none, and therein undoubtedly lies one of the potent reasons for this remarkable contrast. Indeed, it may be added,

*Read at the Annual Meeting of the Association of Military Surgeons of the United States, held at St. Paul, Minn., June 1st.

the Americans had the only water-distilling plant in operation in Peking. Its capacity was so much greater than the requirements of the army, that two tons of the surplus water was donated by the hospital department to the Japanese army every day of the winter. The American Quartermaster (Major Byron) also cut and stored eight hundred tons of ice in Peking, at a cost of 1,252 Mexican dollars. It was the only ice ever housed in that ancient city, and curious bodies of natives used to gather around the camp to watch the novel work of the "foreign devils" and coolies.

It was indeed most gratifying, after spending a fair share of time during the past three years in the military hospitals of Porto Rico, Cuba and the Philippines, where a vast majority of the patients were suffering from preventable diseases—diseases resulting from blunders and ignorance—to make a tour through the wards at Camp Reilly and to note the distinctly different type of cases. The low percentage of all illnesses, except venereal, and especially the almost total absence of the class termed "digestive diseases," offer a startling contrast to conditions existing during the Spanish-American War in Porto Rico or Cuba. There I have seen as high as seventy-five per cent. of a command suffering from these diseases at one time. Or in the Philippines where, despite the constant depletion of the wards by death, or hospital ships, or United States Army transports, carrying from a hundred to five hundred invalided or convalescent men home per month, the percentage of these cases remains persistently high. One naturally looks sharply for the cause of this startling difference—a difference from 1-200 of one per cent. to seventy-five per cent. A glance at the men at their mess and a consideration of their environment discloses the secret. What appetites—what digestions! You would not believe these men were the emaciated, sallow-cheeked troops who came as the American army from the Philippines last summer. But they are. Here in this invigorating zero temperature, where animal heat is rapidly radiated and where nutritious foods, rich in fats and carbon, are requisite to maintain the body's temperature, the men show evidences of splendid health. It is not my purpose in the limited scope of this paper to review the merits of different foods (more than briefly to call attention to the dietetic value of sugar as a producer of energy) or the elaborate experiments of Mosso, who with the ergostat demonstrated that much less muscular deterioration occurred under a sugar diet, and that when muscles were fatigued and incapable of further work, sugar, a pure carbohydrate, most quickly restored their tone; or even to recall the elaborate tables of Ranke, who long ago demonstrated that four-fifths of the food consumed by the average laborer goes to the production of animal heat. In China, heat-producing foods were needed. Even our full army ration, the richest and most varied in the world, and the envy of every soldier of the allied armies in China, was not found sufficient to satisfy the cravings of the men. Repeatedly officers have told me their "company funds" were largely depleted by the constant demands of the men for extra allowances. Their appetites were enomous, their food was digested, assimilated and metabolized. The energy of their systems was not consumed in an effort to eliminate these heat-producing foods, as was the case when they were in the tropics, where they lived in an environment of heat, and where such foods were superfluous or inappropriate, and therefore were not digested or metabolized. Under these conditions such foods rapidly undergo decomposition in the intestinal tract and create toxins, which nature endeavors to eliminate as quickly as possible by establishing catarrhs and diarrhœa as the only method left to rid herself of such irritants.

And yet Congress has just decreed that no change shall be made in the United States army ration—that it shall remain practically the same at the Pole as at the equator. Fortunate, indeed, it is, that the soldier has learned, even though by bitter experience, that this is insanity. He sells his "sow-belly" and "salt-horse" when opportunity offers, and buys in exchange chicken or rice or fish or fruits and sweets, which are usually to be had in abundance in the tropics. The advocate of the present régime interrupts with: "He could always sell or commute his ration." Yes, provided he always had a market with him on his "hikes," but those who have served with him in a hostile country, or on the firing line, where he most needs a proper diet, know much better. The impartial and scientific observer sees in this answer only the beaurocrat's subterfuge, dictated by a spirit of resistance to change from established routine, and a lack of courage to shoulder responsibility for fatal blunders that have long crowded our tropic hospitals and made the mournful notes of "taps" so familiar in the land. Let it not be forgotten that in the Spanish-American War, the actual hostilities of which lasted only six weeks, there were fourteen fatalities from disease (practically all preventable) for one from bullets and wounds.

If any vindication were necessary for the theory for regulating the ration of an army to suit climatic conditions, unanswerable proof can be found in Peking in the study of the statistics of every company serving in the Chinese Expedition. At my earnest solicitation, Captain Anderson, commanding Company A, Ninth U. S. Infantry, obtained the following figures for me. His command, now numbering eighty-five, came from Manila to China with the first American troops landing at Taku last June. At that time, twenty-nine (or 33 per cent.) of the men were suffering from chronic diarrhœa contracted in the Philippines. On their arrival in China the combined weight of the company was 12,304 pounds. (I have the individual figures.) On February 15, 1901, these same men weighed 13,284, or an average gain of about thirteen and one-half pounds. There was not a case of so-called "digestive disease" in the company, nor a man in the hospital. On the contrary, to illustrate the state of the men's digestive ability, the captain adds:

"During the month of January, 1901, the following extra commissary supplies were used by my company: 3 bbls. (78 gals.) pickles, 240 cans cream, 240 lbs. oatmeal, 75 lbs. maccaroni, 60 lbs. cheese, 75 lbs. onions, 12 lbs. baking powder, 2 gals. syrup, 117 rations of bread, 127 lbs. beef. Total cost of extras $93.30 and paid from the company fund."

The reason for this remarkable difference lies in the changed climatic conditions, the extreme winter temperature of Pekin being fully 100° F. lower than that of Manila; in Peking this rich ration was requisite for the proper nourishment of the system.

As further bearing upon this point, let me submit the testimony of a witness, our American Consul at Formosa, whose opportunities for personal observation on this most important subject have rarely if ever been surpassed. His letter is better reading than medical statistics.

Dear Major Seaman: I have perused your very interesting pamphlet on the Army Ration, and the following personal observations may be of some interest to you. As you are aware I have had rather an unusual oportunity of confirming your statements on the subject of diet. The years 1893 and 1894, as a member of the Peary Arctic Expedition, I spent in North Greenland, within the Arctic Circle. On returning from this trip I departed almost immediately for Formosa, which is within the tropics, and called the most deadly climate in Asia, and the last six years have been spent in this island.

In North Greenland our supplies were naturally limited

to most portable foods, delicacies were left at home and we did not always have as much in quantity as we wished. It is not strange, therefore, that we, as young men, sometimes turned from our dry pemmican and biscuits to discuss the probable joys, from a culinary standpoint, awaiting us on our return to the States. You will doubtless surmise that oyster stews, roast turkeys, or pies "like mother used to make" were the subject of our discussion. These we could give warm welcome, still they were far from that glorious dish for which we all yearned and I might say, almost prayed—it was nothing more than a *side of bacon*. Not the streaky article marked "prime" but the kind that is practically solid fat and which the butcher in the temperate zone usually throws in the lard pot. We wished no side dishes, and even the cooking did not worry us much; in fact, I believe we would have preferred it merely warmed. On an occasional trip to the southern headquarters we were sometimes the recipients of a thin slice or so dealt out from our slender stock. And how good it was! There was nothing that could approach it. On one occasion I was fortunate, at least I looked upon it in that light, then, to obtain out of meal hours from the cook the outer skin or end piece of a side of bacon. I immediately sought the seclusion of my room, warmed it slightly over the flame of my candle, and then ate it with all the pleasure that a young boy obtains from his favorite confectionery.

Before our return from Greenland, I arranged with my room-mate, that on our arrival at St. Johns, the first port on our downward journey, we should go together to the leading grocery, which we had visited on our upward journey, and purchase a side of bacon. This we would take quietly to the hotel and for once have simply all the bacon we wished. Of course, on our actual arrival at St. Johns, the subject of bacon never entered our heads. We had entered the temperate zone, our systems ceased to call for fat, and we were prepared to give warm welcome to dishes of quite a different nature. This appetite for fat and fatty meats so keen in the far North, is merely Nature's call for help in repelling the almost overpowering cold, and if it is answered, there is but little fear of disease. There is probably not a healthier race on earth than the Eskimo of these regions, and our party suffered not the slightest indisposition while there. Yet the same diet in the tropics would be absolutely fatal.

In tropical Formosa, the idea of fat bacon was as repulsive as it was entrancing in the North. There, did I think of home delicacies, it was the splendid fruits, the strawberries, the luscious peaches that interested me. Nature had given me new tastes, new fancies, an appetite for something that would induce energy, without heat. If we were wise and obeyed her and left aside intoxicants and heavy fatty meats, we found our life a pleasant and not unhealthy one. And, although Formosa has the reputation of being the unhealthiest spot in Asia, I am convinced from my own experience of six years that one who is careful in one's diet, selecting only the foods which will tend to assist Nature rather than oppose it, will find life quite as healthy in Formosa as they will out of it, assuming of course, that they live in suitable quarters raised above the ground, and protect themselves against the midday sun when in the open.

In 1892, on my departure for Greenland, I weighed one hundred and forty-eight pounds; after six weeks of Arctic life on a suitable diet my weight increased to one hundred and ninety pounds. During several months' confinement with a frozen foot I lost heavily, and on my arrival in Formosa in 1894, weighed one hundred and fifty-five pounds. After a six-years' stay in the island during which I had not had a single sick day, I am now returning to my home land weighing one hundred and ninety-four pounds. The practical diet for a tropical country should, as you suggest, be light meats, chicken, fish, fruits, sugar, tea and rice which are to be found there in abundance. This is what I lived upon. During the two years I was attached to the Imperial Japanese Army in its campaign against the Chinese rebels in the island, I suffered as severe physical hardships as the average soldier finds in any military campaign in the tropics. By carefully obeying the dictates of Nature in the selection of foods, I have not—either in Greenland or Formosa—suffered, *a single day from sickness*.

Yours truly,

JAMES W. DAVIDSON, F. R. G. S.,
U. S. Consul for Formosa.

Dated YOKOHAMA, Japan, March 21, 1901.

Could any testimony be more convincing? But of what value is the *best* evidence before a Court of Congress that would sell its birthright for a mess of pottage, as was done by the last one, in its servile catering for votes, by submitting against its judgment, to the influence of a lot of fanatical and hysterical women, and abolishing the Army Post Exchange or "Canteen." As you well know, the overwhelming testimony of line and staff officers, men of probity and honor, total abstainers and others, was almost to a man, in favor of the retention of the Post Exchange. It is not my purpose to review the evidence on this subject; that was pretty thoroughly threshed out during the debate in Congress, but there was one very important factor that was entirely omitted in that discussion that may furnish a subject for reflection for those who were instrumental in bringing about this lamentable change. The enemies of the canteen seem to have forgotten that when men accustomed to the use of stimulants are deprived of them in one way, they will resort to other methods to obtain them. Less than five per cent. of the army are total abstainers. Citizenship is not forfeited by enlistment. Soldiers are not prisoners; they are well-paid men and have their pass days. The habits of the vast majority of them were formed *long* before their enlistment, and a large proportion of them belong to the class known as light drinkers. When the soldier cannot obtain a glass of beer or light wine at the post exchange in camp the first place he generally strikes for when on pass, is the nearest saloon, where in Porto Rico he is served with rum loaded with fusel oil; at home, vile doctored whiskey; in the Philippines, vino, a sort of wood alcohol, distilled from the nepa leaf; or in China the samshu, a product of rice—all rank poisons, one or two drinks of which "steals away his brains." Then follow excesses to which in his sober moments he would be the last to descend, insubordination, drunkenness, debauchery, or desertion.

The record of the Summary Court of the Twelfth U. S. Infantry shows that during February and March, 1900, at Paniqui, P. I., there were between seventy and ninety trials by court martial for each month. Four-fifths of the offenses were "intoxication from native vino." A post exchange was established in the latter part of March. Since then and until February, 1901, there were never more than twenty trials in any month, and one month the number was reduced to eight. The record shows no more than two cases of "vino intoxication" in any month. The company commander's report shows there are but eight total abstainers in the regiment.

In reviewing the report of vital statistics at Camp Reilly, you must have observed the high per centage of venereal diseases, over fifty per cent. of all patients under treatment being for this cause. It is to this distressing factor in connection with the subject of the canteen, that your attention is specially invited. Venereal disease always claims a large proportion of patients in a military hospital, but I have it on the authority of Lieut. Greenleaf and his assistant Dr. Lewis, than whom I have met no more conscientious officers in the Medical Department of the American Army, that since the abolition of the canteen the percentage of these cases has almost doubled. My own observations in other military hospitals tend to a similar conclusion. The men get their liquor away from the post, and leave the rum-hole for the brothel. When the canteen was maintained they drank less, were under better influences and returned sober and contented to their library and reading-room, or their other quarters. When the misguided enthusiasts of the W. C. T. U. stop to reflect that the result of their influence in inducing Congress to abolish the post exchange, has produced this enormous increase of wretchedness in the army hospitals, and made many a husband, father or lover the victim of a degrading disease, they may indulge in less self-

congratulation, and conclude to cease interfering with institutions about which they are so hopelessly ignorant. The post exchange was the most rational compromise that the ripe experience of the ablest officers of the army could devise; it was not abused in the camps; it has been the soldier's friend, often saving him from disgrace and disease worse than death, and the bill abolishing it should have been vetoed by a President who well knew its virtues. Some years ago the "Exeter Hall crowd" of England induced Parliament by methods similar to those used by the W. C. T. U., to abolish the Contagious Diseases Act in India, a law that had proved so effective in the elimination of these diseases that in 1884 they were comparatively unknown in the army there. To-day, owing to its abolition, there is no single cause so prolific in invaliding men home as this one. The Raines Law, another instance of meddlesome legislation, has been productive in spreading immorality to an extent heretofore unheard of in the greatest metropolis of this country, but there is no necessity of elaborating this subject to a medical audience. If the W. C. T. U. could be induced to direct its energies toward a co-operation with the medical associations of our country which are now making a study of the social evil and are endeavoring to bring about its segregation and limitation as far as possible within proper lines, it would *then* accomplish a great reform and prove itself a *real* benefactor to humanity.

Congress, however, when considering the repeal of the Anti-Canteen Act, as it must at its next session, will do well to remember that the abolition of the post exchange has not promoted temperance. On the contrary, it has decidedly promoted intemperance, insubordination, discontent, sullenness, disease, and desertion. It has embittered the men, and driven them to the very excesses sought to be abolished. You cannot legislate men to be virtuous or to be total abstainers, but you can, by judicious handling, promote chastity and temperance. The canteen fostered moderation. It led the hard drinker to less indulgence and removed the temptation which always clings to forbidden fruit. Its abolition angered the men. They felt it as an insult to their manhood, and a deprivation of their natural rights. They *will* drink if they wish, and they resent the attempt to prevent them. A glass or two of beer is not injurious to them, and they know it, and sneeringly criticise Congressmen—paid servants of the Government—who retain their well patronized cloakroom, with its private stock of good old whiskey, but who rob the soldiers—other paid servants of the same Government—of their right to take a glass of beer on their camp grounds in their well-disciplined and orderly canteens. And who will gainsay the justice of this conclusion?

The following resolutions, presented after a discussion of the paper, were unanimously adopted by the Association:

"WHEREAS, The Association of Military Surgeons of the United States, now in session at St. Paul, recognizes that the abolition of the army post exchange or canteen has resulted, and must inevitably result, in an increase of intemperance, insubordination, discontent, desertion and disease in the Army; Therefore, be it

"*Resolved*, That this body deplores the action of Congress in abolishing the said post exchange or canteen, and, in the interests of discipline, morality and sanitation, recommends its re-establishment at the earliest possible date."

At the meeting of the American Medical Association, also held at St. Paul, June 7th, the foregoing resolutions were unanimously endorsed.

THE PLACE OF CEREALS IN INFANT FEEDING.*

BY HENRY DWIGHT CHAPIN, M. D.,

NEW YORK.

A DISCUSSION of the propriety of using cereals in the feeding of infants may be approached from a theoretical or a practical and clinical standpoint. It is believed that the profession has recognized by long clinical experience that a certain judicious use of the cereals is frequently beneficial. On the theoretical side, it must be confessed that, at first sight, the employment of a material in a form not found in human milk may appear unwarranted to those who desire a strictly scientific reason for all procedures. A discussion of this question from the latter standpoint may be of interest if we bear in mind always the character and composition of cow's milk, with which the physician has to deal in his home modification to suit the infant's digestion.

The question then at issue is whether the use of cereals with cow's milk in infant feeding is unnecessary and unscientific. Unnecessary, because of the claim that cow's milk when diluted with water gives as fine, if not finer, curds than when diluted with cereal waters; unscientific, because nature is not being followed.[1]

The claim that cereal waters have no more effect on the curd of cow's milk than plain water has been abandoned, as it was based on the precipitation of casein with dilute acids and not upon its coagulation with rennet, which is what takes place in the infant's stomach.

When it comes to preparing cow's milk for the infant there arises the question, what constitutes following nature?

It is often claimed that the difference between woman's milk and cow's milk lies in the different percentages of fat, sugar, proteids, ash and water present, and that to follow nature the percentage of these ingredients of the infant's food should be made the same as those of average woman's milk and varied to suit the infant's digestion.

To determine the composition of a specimen of milk, resort to a chemical analysis is had. A portion of the milk is weighed and evaporated to dryness; the residue is weighed and called total solids;[2] the loss in weight is called water.[3] A part of the total solids is ignited and weighed as ash or salts.[2] What ether will extract from another part of the total solids is weighed and called fat.[2, 3] Another specimen of the milk is put through a complicated process to convert all the nitrogen present into the form of ammonia. The ammonia is distilled off and determined. The weight of the nitrogen in the ammonia is calculated and multiplied by 6.25 and called proteids, as 100 part of proteid bodies contain on an average sixteen per cent. of nitrogen which multiplied by 6.25 equals 100.[2, 3, 9]

The weights of the ash, ether extract, and nitrogen multiplied by 6.25 are added together and subtracted from the weight of the total solids, and the difference called sugar;[4] or a specimen of the milk is precipitated with various reagents, such as acid mercuric nitrate or copper sulphate, filtered, and the sugar in the filtrate determined by reduction of alkaline copper solution, or by the rotation of a ray of polarized light.[2, 3] When the sugar in woman's milk is determined by both reduction of alkaline copper solution and rotation of a ray of polarized light, there is a difference in the quantity present, which indicates two sugars.[2] Direct separation of

*Read before the American Pediatric Society at Niagara Falls, May 28, 1901.

the sugar of cow's milk shows two carbohydrates to be present,[5, 6, 9] but no method of quantitatively separating the sugar of milk in a state of purity is known.[2]

As the proteids of meat, milk, cheese, eggs, cereals, and even fertilizers are all determined by multiplying the weight of the nitrogen present by 6.25, or some other factor,[3, 9] and as this gives no clue to the properties of the proteids, chemists divide them into two great classes:[9]

1. Native proteids, those that can be separated from animal fluids and tissues by chemical means without losing their identity.

2. Modified proteids, those that are derived from native proteids by the action of heat in coagulating; by the action of acids or alkalies in forming acids or alkali albuminates, or by the action of proteolytic enzymes in forming albumoses and peptones.[9]

In milk we have to deal with native proteids and these are divided into groups according to their solubilities, as: albumins, soluble in water; globulins, insoluble in water but soluble in dilute neutral salt solutions or weak acid or alkali solutions; and neucleo-albumins which are soluble in dilute alkali solutions. There are no sharply dividing lines between these groups. The neucleo-albumins differ from the albumins and globulins in containing phosphorous. There are a number of kinds of albumins, globulins and neucleo-albumins.[9]

In both woman's and cow's milk are found albumin, globulin, and neucleo-albumin (casein). The albumin in woman's milk forms from one-third (Richmond) to two-thirds (Kœnig) of the total proteids, while in cow's milk the neucleo-albumin (casein) forms about four-fifths of the total proteids. There seem to be some soluble proteids similar to albumin in every kind of milk that has been examined.

When the nitrogen of the albumin, globulin, and neucleo-albumin (casein) of milk is determined separately, there is found to be less nitrogen than when the nitrogen is determined directly from the milk; one-eleventh of the nitrogen of woman's milk and one-sixteenth of the nitrogen of cow's milk is thus unaccounted for.[9]

Backhaus and W. Cronheim recently reported the analyses of twelve samples of human milk. In agreement with the results of Camerer and Söldner, "it was found that there was a discrepancy between the total solids and the sum of the constitutents of the total solids, as determined separately, amounting to from 0.68 to 2.045 per cent. This is held to represent an unknown constitutent which passes into the filtrate when the albuminoids are precipitated with alcohol."[7]

When milk is taken into the stomach it is first clotted by the rennet which produces a chemical change in the casein. A clotted jelly which encloses the fat is formed from cow's milk, and a soluble proteid known as "whey proteid,"[9] similar to an albumose is split off from the casein. A clear fluid, known as whey exudes from the curds and contains the "whey proteid," albumin, globulin, and sugars of the milk. To quote J. Reynolds Green,[10] "When casein either in milk, or in solution in dilute alkalies, is acted upon by rennet in the presence of a small quantity of calcium phosphate, it is at once chemically altered. It gives rise to the formation of a body which has been named tyrein, which is the proteid constituent of the clot. When the whey has separated out, it is found to contain a by-product having properties resembling those of a soluble albumin, except that it is not made insoluble by boiling. It is consequently distinct from the serum albumin, or lactalbumin, present in normal milk. The formation of this by-product, when solutions of pure casein are treated with rennet, shows that it results from the alteration of the casein. The clotting of milk by rennet is consequently not to be confused with the precipitation of casein by acid."

The curding process consists essentially of a separation of the fat and casein from the easily absorbable proteids and carbohydrates.

Albumin, globulin and albumose can be absorbed with little digestive effort. Neucleo-albumin (casein) must be peptonized before absorption. All proteids are in some unknown way changed before passing into the blood, for even peptone is excreted by the kidneys when injected into the blood.[9]

During digestion there is an increased elimination of nitrogen which is proportional to the intensity of digestive work, and an increase of about fifteen per cent. in the quantity of oxygen consumed and a larger increase in quantity of carbon dioxide thrown off.[11] This shows an immediate demand for proteids and carbohydrates at the beginning of a meal; it has just been shown that the first step in the digestion of milk is a separation of easily absorbable proteids and carbohydrates (sugars) from the casein and fat which require digestion as they are left in a semi-solid state.

The character of the curd that is formed in the stomach seems to depend on the milk that is used.[2, 10]

The milk of the cow, goat, sheep and buffalo, which are ruminants, shows a wonderfully close resemblance in chemical composition, and the curds formed with rennet are solid.

The milk of the mare, mule,* and ass, which are not ruminants, also shows close resemblance in chemical composition, but is quite different from that of ruminants, and the curds formed with rennet are soft and flocculent. The milk of the cat and dog, carnivorous animals, is very much alike in composition, but decidedly different from that of either class of herbivorous animals. Nothing is known about the curding properties.

Among the herbivoræ, at least, the rule seems to be: animals that ruminate, furnish their young with milk that curds in solid lumps, and animals that chew their food before swallowing it, furnish their young with milk that curds in loose flakes. The human stomach receives food in a finely divided state and woman's milk curds in loose flakes.

A glance at the following table constructed from analyses in Richmond's "Dairy Chemistry"[2] will also show that the milks that form solid curds with rennet are furnished by animals whose normal digestion is prolonged and whose intestinal canals are relatively very much longer than those of animals whose milk forms soft flaky curds, and that carnivorous animals, whose intestines are relatively very short, furnish milk rich in proteids, half of which are readily absorbable. The gastric juice of a dog will digest in the same time four times as much cooked albumin as that of a sheep.[12]

It is also interesting to note the rapid growth of animals whose milk is rich in proteids, much of which is present in a soluble form.

	Water.	Fat.	Sug.	Cas'n.	Alb'n	Ash.	Curds	12 Ratio of intestine to body (length)	13 Doubles weight in
Carnivorous:									
Cat,	81.63	3.33	4.91	3.12	5.96	.58	?	4 to 1	9½ days.
Dog,	75.44	9.57	3.09	6.10	5.05	.75	?	6 to 1	8 days.
Ruminant:									
Ewe,	79.46	8.63	4.28	5.23	1.43	.90	Solid,	27 to 1	10 days.
Goat,	86.04	4.63	4.22	3.49	.16	.76	Solid,	27 to 1	19 days.
Buffalo,	82.63	7.61	4.72	3.54	.60	.90	Solid,	.....	....
Cow,	87.10	3.90	4.75	3.00	.40	.75	Solid,	20 to 1	47 days.
Non-Ruminant:									
Mare,	89.80	1.17	6.89	1.84		.30	Flocln't,	12 to 1	60 days;
Mule,	91.50	1.59	4.80	1.64		.38	Flocln't,	11 to 1	....
Ass,	90.12	1.26	6.50	1.32	.34	.46	Flocln't,	11 to 1	....
Human:									
Woman,	88.2	3.30	6.80	1.00	.50	.20	Flocln't,	6 to 1	180 days.

*It may be of interest to note that the female mule will sometimes reproduce by union with either the horse or the ass.

A table essentially the same was also constructed from analyses by Koenig. The percentages were slightly different, but not more so than would be accounted for by variations in milk.

During the first days of life, all young suckling animals are furnished colostrum, which is rich in proteids consisting largely of albumin and globulin,[2, 5, 6, 14] the most easily absorbable forms of native proteids, and sugar, which, in the case of the cow, is largely dextrose,[2,5,6,14] the sugar found in the blood. Colostrum will hardly curdle with rennet,[2,6,14] and the stomach of a calf under three days old furnishes a very weak rennet.[8]

The change from colostrum to milk, which takes place during the first week or two after birth, consists of a reduction of the easily absorbable proteids and sugar, until in normal cow's milk, the easily absorbable proteid is less than the casein,[2] which calls forth considerable digestive effort. All normal milk contains a portion of the proteids in a form that is not acted upon by rennet. Not much is known about the sugars, as they are estimated together, and then not directly.[2]

When mixed solid food is taken by a child or an adult, it must be chewed and mixed with saliva, by which some of the starch is converted into dextrin and maltose, which are easily absorbed.[9] Thus in every stage of life the food is adapted to the condition of the animal. At birth when the digestive process is being set up, the food requires little digestion; as the animal's digestive apparatus commences to work, the food in the stomach gradually changes from a fluid to a semi-solid state peculiar to each class of animals. The increased demand for proteids and carbohydrates during digestion is met by a separation of the soluble proteids and carbohydrates as soon as the milk is swallowed, and when solid food is taken, a supply of soluble absorbable carbohydrates is produced by the action of saliva on the starch. Furthermore, the secretion of all the digestive juices is promoted by the absorption of nutriment at the beginning of a meal.[10]

When cow's milk diluted with water is given to an infant the quantity of readily absorbable food is reduced to almost nothing, and the proteids will form a solid curd if the conditions are right. In practice, with all the advantages of a laboratory and an almost perfect milk supply, it is found necessary to begin an infant on proteids one-eighth to one-fourth of the quantity found in woman's colostrum and milk, and gradually increase the quantity as the infant can digest them. The one element that is kept up is sugar. This practice conforms to observations that have shown that an amount of ingested proteids smaller than the amount that is being excreted may enable an animal to show a gain in proteids if additional carbohydrates are furnished at the same time, and that increased quantities of carbohydrates in the food decrease the proteid metabolism more regularly and constantly than increased quantities of fat.[9]

The practice of the advocates of percentage feeding shows that an adjustment of the percentages of fat (ether extract), proteid (nitrogen X 6.25), and sugar of cow's milk, to equal those of woman's milk does not enable them to strictly follow nature in percentages, for nature most decidedly protests when the same percentage of proteids of cow's milk as is found in woman's milk is given to a young infant; this shows that percentage feeding simply records the quantities of these ingredients of *cow's milk* a particular infant is able to digest. Good clinical results have been obtained, and so they have been with other methods, but the claim that in this way only nature is being followed is not well founded. The introduction of system into infant feeding has been a great advance and has come to stay, but it has emphasized the fact that changing percentages does not change cow's milk into woman's milk.

Practice has shown that each infant is a law unto itself, no matter what method of feeding is employed. Now, if nature is to be followed, the infant's food should curd in flocks or loose masses and there should be a moderate supply of easily absorbable food separated at the time the curds form. As sugars have such a sparing effect on proteids they can be used to replace part of the soluble proteid which is reduced in quantity by dilution of cow's milk.

When sugars of milk are examined directly and not determined by "difference," sugar of woman's milk is found to be different from sugar of cow's milk[2] and cow's milk is found to contain two carbohydrates, one of which Béchamp considers to be dextrin[9]. Chemistry shows cane sugar, milk sugar and maltose to have the same composition ($C_{12}H_{22}O_{11}$) and all three rotate a ray of polarized light in the same direction (Cane Sugar, +66.5°, Milk Sugar, +52.5°, Maltose, +137°). Cane sugar and milk sugar when injected intothe blood are excreted unchanged. Moderate quantities of dextrin and maltose when injected into the blood are retained.[9, 10] The first products of digestion inthe adult are dextrin and maltose, and these have been proved to be absorbed from the stomach and to provoke the secretion of all the digestive juices.[10] Even young infants can digest quantities of small starch.

In 1893 it was discovered that there were two enzymes, diastase and glucase, in the blood serum and lymph, one of which converted glycogen, which is the form in which carbohydrates are stored in the liver, into dextrin and maltose, and the other which converted maltose into dextrose, which is the sugar found in the blood, and which is converted again into glycogen in the muscles and cells of even the embryo;[9] so it can not be claimed that in the addition of small quantities of starch, dextrin or maltose to cow's milk elements are added than an infant is unprepared to care for.

To break up the curd of cow's milk and furnish a small quantity of easily absorbable food, cereal gruels, in which the starch has been converted into dextrin and maltose, are the most practical and desirable agents. It has been denied that cereals or any kind of mechanical attenuant had any effect on the curd of cow's milk,[1, 18] but this was found to be based on a mistaken conception of the curding properties of milk. Recently it has been admitted that cereals gave the finest curds of any diluent,[11, 15, 16] but it was claimed that all the effect of thec ereal is lost when the starch is digested, especially if the digestive ferment is active.[16] How much effect a digested gruel has on the curding of milk depends on the strength of the gruel and the dilution of the milk. The very best effect as far as digestive effort is concerned is obtained when the starch is completely gotten into soluble forms so that the particles of proteids and cellulose of the cereals are free. Any one who has seen junket made has noticed how the curd shrinks away from the dish. The curd of cow's milk which has been diluted with thoroughly digested gruel shrinks away from each little particle of cellulose and proteid of the cereal, and allows a rapid exudation of the soluble, easily absorbable portion of the food consisting of albumin, globulin, "whey proteid," dextrin, maltose, and milk sugar. Sometimes the curds may hold their form, but they are spongy and soft, never leathery, and break apart on slight agitation.

To find what strength of the digested gruel was needed to prevent the formation of leathery curds,

three heaping tablespoonsful of wheat flour, weighing 1,562 grains, were cooked in a double boiler for two hours with three pints of water in my kitchen; as it could be done in any household. This gruel was cooled so that it could be tasted (130° F.), and one teaspoonful of cereo, a glycerite of diastase, was added. At the end of ten minutes iodine failed to show starch.

A quart of milk was obtained and tested for fat and showed four per cent. It was amphoteric to litmus paper, but showed 0.15 per cent. acidity to phenolphthalein. The acidity of milk is never determined directly,[2] but by neutralizing with alkali, the end of the reaction being indicated by the change of some color indicator. Milk is nearly twice as acid to phenolphthalein as to litmus.[2]

One part of this milk was diluted with an equal quantity of water, another part with one and one-half per cent. starch jelly and another with the digested gruel; 0.15 per cent. HCl and some liquid rennet were added to each.

The artificial curding of milk with rennet is dependent on the temperature, acidity of the milk and the strength of the rennet;[6,8,14] whether the acid and the rennet are added together or separately, and if separately which first.[8] The curd produced when rennet is first added is tougher than when acid is first added, as the rennet has then more opportunity to come in contact with all the casein, for the acid has a tendency to throw the casein out of solution before the rennet can come in contact with it.[8]

In making these tests it was desired to make the curds as tough and leathery as possible, so the rennet was first added to the cold diluted milk and the acid afterward. The mixtures were then warmed without agitation and allowed to shrink until the curd of the specimen diluted with water could be dropped on the floor or tossed like a ball without breaking. This was the severest test that could be devised.

The curds of the specimen prepared with one and one-half per cent. starch jelly and the digested gruel were very much alike in texture. Neither was tough and leathery. This difference was noticed; in one the curds of the milk were coated with starch, in the other the curds were thoroughly exposed.

It is not necessary to use a digested gruel stronger than one heaping tablespoonful of flour to the pint for any dilution of milk.

If when modified milk disagreed all milk was cut off for a few feedings, and then a new beginning made, a great deal less trouble would be experienced than by attempting to shift percentages slightly. It might be found that the milk itself was at fault. Something has to be fed when milk disagrees. The question is, shall the physician furnish this substitute or turn the baby over to the manufacturers of proprietary infant foods?

There is no form of nourishment so easily borne as predigested cereal gruels, and when properly used these are of great benefit, even when the infant is breast-fed.

A glance over the standard text-books and recent articles [17—22] will show how often the cereals in one form or another are called into use; almost always when milk must be withheld; and it is just at these times that infant foods, which are made principally of cereals, are used.

If instead of claiming that it is unscientific to give a baby anything but milk, the great advantage of temporarily withholding milk when it disagrees, and feeding cereal gruels instead of proprietary foods was taught, and then to return to milk feedings by gradually adding milk to these gruels there would be less recourse to proprietary foods and more practitioners would learn to become scientific modifiers of milk. This method can be followed anywhere and in no way interferes with the principle of shifting the percentages of fat, sugar or proteids to suit the infant's digestion. In fact, this is exactly what should be done in every case.

It would seem that by beginning with a predigested cereal and adding milk to this, nature would be pretty closely followed in furnishing part of the food in a readily absorbable condition and in rendering the remaining portion soft and flocculent. This is practical and seems more scientific than making the standard what ether will extract from the food, the amount of nitrogen it contains, and the rotation of a ray of light or the reduction of alkaline copper solution it produces.

The conclusions are, that chemical analyses of milk are not the only scientific bases of comparison; that nature adapts an animal's milk food to its digestive system, and that cow's milk and woman's milk were intended for different digestive systems: that as cow's milk forms solid curds and woman's milk flocculent curds, the curd of cow's milk intended for an infant should be broken up mechanically; that as cereal gruels mechanically break up the curds of cow's milk, and as infants are able to utilize them, their use is rational.

It is often preferable to make the standard diluent of digested gruels, as they not only break up the curds but expose a surface of milk proteids and not starch, and furnish a certain amount of nourishment that is immediately available for carrying on the work of digestion, taking the place of part of the soluble proteids, and also form a satisfactory substitute for milk when it must be withheld for a few feedings. A great variety of food can be supplied an infant by means of digested gruels at a trifling expense, and the tendency is always to get back to milk feedings and not to keep on indefinitely with a diet of carbohydrates, as when most infant foods are used.

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THE VALUE OF LOCAL SANATORIA IN THE COMBAT OF TUBERCULOSIS IN LARGE CENTERS OF POPULATION.*

By S. A. KNOPF, M. D.,

NEW YORK

MR. CHAIRMAN and MEMBERS of the LAENNEC SOCIETY:—Let me congratulate you on the choice of the name which you have given to your society. The name of Laennec has always been to me an inspiration in my work on tuberculosis. We are indebted to this great man for having simplified the study of the pathology of tuberculosis, demonstrating once for all time the pathological unity of all tuberculous lesions. In clinical work Réné Théophile Laennec taught us the use of the stethoscope and how to auscultate the chest. To these two great achievements in phthisiology he added a third by demonstrating the curability of pulmonary tuberculosis. A better name you could therefore not have chosen for your society. The latter distinguishes itself from other organizations for the prevention of tuberculosis by doing work which not only consists in diffusing in the profession and the public a knowledge of the disease, but also in systematizing and stimulating the work on tuberculosis in the hospital, and educating its members. I cannot conceive of a more glorious mission for medical students, young physicians, and teachers of medicine. By such work you are helpful in solving one of the most difficult of the medical and social problems of our times. You are doing the work of the true physician, who should not only be a healer but also a teacher.

While you have not organized for any other purpose than to be helpful to others, I hope, nevertheless, that the public, the commonwealth, the municipality, and the State authorities, whom you are trying to benefit, will meet you in your noble endeavors and be helpful to you. The public at large and the families in which you are to practice should learn to appreciate, through your present work, the value of a family physician as one who is called not only to treat but also to prevent disease. By the periodical examination of all the members of families in your charge you will not only discover pulmonary tuberculosis in its very earliest stages, but by your knowledge of the constitutions of the various members of the family you will be able to institute proper prophylactic treatment and through timely judicious advice save many individuals from ever becoming tuberculous.

It has always seemed to me that the proper solution of the tuberculosis problem will also more nearly solve the problem of the family physician than anything else. I cherish the hope that the American family physician of the Twentieth Century will be duly appreciated, and that families will learn that, whether there is sickness among their members or not, to be visited by a skilful physician, trained in sanitary and preventive medicine, would be most advantageous to their welfare. Such families should realize that the timely advice given to them to prevent disease is worth a good consultation fee. The family physician should be paid, and well paid, for his services in protecting a family from disease by teaching them the proper way of living and the use of sanitary precautions.

The authorities—State and municipal—should facilitate your work by placing at your disposal the means to establish a sufficient number of institutions, sanatoria and special hospitals, to accommodate the great number of consumptive poor. The philanthropists should, in the same way, recognize your services by being helpful to you in your care of tuberculous sufferers without means.

This brings me to the main subject of my talk. I desire, if possible, to emphasize what has been already better said so many times and by others more familiar with your local conditions than I am, regarding the value of local sanatoria in the combat against tuberculosis in the large centers of population.

The first question which one might be expected to answer in relation to this subject is "What is a local sanatorium for the consumptive poor?" This question might best be answered by first stating what it is not. A local sanatorium for consumptives is not a sanitarium or health resort, nor an ordinary hospital or home. Such a sanatorium is not like a general hospital inasmuch as it treats only patients suffering from tuberculous diseases, and the equipments of the institution are particularly suited to the open-air, hygienic, and dietetic treatment of consumptives. A sanatorium for the treatment of consumptives is not a home managed by the gentle hand of a minister, Sister of Charity, or matron, but an institution where patients are treated, not kept. There the trained physician not only carries out the most approved hygienic and dietetic treatment of tuberculosis, but infection of other persons through the ignorance or carelessness of patients is made impossible by the proper training of the invalids and the constant medical supervision on the part of the physician and his assistants To make the distinction between a home and sanatorium still clearer I may say that a properly conducted sanatorium for consumptives is not a danger to the neighborhood, but a blessing. In some German villages where sanatoria for consumptives have been in operation for over thirty years, the mortality from tuberculosis has actually decreased one-third among the villagers since the establishment of the institutions. The reduction in the mortality from tuberculosis among the villagers is to be explained by their involuntary imitation of the cleanliness and sanitary precautions practiced in the institutions in their midst. On the other hand, in certain climatic resorts where patients live in homes or in hotels and boarding houses, the mortality from tuberculosis has been on the increase.

Instead of calling such an institution as described above a sanitarium, from *sanitas*, health, I prefer the word sanatorium, from *sanare*, to heal, because it is a better equivalent to the German "Heilanstalt," the name given to the first institution of this kind by Hermann Brehmer, the principal founder of modern phthisio-therapy. A local sanatorium, or closed establishment, distinguishes itself from a health resort in many ways. Consumptives are sent to health resorts for supposed specific climatic advantages, and there the patients are under no restraint but can do precisely as they please. The local sanatorium, on the other hand, is situated near some large center of population with a view of curing the tuberculous patients in the same or nearly the same climate in which he will have to live and labor after his restoration to health.

The next question which the layman or physician, not familiar with modern phthisio-therapy, may ask is: "Can good results be obtained under such climatic conditions as are found near large centers of population?" I am the last one to deny the value of climatic conditions, such as high elevation, insolation, pine forests, and protection from cold winds, but I desire to emphasize that even the ideal climate for a consumptive, if there is such, cannot be considered as anything but a valuable adjuvant in the hygienic and dietetic treatment. If I should have to

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choose between sending a patient to such an ideal climate there to do as he pleases, or having him here in Baltimore in the hands of a conscientious practitioner who would carry out the most approved hygienic and dietetic treatment, I would certainly take the latter course, for I think the patient's chances for recovery would be greater in remaining here than in going away. Furthermore, I think there is hardly any city in the United States which has not within a radius of from one to three hours by rail some particularly healthy spot, with dry porous soil, free from dust, traffic, and miasmatic conditions, with relatively pure air, where such a sanatorium for consumptives could be built.

That the results obtained in such local sanatoria are remarkably good has been demonstrated in our own country by the Sharon Sanatorium near Boston and the Chestnut Hill Hospital near Philadelphia. There is one more reason why I favor local sanatoria for the treatment of consumptives coming from the poorer classes. To send a consumptive away where he can see his family and friends only at great intervals or not at all, because the visit to the institution is too expensive an affair, is always a risky undertaking. The consumptive suffers perhaps more than any other patient from that little recognized, but often very painful disease, homesickness, scientifically called nostalgia. By enabling our consumptive patient, separated from his family all the week, to look forward to Sunday when he can see his loved ones, we render him happy and hopeful. On the other hand, by removing him many miles from his home and former associates we only add another item to his sufferings. All those who have studied the psychic condition of the consumptive will agree with me how essential it is for his recovery to keep him hopeful and in good spirits.

The next question to be discussed would be: "Is there truly a need for such sanatoria?" As examples, I will only mention two cities, New York and Baltimore. In New York, we have about 40,000 consumptives of whom, I venture to say, more than half must be considered as belonging to the poor and living in tenement houses. There are in the city of New York only two or three hospitals which take chronic tuberculous patients, accommodating about six hundred. According to information, for which I am indebted to your distinguished chairman, Prof. Osler, you have in your own city about 10,000 consumptive poor, of whom at least 6,000 are dependent upon public aid. The one hospital in Baltimore which admits chronic consumptives, accommodates about twenty-two of this class of patients. This must seem to us all very, very little help in presence of such misery. What becomes of the consumptive who is too poor to pay a regular physician and too weak to go to the dispensary, very few people know, with the exception of the physician who may practice in the quarters of the poor or the visitors of the charitable organizations whose calling brings them in contact with these unfortunate sufferers. It is a strange but significant fact that for the poor consumptive, who is in the greatest need of municipal or State help, the least is done. We have veritable palaces for the insane, excellent institutions for the epileptics, even institutions for the cure of inebriates, but nothing for either the curable or incurable consumptive poor.

We hear daily of the great gifts our philanthropists bestow upon general hospitals, or for the creation of libraries, but donations for the prevention or cure of consumptives are of the rarest occurrence. I can only account for this indifference on the part of our philanthropists by the fact that they have not thus far a true idea of the suffering of a poor consumptive. I have often wished that I could take some of our Carnegies, Rockefellers, or Vanderbilts into the home of one of our New York tenement dwellers who is dying the lingering death of a consumptive. These philanthropists would appreciate better in one-half hour of actual inspection what misery there is in this than would be possible for them to gather from all the descriptions which could be presented to them. They could take in at a glance the life history of an honest laborer, who became tuberculous, but worked until the day when he was brought home in a fainting condition, never to leave his bed again. They would appreciate the devotion of a wife who took upon herself the burden of the support of the family from that day on. They would soon realize that the unhealthy appearance of the children which seems to stamp them too as candidates for consumption is due to the lack of air and sunlight in the badly ventilated, dark and dreary tenement home and to the evident underfeeding of these little ones.

Yet how little would have been needed to prevent all this misery! Six to nine months proper treatment in a well conducted sanatorium would probably have sufficed to cure the tuberculous laborer had he known where to go to at the first onset of the disease. But how relatively few city governments, how few philanthropists, take any interest in this great tuberculosis problem, which is just as much a social as it is a medical one. By a combined action of the statesmen, the city fathers and the philanthropists it would be easy, if not to stamp out entirely, at least to reduce the morbidity and the mortality of this disease in a very remarkable degree.

Statesmen and the philanthropists could work for the prevention of this disease in three ways: first, by erecting model tenement houses where light and air would be plenty and where the laboring man could enjoy the pleasures of home life and find that comfort and cheerfulness, the lack of which, in the majority of the tenement houses, so often drives him to the corner saloon. Secondly, by helping to erect local sanatoria for the treatment of tuberculous diseases in all stages, in children as well as in adults. Thirdly, by judiciously exercised charity they could take upon themselves the support of the family which through the sojourn of the breadwinner in the sanatorium is temporily deprived of the necessities of life. Underfeeding of the children, because of the sickness of their father, could thus not happen, nor would the wife be obliged to leave the children alone and without care, because it would not be necessary for her to become the breadwinner.

Such conditions as I have pictured of the consumptive poor in New York exist also here in Baltimore and in many other of our large American cities. I believe a strong appeal to the philanthropists of your city to combine with your city or State government to remedy these conditions as far as possible would be timely. By having sufficient suitable hospital and sanatorium accommodation for the consumptive poor of your city, you will not only cure a large number of tuberculous patients and make of them useful citizens and breadwinners for their families, but you will suppress countless centers of infection, and thus do a curative and preventive work at the same time. Impress upon those to whom you are to appeal for help the following maxims: Tuberculosis, particularly in its pulmonary form, is a highly communicable disease. The patient not treated or educated in regard to the infectious nature of his sputum, is a danger to the community in which he lives, but particularly to those with whom he may come in close contact. The badly housed, the underfed, the overworked, or those who are

enfeebled through excesses or disease soonest fall victims to the tubercle bacillus. According to the estimate of Prof. Osler, through whose courtesy I am privileged to address you this evening, there are over 1,250,000 cases of consumption in the United States all the time, of which I venture to say, a large majority are doomed to an untimely death. Yet tuberculosis is a preventable disease, and consumption and many of its other forms are in most instances curable. Consumption is a disease of the majority, and therefore the majority and not the minority should be taken care of. The consumptive poor taken care of in time, treated and cured, will in the end cost the community less than the consumptive not taken care of in time but allowed to die in his home or the almshouse.

Consumption can be prevented by proper sanitation, training, and education; it can be cured in nearly all climes by proper hygienic and dietetic treatment, under constant medical supervision, at home or in a sanatorium. In short, to combat tuberculosis we must be permeated with the thought that it is a parasitic, but a preventable and curable disease, and that everyone, rich and poor, the physician and the layman, must do his duty in the combat of the "great white plague." Let the words of the immortal Pasteur be inscribed on the flag of this American Anti-Tuberculosis Crusade: "It is in the power of man to cause all parasitic diseases to disappear from the world."

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OBSERVATIONS AND REMARKS ON REMOVAL OF THE GASSERIAN GANGLION IN THE CADAVER.*

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The above subject will not need any introduction. The recent surgical literature has contributed largely in bringing it before the profession; the various methods which have been practised and the improvement of the methods now in vogue have been discussed in all their phases. The improvement in the present technique is largely due to careful observation of the anatomical relations of the Gasserian ganglion to the surrounding structures, which heretofore were only generally considered. To-day every structure has been segregated and its importance properly appreciated. This and the improvements in instruments, which are made especially for and adapted to the region of the Gasserian ganglion, have together simplified an operation that many surgeons have considered so formidable that they have discarded it as a procedure for the relief of trifacial neuralgia. Happily this uncertain state of affairs has been changed to one of confidence, and at the present time removal of the Gasserian ganglion is being performed by many surgeons throughout Europe and this country, with a degree of success which recommends it as a rational procedure and one which affords the only relief for trifacial neuralgia.

Before describing the technique of the operation, there are three considerations which must be taken into account. First, the physical type of the individual, that is, in reference to the bony structure and shape of the skull. My observation on something over fifty skulls, on which I have practised the operation, have led me to make the following conclusion: In skulls having a great transverse width just in front of the ears, a width consisting of the skull alone, without any additional muscles or the zygomatic arch, the floor of the middle fossa does not have marked bony prominences arising from it; while in heads not having a great transverse diameter between the ears, but whose external bony prominences are large and sharply marked, the floor of the middle fossa is studded with large bony eminences, which are situated external to the foramina ovale and rotundum. We often encounter skulls having a combination of these two types. A knowledge of the above facts will give us some kind of information of the condition that we are to meet with in the middle fossa. The wider head gives a smooth floor to work over in order to dissect the ganglion, but it has the disadvantage of a greater distance to the site of the ganglion, a condition which usually lessens the amount of light that can be thrown into the aperture. On the other hand, the narrow head offers a shorter distance to the ganglion, but usually has the disadvantage of having large bony prominences, which obstruct the view to the foramen ovale and sometimes to the foramen rotundum, so that the removal of the ganglion is laborious and oftentimes impossible, until the prominences of bone are removed from the floor of the middle fossa. Skulls of the third type are those having a wide transverse diameter as well as marked bony prominences, and offer a combination of difficulties. In the latter type we find the greater distance to the ganglion as well as the large bony elevations which arise from the floor of the middle fossa, and there is needed a greater elevation of the brain in order to throw sufficient light on the site of the ganglion. Whenever we encounter this type of skull, the distance can be shortened materially by opening forward toward the foramen rotundum, so that we can approach to within one-half inch of the second root of the ganglion. In these cases a larger hole should be made in the skull, so that a better elevation of the brain can be made in order to secure more light. In those skulls having large bony prominences the manner of chiseling these prominences from the floor of the middle fossa is of great importance. It is best done by chiseling from behind forward, this direction being away from the foramen spinosum, so that the middle meningeal artery is not cut, an accident which is liable to happen if the direction of the chiseling is backward.

The second consideration is the attachment of the dura mater to the ganglion and surrounding structures. The dura mater in the middle fossa as it passes forward divides, sending a prolongation downward and forward beneath the Gasserian ganglion, and firmly attached to the bone beneath this structure; the ganglion itself lies between this prolongation, which is attached to the bone, and the dura mater which covers the brain, the ganglion having a sheath of its own surrounding it and its branches. The dural sheath covering the branches of the ganglion becomes firmly attached to the bone at the margins of the foramina through which the branches of the ganglion pass. In addition to this dural sheath, there is a fine veil-like sheath, intimately connected to all parts of the ganglion, which is known as the tunica propria. The dura mater has certain points of attachment which are more firm than others. The first firm point of attachment is that around the foramen rotundum, next around the foramen lacerum anterius, and lastly around the foramina ovale et spinosum. This refers to the attachment of the dura mater to the bone; on the other hand the dura is attached in varying degrees of firmness to the surrounding structures. The first to be considered is the attachment to the ganglion itself. The most adherent point is on the upper surface; at this point the intervening sub-

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stance between the ganglion and the brain is the dura mater. In order to separate the dura from the ganglion, gentle dissection should be done, lest the dura be ruptured and the brain substance exposed. The attachment of the dura mater to the cavernous sinus is not firm at any point, excepting along the inner side of the first branch of the ganglion; the attachment here is really between the dural sheath of the ganglion and the cavernous sinus. Gentle dissecting with a blunt dissector will separate these last-named structures without any great amount of damage to the parts within the sinus. The attachment of the dural covering of the ganglion to the structures beneath it, is one of the most important considerations of the operation, as it is at this point that the inner portion of the ganglion is in intimate relation with the internal carotid artery. The attachment here is very firm and considerable force is required to separate the ganglion from the dura. The importance of having the ganglion free at this point is that it can be pulled away from the vessel while being evulsed from its bed. It is also important that the inner border of the ganglion should be entirely separated from the cavernous sinus, as this structure is also liable to be torn in the removal of the ganglion. It is a very peculiar condition that the branches of the ganglion are not so adherent to the underlying dura as the latter is to the ganglion itself. This is particularly so at the inner border of the ganglion, this point being most intimately connected with the internal carotid artery and the cavernous sinus, a condition that in a great measure increases the difficulty of the operation. Of the three branches of the ganglion, the first is the most adherent; in its relation with the outer wall of the cavernous sinus, from the point where it leaves the ganglion to the foramen lacerum anterius, it is very intimate, as it is firmly attached its entire length to the outer wall of the sinus. Its connection with the sinus becomes most firm as it approaches the foramen lacerum anterius, a fact which explains the difficulty which arises upon attempting to separate it for its entire length.

The dural attachments of the second and third branches are firm only at the margin of the foramina through which they pass. The dural attachment of the foramen spinosum is very firm; the dura is very thick at this point and permits of considerable force being used, so that it can be easily separated from the third branch of the ganglion without much danger of rupturing the middle meningeal artery.

The point of force, however, should be in the space lying between the foramen spinosum and foramen ovale, but sometimes the foramen spinosum is so close to the foramen ovale that the dura cannot be separated at this point.

The third consideration is that of the distribution of the blood vessels. The middle meningeal artery has always been a source of trouble in removing the gasserian ganglion. It begins usually at the foramen spinosum, which lies behind and somewhat external to the foramen ovale, passing forward for about one and one-half inches and dividing into the anterior and posterior branches, its course being upward and forward. The distribution of this artery varies considerably, as it does not always pass through the foramen spinosum. Sometimes it lies between the foramen rotundum and the foramen ovale near the foramen lacerum medium; at others it is not present at all. In the latter instance the artery passes through the foramen ovale. It is rarely found near the foramen rotundum, lying internal to this structure. In this instance the artery passes immediately over the foramen rotundum, its course being upward to the overhanging border of the lesser wing of the sphenoid, from which point it passes along to the outer extremity of the lesser wing and thence over to the parietal bone. This course of the artery offers the greatest obstacle to the complete removal of the ganglion, owing to its close proximity to the inner border of the last named structure, a point at which naturally there are very strong attachments to the surrounding structures. The dissection of the dura mater is difficult at this point, as any undue force would result in the rupture of the artery, and owing to its deep-seated location, ligation of the vessel is almost impossible. When the artery passes through the foramen ovale, it does not offer any obstacle, as it can be ligated at this point. The cavernous sinus is made up partly of nerves and veins, the veins each having a separate wall of their own, so that breaking simply into the sinus is not attended with any serious hemorrhage; should any of the smaller veins be ruptured at this point, packing for a period of ten minutes would arrest all bleeding.

The nerves lying within the cavernous sinus are the third, fourth, and sixth. The third and fourth lie high up under a reflection of the dura mater, the sixth lies close to the inner wall of the sinus and external to the internal carotid artery in close relation with the first branch of the Gasserian ganglion, as it passes through the sphenoidal fissure. The third and fourth nerves are rarely injured unless the entire outer wall of the sinus is grasped with forceps while one is endeavoring to remove the ganglion, a procedure which is unnecessary when the ganglion is dissected free from the surrounding parts before the endeavor is made to remove it. The sixth nerve is especially liable to be injured, even with the most careful dissection, as it lies immediately on the inner side of the first branch of the ganglion, on the outer wall of the sinus, as it passes through the sphenoidal fissure. The separation of the sixth nerve from the first branch can be accomplished by beginning at the base of the first branch upon the ganglion, working forward and upon this last-named structure. In this way the connection with the sixth nerve is severed by virtually shelling out the first branch for about one-quarter inch from the body of the ganglion. This permits the cutting of the first branch without any injury to the contents of the sinus. The internal carotid artery lies directly inward on a line with the third branch of the ganglion and immediately under the inner border of the last-named structure. It is intimately connected with the dura of the ganglion, so that the separation of the artery and ganglion requires careful dissection. No attempt to remove the ganglion should be made until the point of the dissector can be seen freely on its inner border. A neglect of this part of the technique will make the removal of the ganglion a hazardous undertaking. This is also referable to the separation of the ganglion from the cavernous sinus. There can be no differentiation of the tissues unless the ganglion is completely separated from the surrounding parts. The artery would be liable to be injured in applying the forceps on the ganglion, or a hole would be pinched in the artery during the evulsion, if the ganglion could not be raised free from the artery before the forceps is applied. The vessels which supply the ganglion itself are of no consequence, as the hemorrhage produced in rupturing them is easily controlled by packing.

A study of the anatomy of the sixth nerve shows that it is located on the inner wall of the cavernous sinus, external to the internal carotid artery; and no particular reference is made to its relation with the first branch of the Gasserian ganglion. The sixth nerve as it passes forward in the cavernous sinus

comes in close relation with the ophthalmic nerve as this structure passes through the sphenoidal fissure—in fact, it is intimately connected with the last-named nerve, so that any undue violence exerted on the first branch of the ganglion is almost certain to injure the sixth nerve. To illustrate how closely connected these two nerves are, traction on the ophthalmic nerve will pull both nerves outward, a fact which shows the necessity of a complete separation of these two structures before the ganglion and its branches are removed.

The technique which I have followed in removing the ganglion, is as follows:

The route selected is that of Cushing, or the so-called median route, at a point just above the temporal pterygoid ridge. An elliptical flap, consisting of the skin, muscle, and zygoma, is made, the base of the flap being the zygoma. This is turned downward, exposing the temporal fossa to the temporal pterygoid ridge. The temporal muscle is deflected downward with the periosteum, the bone being completely bared of any soft structure. After this the rough vertical ridge, which corresponds to the junction of the temporal bone and the greater wing of the sphenoid, is found. A point on this ridge, one-half inch above the temporal pterygoid ridge, is selected, and a hole is chiseled through the cranium at this point, and a piece of bone sufficiently large removed, so that a blunt dissector may be inserted in order to separate the dura mater from the skull. This is done in order to prevent any possibility of injury to the middle meningeal artery or the dura. After separating the dura the original hole is enlarged with a rongeur, the size of the hole having a horizontal and vertical diameter of about one and one-quarter inches. The lower boundary of this hole should be extended downward to the floor of the middle fossa. In order to approach the foramen rotundum, rongeuring should be forward and downward towards the orbital plate of the sphenoid bone. By following this direction, we escape any vessels belonging to the pterygoid plexus of veins. This procedure will enable us to approach within one-half inch of the foramen rotundum, and thereby permit an easy dissection of the dura mater at this point. After the aperture has been enlarged sufficiently to permit of inspection of the anatomical relations of the Gasserian ganglion, the middle meningeal artery is examined in order to locate the exact point where the artery enters the cranial cavity, and its course. After this the dura is separated by working forward on the floor of the middle fossa toward the foramen rotundum. At this point the dura mater is usually very firmly attached and offers a landmark for localizing the second branch of the ganglion. By dissecting gently on the bone around the foramen rotundum the dura is broken through at this point and the nerve exposed. After the nerve is thoroughly exposed and the dissector can be passed around it, the dissection is carried backward toward the ganglion, following the nerve and gently breaking through the dura until the body of the ganglion is reached. After this, the dissection is downward on the portion of the ganglion lying between the second and third branches, toward the third branch until the anterior border of this structure is exposed. The dura is then slightly raised from the upper surface of the ganglion. This dissection should be done wholly on the ganglion and its branches, and not outside of the limits of these structures. The next step is to separate the dura from the upper edge of the foramen lacerum anterius. The dissection should be performed on the bone just outside the edge of the foramen, to avoid injuring any of the structures at this point. The dissector should be pressed firmly against the bone until the dura is separated at this point. After this the dura should be raised in front of the foramen in order to permit a view of the first branch of the ganglion as it passes through the fissure. The dissector is then carried backward upon the first branch of the ganglion until the body of the ganglion is seen. It is then carried downward and outward over the body of the ganglion until the dissector rests on the posterior border of the third branch of the ganglion. This movement effects the greatest separation of the dura from the ganglion and the surrounding parts without any injury to the important blood vessels, and allows the brain to be retracted upward without any tension being put on the structures lying in the middle fossa. Sometimes it is necessary to separate the dura from the first branch of the ganglion by beginning on the body of the ganglion and working forward toward the sphenoidal fissure. After an inspection of the work done up to this step, the middle meningeal artery is separated from the posterior border of the third branch of the ganglion. This is done by inserting the point of the dissector just behind the posterior border of the third branch, separating the dura from this structure and also breaking through the dura that lies between the artery and the third branch. This permits of a greater separation of the dura at this point, a result which would not be easily obtained if this step was neglected. The dissector is now inserted beneath the third branch on its posterior border, the dissector lying between the nerve and its dural covering, and is carried backward until the lower border and the trunk of the ganglion are exposed. This should be done without any effort to raise the ganglion or trunk. Our next effort is to expose the remaining portion of the upper surface of the ganglion and the first branch. This is best done by beginning the dissection on the upper surface of the ganglion at the point where the dissection was discontinued in order to expose the third branch. The dissection is carried upward toward the first branch, and carried on this structure to a point one-quarter inch from the ganglion. The dura surrounding the ganglion is now reflected upward toward the cavernous sinus. This procedure enables us to see the inner border of the ganglion. When this is exposed, the point of the dissector is inserted between the inner border of the ganglion and the dura, which is dissected from the ganglion. This enables us to push the point of the dissector forward and along the first branch, so that this structure is shelled out of its dural sheath without any injury to the contents of the cavernous sinus. After this, the point of the dissector is placed at the under edge of the first branch, between this branch and the dural sheath, and carried backward toward the body of the ganglion and from thence down on the second branch. After the first branch is thoroughly exposed, the edge of the dissector is again placed between the inner border of the ganglion and the reflected dura and carried backward until the inner border of the trunk is exposed. The ganglion and its branches are now completely separated from the tunica propria and the dura on its upper surface.

The next step is to remove the ganglion from its bed. This really means a detachment of the dura from the under surface of the ganglion; and this must be done in order to separate the ganglion from the internal carotid artery. The procedure is as follows: The point of a flexible blunt dissector, which is curved to meet the contours of the cavum Meckelii, is inserted between the second and third branches of the ganglion, the point slipping in between the under surface of the ganglion and the dura; the dissector is then pushed backward and inward, a sweeping move-

ment being made, so that all attachment between the ganglion and dura is broken. This procedure is followed by considerable hemorrhage, which requires packing for about ten minutes for its suppression (when removing the ganglion in the living subject). After the hemorrhage is stopped the dissector is again inserted between the second and third roots of the ganglion, and the lower and outer borders of the ganglion are separated from any remaining dural attachment. The inner and under surfaces of the ganglion are freed from any remaining dural attachment by carrying the dissector along the inner and under surfaces of the ganglion. When the under surface of the ganglion is completely free from all dural attachments, the point of the blunt dissector can be seen at the inner border of the ganglion. This point must be carefully observed, for it offers an assurance that the cavernous sinus is free from the inner border of the ganglion and also that the internal carotid artery is not attached in any way to the under surface of the ganglion. In performing this dissection, care should be observed that the point of the dissector is inserted between the ganglion and its dural covering, so that the ganglion and dura are not raised together. If this should occur there would be firm attachment between the ganglion and the internal carotid artery, so that the removal of the ganglion would be attended with the danger of tearing a hole in the artery. The next step is to insert the point of the blunt dissector under the posterior border of the third branch of the ganglion and carry it back and well under the trunk of the ganglion. This movement separates the under surface of the root of the ganglion from any dural attachment.

The ganglion is now freely exposed and the trunk is in a condition for the application of the evulsing forceps. This is done with forceps properly curved and having a long biting blade. The under blade of the forceps is first slid under the trunk of the ganglion, the tip of the blade showing beyond the inner border, but not enclosing any of the other structures. A careful observation should be made that none of the dura mater surrounding the cavernous sinus at this point is within the grasp of the forceps. After the assurance that only the trunk of the ganglion is within the curve of the under blade of the forceps, the blades are closed and firmly clamped. Before the blades are clamped, their tips should be diverted in a direction backward, so that they are away from the internal carotid artery. The next step is to pass a hook around the second branch of the ganglion, pull it forward toward the aperture in the skull, and divide it near the foramen rotundum. After this, the third branch is divided in the same manner, a hook being passed around it and traction being made so that the nerve is drawn toward the hole in the skull; it is then divided near the foramen ovale. To make sure that there are no attachments between the under surface of the ganglion and the internal carotid artery and the cavernous sinus, a flexible curved dissector is once more passed beneath the ganglion and this structure is raised from its bed. The finger is inserted underneath the ganglion to palpate the internal carotid artery. This will give more definite information as to the surrounding structures. The evulsing forceps is now grasped and the trunk is torn from its attachment to the pons, care being taken that traction is not made from the direction of the cavernous sinus, but wholly on the trunk in a direction forward and toward the ganglion. This procedure will prevent the cavernous sinus being pulled forward by any possible remaining attachments that may exist between the ganglion and the sinus. If there should be any remaining attachments between the cavernous sinus and the ganglion, the curved flexible dissector is again passed between the sinus and the inner border of the ganglion and the outer wall of the sinus is pushed inward, thereby separating this structure completely from the body of the ganglion and at the same time freeing the first branch of the ganglion from the sinus. Traction should now be put upon the ganglion so that it will be pulled directly away from the sinus in an outward direction toward the opening in the skull. This will pull the first branch of the ganglion away from the sinus, and permit it to be cut about one-eighth inch from the ganglion. The curved scissors, which are used to sever this last-named structure, are inserted in such a direction that the blades pass around the nerve from behind, so that the points are directed forward and away from the cavernous sinus. This precaution is necessary as it is possible to cut into the sinus if the points are directed backward. The ganglion is now completely free from all attachments and is removed in its entirety.

I have not mentioned anything regarding hemorrhage during the foregoing steps of the operation, as I think it is better to describe that under a heading of its own and emphazise the particular points in the operation in which we are liable to have severe hemorrhage. The separation of the dura is attended with considerable loss of blood, but this is of no consequence, as packing for one-half or one minute is sufficient to arrest it. As we approach the ganglion the hemorrhage becomes more profuse, and considerable bleeding occurs when the dura is raised from the upper surface of the ganglion; this is easily controlled by packing and does not delay the operation over five minutes. Separation of the dura from the first branch, downwards and toward the ganglion and from thence to the third branch, is attended with some hemorrhage, but this usually stops spontaneously. The dissection of the tunica propria from the upper surface of the ganglion is never attended with hemorrhage of any consequence. The ganglion at this stage of the operation is usually visible, so that every move of the dissector is plainly seen. During the separation of the ganglion from the cavernous sinus, the sinus in most cases is open. This is of no consequence unless one of the vessels in the sinus is ruptured, an occurrence which is impossible if the dissection is done with a blunt dissector. Separating the under surface of the ganglion from the dura mater is attended with profuse hemorrhage. The work at this point should be done rapidly and vigorously. There is no danger of injury to any of the important vessels, as the dissection is done with a blunt dissector. The hemorrhage at this point is usually the most severe, but here again packing for ten minutes will completely arrest it, so that the dissector can be inserted underneath the ganglion and a more complete separation secured. There should be no further severe hemorrhage unless the middle meningeal artery or the internal carotid artery is injured. This is scarcely possible if careful dissection of the ganglion is made.

After the ganglion is removed, the middle fossa should be thoroughly packed with sterile gauze, which is allowed to remain until the skin flap is approximated by several anchor sutures. The packing is then removed. Should the hemorrhage continue after the packing is removed, the latter is inserted again and allowed to remain for twenty-four hours. Ordinarily this last procedure is not necessary, as the brain usually fills out the middle fossa, and the weight of this structure is great enough to produce pressure sufficient to stop all hemorrhage from the small vessels.

In operating upon the cadaver, the relative hemorrhage that is met with in certain operations cannot

be ascertained. To obviate this I shall suggest a method that is original with me, so far as I know. And I ask earnest criticism on various points that I shall present concerning my efforts to produce artificial circulation in the cadaver. My plan is as follows: The nozzle of a Davidson syringe is inserted through a slit in the common carotid artery and a suture is passed around the artery so as to fix the nozzle of the syringe securely within it. A solution of carmine is injected into the artery, an assistant squeezing the bulb of the syringe rhythmically to imitate the impulse of the heart. The carmine solution is forced in the vessels, distending them so that those around the Gasserian ganglion are full and pulsating as in life, and should any of the vessels be injured during the dissection of the ganglion from its attachments, the solution will immediately flood the field of the operation. It was through this procedure that I ascertained that breaking through the under surface of the ganglion was attended with more hemorrhage than dissection at any other point. This procedure also gives a good illustration of the close proximity of the internal carotid artery to the Gasserian ganglion. The middle meningeal artery is more plainly seen, and in every way we gain a definite idea as to the points at which the greatest hemorrhage is to occur in the living. I would recommend this plan in all operations on the cadaver, as it will give one a more definite idea as to the location of the arteries at any site in the human body. When the arteries are distended no information is given as to the relation of the veins. If the location of the veins should be desired the syringe is to be attached to a large venous trunk; this will distend the veins in any part of the body that one may desire to operate upon.

In conclusion, I must emphasize several points in the operation of removing the Gasserian ganglion:

1. A careful dissection of the ganglion from the dura and other contiguous structures must be made; the dissection being made upon the ganglion and its branches as much as possible. If we keep upon the ganglion and its branches there will be very little hemorrhage. On the other hand, should an effort be made to dissect the ganglion by working upon the surrounding structures, a profuse hemorrhage will be produced.

2. The ganglion must be dissected from its dural covering; the cavernous sinus, internal carotid artery, and middle meningeal artery should be completely separated from the ganglion before any effort is made to evulse it. In my experience, I have found that it is best first to divide the second and third branches, and then break through the trunk of the ganglion and pull it away from the cavernous sinus before any attempt is made to cut the first branch of the ganglion. This procedure will enable the operator to avoid the sixth nerve and the contents of the cavernous sinus.

3. The last consideration is that of hemorrhage. In the three cases in which I have seen the Gasserian ganglion removed from the living subject, I assisted in two operations, and in the third I removed the ganglion myself. In each of these cases the hemorrhage was controlled at all times by packing. The first case, operated upon by Dr. Bartlett of St. Louis, might be considered a very unfavorable one, as the patient had passed 60 years of age, and had marked arteriosclerosis; consequently we encountered quite a severe hemorrhage. But even in this case packing controlled the hemorrhage, so that the ganglion could be seen during the greater part of the operation. In the second case, the hemorrhage was controlled at all times by packing. In my own case, the hemorrhage was practically nil. At no time was it necessary to pack for over five minutes; the ganglion was visible at all times, and an inspection of the middle fossa could be made, so that a differentiation of the tissues was possible. Physical conditions favoring hemorrhage are old age and arteriosclerosis. In the middle aged and the young very little hemorrhage is encountered.

PRIMARY CARCINOMA OF THE TIP OF THE APPENDIX; PRIMARY EPITHELIOMA OF THE SPHINCTER MUSCLE OF THE BLADDER.*

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The two cases I present are of interest, not only on account of the unusual location of the malignant growths, but also as suggesting, especially the second case, an obscure cause of refractory and annoying bladder symptoms. The cancer of the appendix is the more surprising from the fact that it occurred in a young girl only fifteen years of age. The patient was a Jewess, unusually well developed for her years, of ruddy complexion and well nourished. For more than a year she had complained of a steadily increasing pain in the appendiceal region, whenever she indulged in any ordinary physical effort, such as walking, running, jumping the rope, or climbing stairs. Her family physician had made a diagnosis of subacute or chronic appendicitis and advised operation. With this I coincided, although no tumor could be palpated. A mental reservation accompanied this to the effect that the symptoms might be produced by some pathological condition of the right uterine appendages. I operated December 4th, making a free incision over the appendix to permit of careful inspection of the ovary and tube. The successive layers of muscles were split in the direction of their fibres and the peritoneal cavity was entered. The appendix was unusually long, was thickened and tortuous, and in the extreme tip could be seen through the peritoneum, which was tightly stretched over it, a perfectly round white body about the size of a large marrow-fat pea. The appendix was amputated, the stump being inverted into the lumen of the gut. The uterine appendages were then palpated and found normal. The wound was closed without drainage.

The little tumor looked and felt like a calculus, but to my surprise, upon cutting down upon it, it appeared to be organic tissue resembling a fibroid tumor. On careful inspection, it was clearly evident that it was not in the lumen of the appendix, but had developed in the tissue, between the mucous membrane and the peritoneum. The specimen was refered to Dr. F. M. Jeffries at the laboratory of the Polyclinic, who reported as follows: "Acute appendicitis throughout the entire organ, no evidence of chronic inflammation discoverable. A small spherical nodule five millimeters in diameter was found at the extreme tip, which upon microscopical examination proves to be carcinoma of quite typical character. A few gland structures lined with goblet cells are scattered throughout the stroma, which are probably follicles of Lieberkühn. At one point in the muscular coats adjacent to the nodule, a marked infiltration of growth is apparent, though this is not found beyond a certain limited area. I have been unable to determine the point of origin in this case. The growth appears to intrude wholly upon

*Presented at a meeting of the New York County Medical Association held at the Academy of Medicine, March 18th, 1901.

the lumen of the appendix, the muscular coat remaining unaffected, other than by the invasion described."

(Signed) F. M. Jeffries.

Dr. Jeffries reported to me verbally that two prominent pathologists of the city had confirmed his diagnosis, one of them remarking that this was the second instance that had come to his notice of primary cancer of the appendix, the other never having known such a case before. This report of the pathologist suggested the importance of securing the family history, and I found that the paternal grandmother, who is now living, had suffered from cancer of the uterus, for which she had submitted to vaginal hysterectomy about four years ago, and the grandmother's sister had been afflicted with cancer of the breast. The family is a large one, but no one of the patient's generation or the one preceding it had had malignant trouble. The prognosis of the present case becomes therefore extremely interesting. The patient convalesced promptly and has been entirely relieved of her former symptoms.

The second case was that of an unmarried woman, 28 years of age, who had suffered with extremely annoying symptoms from frequent and painful micturition for the past six years. The symptoms had been steadily progressive both in frequency and severity until within the last few months; her nights had been robbed of sleep and the suffering, at times, had been intense, the pain being exaggerated during and following her menstrual periods. Previous to my seeing her, she had been in the hands of several gynecologists and had undergone treatment for displacement of the uterus and anteflexion, but without relief. I speak of this simply to emphasize the point that the condition was sufficiently unusual to elude discovery, although when once the sense of touch had given the intimation of the presence of a growth its existence became positively apparent as the examination proceeded. The urine was free from any pathological conditions except an extreme excess of uric acid. Cystoscopy revealed no abnormal conditions of the mucous membrane, but the extreme dilatation of the urethra, attendant upon the cystoscopy, gave considerable relief for several days. A careful palpation of all the parts at a subsequent date, during the pressure of the tissues against the posterior face of the symphysis, detected this little tumor in the sphincter muscle of the bladder to the left of the internal urethral orifice. I supposed it to be a diseased lymphatic gland, or perhaps the first stages of a vaginal cyst, and advised its removal. Upon cutting down upon it, I found it so intimately incorporated with the muscular fibres that it could not be shelled out. This led to the suspicion that it was a growth of a most serious character and demanded wide dissection in the surrounding tissues. Accordingly, I made an incision into the bladder through which I passed my finger, and with this as a resisting body I dissected out the growth. To secure drainage from the invaded tissue the mucous membrane of the bladder was simply closed with a running catgut suture, the wound being left open and the vagina being packed with iodoform gauze. The wound was later closed with silver wire sutures, the catgut having eventually given way. The patient made a prompt recovery and has been entirely relieved of all her symptoms. The operation was done January 14th, 1901.

The pathologist's report is as follows: "Size of tissues received, 17x25 mil. Microscopical examination demonstrates this tissue to be devoid of capsule and to consist largely of what appears to be thickened bladder-wall, the increase of tissue being muscular rather than fibrous. The surface on one side is infiltrated with epitheliomatous structures. No bladder mucosa is found; but two or three saccular, gland-like structures lined by columnar epithelium and distended with fluid are found extending into the muscular tissue. The growth is an epithelioma. I hardly believe it could be possessed of any great degree of malignancy."

(Signed) F. M. Jeffries.

These two cases are unique in demonstrating the presence of primary carcinoma in most unusual locations. It is significant, too, that they were discovered in two unmarried women, and both at so early an age. (The slides showing, not only sections of the growth, but the condition of the surrounding tissues were shown under the microscope).

Intestinal Occlusion as a Result of Movable Spleen.—Antonio Mori reports a case. Replacement of the displaced organ by means of manipulations, with the patient in the genupectoral position and then lying on the left side, overcame the spasmodic contractions, pain, and vomiting and the functions of the intestines again became normal. The condition is rare. The author gives directions for the diagnosis of movable spleen. As to operative measures, he thinks that splenopexy can be applied in simple cases and perhaps in cases of hypertrophied movable spleen. In more complicated cases, it is a question whether fixation or extirpation is to be preferred.—*La Riforma Medica.*

Hysterical Pains in the Mastoid Process.—Liaras and Bouyer relate a series of cases of pain in the mastoid region in which a close examination has shown an absence of inflammatory conditions but occasionally the presence of a condensing osteitis. Given the existence of a mastoid pain (indefinite and not well-defined) in patients who present evidences of hysteria and in whom the local conditions point to the existence of osteitis, a positive diagnosis of mastoid involvement is impossible. But when we can rule out the existence of an osteitis the possibility of a concealed and mono-symptomatic hysteria must always be borne in mind. The treatment of such cases should be along the lines applicable to hysteria in general.—*Revue Hebdomadaire de Laryngologie.*

Five Cases of Traumatic Tetanus.—Felice D'Alessandro reports these cases in which hypodermic injections of carbolic acid, successful in Baccelli's cases, and of corrosive sublimate as advised by Baculo, were not successful. The reason for the failure he considers to have been: 1. Extreme gravity of the traumatism; 2. Gravity of the nervous shock; 3. Insufficient amount of carbolic acid. The amount of phenic acid injected should be in proportion to the weight of the individual and not less than 1 centigram ($\frac{1}{6}$ grain) to each kilogram ($2\frac{1}{2}$ lbs.) of weight. Nor should this dose be gradually reached, but it should be given at once, and diminished if any signs of intolerance appear.—*Giornale Internazionale delle Scienze Mediche.*

Curable Heart Disease, or Adolescent Heart Strain.—Albert Martin discusses a condition characterized by cardiac murmurs, but not indicating organic disease. He refers it to a want of muscular power of the cardiac muscles only, especially the musculi papillares, to whose weakened condition he ascribes the regurgitant murmurs heard at the apex. The bruit present at the base he regards as secondary to anæmia of the general system. That the cases reported were not merely anæmia is shown by the fact that iron and diet did not bring

about a cure. Treatment should consist of rest in bed, seclusion, the administration of digitalis pushed until one has the physiological effects, and strychnine, preferably in the form of the tincture of nux vomica on account of its stimulating and appetizing properties.—*The New Zealand Medical Journal.*

The Appendicular Form of Pneumonia.—P. Mirande cites a number of cases of this form of pneumonia, in which the symptoms for the first three or four days are entirely those of appendicitis. If operation is performed, a perfectly normal appendix is found, and two or three days later the key to the enigma is furnished by characteristic tubal resonance and crepitant râles. Appendicular symptoms usually disappear about the fourth day. In some cases intense and persistent elevation of temperature, flushed cheeks, and the early appearance of cough will put one on the right track for the diagnosis of pneumonia. On the other hand, the symptoms which militate in favor of appendicitis are prominence of the abdominal veins, œdema of the skin, and tenderness on pressure applied to Douglas' pouch in women and to the recto-vesical *cul de sac* in men. The difference between the rectal and axillary temperatures in cases of pyrexia amounts to between 0.02° and 0.05°, but in appendicitis may reach 1.1° to 1.4°.—*The Medical Press and Circular.*

Testing and Training Distant Vision with Special Reference to Military Requirements.—R. Brudenell Carter holds that much may be done in the way of training to cultivate rapidity and acutness of vision. The Boers are reputed to have superior vision to that of the English soldiers, but the reason probably lies in their habit of looking over great distances, using small images for their guidance. What to a Boer would be a man or an ox or a horse, would to an unaccustomed person be a something of undetermined nature. Ninety-nine English soldiers out of a hundred, after a fortnight's exercise on the veldt would see anything that the Boers themselves could see, and would interpret images as quickly. Nothing could be more appropriate to the functions of a volunteer regiment, or of an athletic club, than to cultivate excellence of vision among its members. Let children, or men make it an object of ambition to see the smallest distant object, to observe the faintest difference of color, and to notice lateral objects as well as those in front of them, and vision will be greatly improved.—*The Medical Press and Circular.*

Etiology of Pertussis.—Drs. Jochmann and Krause conclude that (1) In the majority of cases the smallest influenza-like bacilli are found. (2) These morphologically similar bacilli do not belong to one species; there are three different kinds which biologically are differentiated by their relations to Gram's stain. (3) This accounts for the varying opinions of different observers as to the biological characteristics of the bacillus observed in spread specimens. (4) The bacillus of Czaplewski and Hensel is not considered the etiological factor of pertussis, because it was seen in but four cases. (5) On the other hand, in eighteen cases and three postmortems there was found an influenza-like bacillus which, in contradistinction to all similar bacilli described, are charaterized by their exclusive growth on media containing hæmoglobin and which they call bacillus pertussis Eppendorf.—*Zeitschrift fur Hygiene und Infections-Krankheiten.*

Experimental Lumbar Puncture for the Determination of Tubercle Bacilli.—Hellendall says that the detection of tubercle bacilli in the spinal fluid is not always positive; more uncertain still are animal experiments and the injection of the suspected fluid into the peritoneal cavity of the guinea pig. The author attempted to produce tuberculous meningitis by injecting into the meninges of guinea pigs tuberculous spinal fluid. The experiments undertaken with eight guinea pigs showed that five died from general miliary tuberculosis (one to three weeks). Two died within twenty-four hours and hyperæmia of the spinal cord and brain was found post mortem. Therefore, tuberculous meningitis was not produced. From these experiments, however, it is seen that for the determination of tubercle bacilli in the spinal fluid animal experiments are more exact than the examination of microscopical preparations. Intrameningeal injection is more rapid in its effects than intraperitoneal; furthermore, less fluid (2 cc.) is required for intrameningeal than for intraperitoneal (4 cc.) injection. Again the lumbar fluid is a better culture medium for the tubercle bacilli.—*Deutsche Medicinische Wochenschrift.*

Occult Gastric Hemorrhages.—J. Boas says that hemorrhage from the gastric mucous membrane occurs either as a severe gastrorrhagia or as a minute capillary bleeding from ulcers or ulcerating tumors; in both instances the blood retains its normal color or assumes a coffee-ground appearance. In very small hemorrhages, with an acid medium, no apparent change takes place in the color of the gastric contents. Numerous specimens of the gastric contents, which upon closest inspection gave no evidence of blood, showed a greater or less amount of blood, when examined by the guaiacum test with Weber's modification; for this purpose freshly-prepared tincture of guaiacum is necessary. This gives the most distinct reaction, especially when, after adding the tincture of guaiacum and turpentine oil, the ethereal solution is well shaken with chloroform and water and allowed to stand for some time. For purposes of examination the stomach contents procured by means of a tube is preferable to the vomited matter; the latter, even under normal circumstances, may contain small quantities of blood which does not come from the stomach. Furthermore, care must be exercised against artificial hemorrhage due to severe pressure which causes erosion of the mucous membrane. In eighty-three cases of various gastric ailments and a few intestinal troubles, the stomach contents were examined. The stomach diseases were divided into three groups: those in which blood was constantly absent, those in which hemorrhage occasionally appeared, and finally those in which repeated examinations showed the constant presence of blood. In the first group were neuroses, cases of an acid gastritis, one case of subacid gastritis, cases of hyperacidity, of hypersecretion, and of benign ectasia. Among the cases of alternating hermorrhage are those of gastric ulcer and consecutive pyloric stenosis. In the third group may be mentioned hypertrophic stenosis of the pylorus and twenty cases of carcinoma ventriculi. In these cases, blood was always found in the gastric contents, irrespective of the chemical or motor functions of the stomach. Occult gastric hemorrhages have no positive diagnostic significance, but they are important in a differential sense.—*Deutsche Medicinische Wochenschrift.*

Children of Neurasthenic Parents.—Ad. Czerny concludes: 1. These children should associate as much as possible with others. By this means, as well as through occupation and play, observation of themselves and of diseased condition of adults will be overcome. 2. All disagreeable prophylactic curative measures as well as medical treatment is to be avoided; also all procedures which tend to show the child that he is ill or unusual in temperament. 3. Neuropathic parents must not speak to them of their own ailments or those of others. 4. Only in urgent cases are the children to be kept from school. 5. Parents are to be informed by the physician of the dangers and difficulties in bringing up such children.—*Deutsche Zeitung.*

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PATHOLOGY AND TREATMENT OF SUNSTROKE.

THERE is no argument necessary to prove that heat in itself is the prime causative factor of sunstroke. Most commonly, it is true, the phenomena variously grouped under the designations of insolation, *coup de soleil* and *sonnenstich* are due to the intensity of direct solar rays; they are also induced by artificial heat in shady quarters, and even during the night, when high temperature and extra humidity prevent the proper cooling of the body by natural evaporation.

Although different grades of heat-exhaustion are given with their corresponding varieties of pathological lesions, it is fair to assume that they depend essentially upon different degrees of action of the primary factor.

The study of autopsical lesions in given cases is not always satisfactory in reconciling relations of cause and effect. When death is sudden, no distinctive tissue changes are manifest. Under such circumstances, the condition appears to be either that of syncope from simple failure of heart action, or from direct shock to the cerebral and respiratory centers. The latter, termed the asphyxial form, is the most common, and most rapidly fatal. In the hyperpyrexial variety, in which the temperature may range from 108° F. to 110° F., the cerebral lesions are usually quite pronounced. There are often evidences of meningitis, serous effusions in the ventricles, and, occasionally, hemorrhages into the brain substance. In spite of these pathological appearances, mostly focused, as they seem to be, in the cerebral centers, the cause of death is asphyxia and not apoplexy. As evidences of this fact, the lungs are deeply congested, the entire venous system is engorged, the heart is firmly contracted, and the blood is dark, impaired in coagulability, and has increased fluidity. In a general way, we may, perhaps, explain the existence of the various lesions by the assumption that in all the cases the brain and nervous centers, especially the respiratory, are overwhelmed by the sudden elevation of temperature, and respiration and circulation eventually fail—the latter being probably due to the inhibitory influence of the vagus. It is simply over-stimulation by heat, followed by eventual exhaustion.

In the hyperpyrexial form in which the symptoms come on more gradually and continue proportionately longer than in the other varieties there appears to be more time and more opportunities for permanent lesions in brain structure. Thus in those who recover from the immediate attack, there may be marked and permanent impairment of intellect, frequent headaches, due to subacute meningitis, also loss of memory, eyesight, and hearing, muscular paralysis, and other evidences of permanent absence of nerve force. There can be no question that these changes thus induced are distinctly and diffusively organic in character, although, as yet, such are not absolutely explained by any manifest degeneration in nerve cell structure, or in any uniform retrograde metamorphosis of nerve fibre. The gross lesions are, however, plainly enough seen to enable us to hope that the discovery of the finer ones may be only questions of time, opportunity, and study.

We only glance cursorily at the general pathology of *coup de soleil*, in order to appreciate such practical matters for treatment, as may be thereby suggested. Everything in the way of a promise of absolute recovery depends upon the prompt treatment of the initiatory symptoms. It is only in this way that permanent lesions can be anticipated or prevented. Once the organic changes are fixed, the victim bebecomes a hopeless invalid, with impairment of his most valuable faculties. The main therapeutical indications are in the direction of modifying immediate shock, and of reducing more or less rapidly excessive temperature. In this connection, it is well to recollect the numbers of important centers involved, and the intimate associations of some of these with the respiratory and cardiac functions. While it is somewhat doubtful that local cold douches to head, neck, and spine can do much more than lower surface temperature they certainly, even in this indirect way, often accomplish wonderful results. It would seem almost like blowing hot and cold with the same breath to advise heart stimulation in connection with the foregoing measures, but in reality by so doing, we effectually counter-balance the effects of the ultimate exhaustion which always follows the primary over-stimulation. In fact, we may work them side by side as indications may demand. It often requires the most careful watching to know when to lean more on one side than the other, and even under most favorable circumstances the game may be a losing one, as it must be recollected that the usual mortality is generally placed at from forty-five to fifty per cent.

The main object to be kept in view is the rhythmic restoration of co-ordinating vital forces. The latter must be coaxed into line rather than forced. Hence the powerful antipyretics are apt to be dangerous and defeat their object, as well as the more potent and pronounced cardiac stimulants.

In spite of prompt therapeutic measures, there are so many relapses in the shape of subsequent intolerance of solar heat, that the conviction is almost irresistible that in the majority of the severe cases some intricate and undemonstrable organic nerve degeneration is a foregone conclusion. During the present hot and sultry season, there are and will be abundant opportunities for according theory with practice, and for remembering that sunstroke, in any of its forms, is a very serious calamity to the victim, requiring the greatest skill on the part of his medical attendant in meeting the many complex conditions likely to present themselves.

THE TYPES OF DYSENTERY IN THE PHILIPPINES.

The study of tropical diseases by the medical department of our army in the Philippines is being attended with excellent practical results under authority from the Surgeon-General, with a view of presenting to the medical officers of the Division of the Philippines the results of the investigations that have been made by Lieut. R. P. Strong, Assistant Surgeon, in the pathological investigation of these ailments. The latter gentleman has been instructed to prepare a series of circulars, each being an epitome of the subject studied. The second of these circulars, treating of army dysentery as observed in and around Manila, has just been published.

We are not surprised to learn that the disease in question is alarmingly prevalent among our troops, serving in that far off region. During the past twelve months there have been over four hundred deaths from dysentery. This mortality is nearly four times as great as that from any other single malady. The statistics show that of 1,830 cases admitted in the First Reserve Hospital during sixteen months only one-third have been returned to military duty. Of the two hundred and twenty-one autopsies made in Manila, one hundred and eleven have been upon dysenteric cases.

All these facts show the imperative necessity of studying the pest in all its varied bearings, bacteriologically, pathologically, clinically, and therapeutically From these points of view, Surgeon Strong has certainly made a very suggestive study of his subject. As a result of his investigations, he is led to believe that in and around Manila there exist at least two distinct varieties of dysentery—one infectious in character depending upon the bacillus dysenteriæ (discovered by K. Shiga in 1898), and the other an amœbic dysentery having, of course, an entirely different etiological factor. The bacillary form is an acute infectious disease characterized anatomically by an extensive superficial necrosis of the mucosa and usually by hyperplasia and hemorrhagic infiltration of the lymph follicles of the large intestine, with induration and thickening of its walls, by hemorrhagic swelling of the adjacent mesocolic glands, and often by parenchymatous changes in other organs. The bacillus dysenteriæ is present in the acute stages of the disease, both in the discharges and in the superficial necrotic layer of the intestinal mucosa.

Clinically the disease has an acute onset, with frequent mucous and bloody stools and marked tenesmus; often the patient goes to bed feeling perfectly well and during the night may have from twenty to forty stools. The duration of active symptoms is from four to fifteen days, at the end of which time convalesence begins or death occurs.

This form of dysentery seems widely spread over the Island of Luzon and is most frequent toward the end of the rainy season.

So far as can be learned, infection occurs through the drinking of water and milk, although the supply of the latter is quite limited. Uncooked food (salads cresses, etc.) is an important etiological factor. Catarrhal affections, indigestion, constipation, and starvation are predisposing causes.

The morbid anatomy of infectious dysentery is quite characteristic and is markedly distinguishable from the amœbic variety. On opening the abdominal cavity, the intestines externally appear almost healthy. In a large majority of cases, the mesenteric vessels of the large intestine are injected. The lymph glands along the upper end of the rectum and sigmoid flexure are swollen, red, and hemorrhagic. No circumscribed and deeply seated areas of necroses are visible. The other lymphatic glands along the larger bowel are only slightly affected, although the group running towards the head of the pancreas is markedly involved. The mucosa of the large intestine presents a reddened, swollen, and puffy appearance throughout its whole extent with a superficial necrotic layer composed of mucus, red blood corpuscles, leucocytes, epithelial scales, swollen granular scales, and bacteria. No amœbæ are found. Here and there purpuric spots may appear in the small intestine, the lower portion of the mucosa is reddened, but only in one-third of the cases is it extensively involved. The other organs show no constant changes. The spleen and liver may be moderately swollen. In no case was liver abscess present, although in the subacute stage fatty degeneration existed. The very interesting point in this connection, is the statement of Dr. Strong to the effect that "in no text book at hand can we find a description of this form of acute infectious dysentery as we see it here."

The bacillus dysenteriæ may be obtained from the superficial necrotic layer and exceptionally from the hemorrhagic mesocolic glands. Bearing in mind that the acute infectious variety is bacillary in character and prevails in epidemic form, while the amœbic dysentery, depending solely on infection with a protozoon, is essentally endemic throughout the year, so far as is known to the contrary the same predisposing and exciting factors exist in both.

In the amœbic form there are marked periods of exacerbation and intermission and the onset is gradual. The pathological conditions also match the clinical manifestations. In general there was extensive thickening of the large bowel with numerous soft, deeply undermined, ragged-edged ulcers, often raised above the surrounding mucosa by underlying infiltration. In many cases, both healing and fresh lesions were observed, in others there was perforation with peritonitis. Fourteen of the ninety-seven cases examined autopsically showed characteristic liver abscess containing amœba. Not only may the amœbic and bacillary dysenteries be differentiated post-mortem but they may be easily separated with two groups during life, one infection being recognized by its specific blood serum agglutination for the bacillus and the other by the presence of the parasite amœba dysenteriæ in the stools. These carefully-made observations are of great practical interest not only to the student of tropical medicine but to all practitioners who are called upon to treat dysentery as it prevails in different sections of the United States. The painstaking methods employed at the army laboratory at Manila are a credit not only to the medical department, but to the science of bacteriology in general, and prove the wisdom and forethought of Surgeon-General Sternberg, who is himself a high authority in such lines of research and has ever been the foremost advocate of progressive methods of pathological study.

THE TREATMENT OF SOME APPARENTLY INCURABLE EYE AFFECTIONS.

The mainstay of the successful physician must ever be hope. It is true that recovery will take place spontaneously from many morbid conditions, but in the vast majority of instances this will be favored by, if it do not actually require, the intervention and guidance of the intelligent therapeutist. The remedies employed need not necessarily be drugs; in fact, the greatest good is often brought about by means of physical or physiological agencies. We may not always be able to explain the mode of action by which the good is affected, but meanwhile well substantiated empirical observation and practice are not to be despised. Of the force of the foregoing remarks illustrations will be found in a clinical lecture delivered a short time ago by Dr. Charles Bell Taylor (*Lancet*, April 27, 1901), in which are related a number of remarkable instances in which sight was restored to persons who were believed to be incurably blind. This was accomplished in part by means of electricity, mercury in large doses, alone or in combination with other drugs, derivatives, together with such operative measures as seemed indicated by the needs of the individual case. Thus, electrolysis will be found most useful in the treatment of angiomata, inoperable tumors, adenoids, granular lids, and other abnormal growths. As a cauterant, a cataphoric agent, an illuminant of internal cavities, a destroyer of bacilli, a generator of heat and ozone, electricity is unrivalled, and the electro-magnet both as a sideroscope and an extractive agent is indispensable in the treatment of accidents of frequent occurrence. The galvanic and faradic currents are most valuable in the presence of corneal ulcers and opacities, of neuroparalytic keratitis, of paralysis of ocular, facial, and other muscles. Dr. Taylor claims further that the electric current has a potent influence upon all living protoplasm, a restorative power for which there is no substitute, not only in cases of neuritis and degeneration the result of injury, with the accompaniment of palsied muscles, but also in the presence of neuritis and degenerative changes such as accompany and follow upon attacks of influenza, diphtheria, diabetes, typhus, typhoid, rheumatism, and other febrile disorders. As a stimulant, tonic, and catalytic agent under such circumstances he believes it to be of the greatest value, and a last resort in the treatment of atrophy of the optic disc, neurasthenia, asthenopia, failing brain power, and general nervous declension such as is observed at the menopause in women, or as a result of advancing years or exhausting disease, or the abuse of alcohol or tobacco, or lead poisoning.

Mercury may be administered in the form of blue pill, ointment, vapor, or subconjunctival injections. For the last purpose the cyanide is to be preferred, the injection being made painless by the addition of a small amount of eucaine. It is frequently necessary to combine morphine with the pill, and pilocarpine is an important adjuvant. The latter may be given internally in doses of gr. $\frac{1}{2}$ or hypodermically in doses of from gr. $\frac{1}{10}$ to gr. $\frac{1}{4}$. Elaterin also is a useful aid in doses of from gr. $\frac{1}{40}$ to gr. $\frac{1}{10}$, especially in the presence of detachment of the retina.

Concerning blood-letting the advice is given to bleed early and to let the blood flow until the pain, if there is any, has quite gone. When the eye alone is affected, natural or artificial leeches may be applied to the temple with great advantage. Among other useful derivatives are sinapisms, blisters, setons, issues, icebags, hot-water bags, Turkish baths, lamp-baths with hot pediluvia, intestinal derivatives, hot and cold aspersion, and the actual or electric cautery for purposes of stimulation, counter-irritation, or destruction of tissue.

THE DIAGNOSIS OF RABIES.

Dr. D. E. Salmon, of the Bureau of Animal Industry, writes on this subject in the "Agricultural Department Year-Book," just issued, and after referring to its continuous increase in the United States, speaks of the difficulty in recognizing the nature of the malady. On this point he says that there are two forms of rabies—the furious and the dumb. In the former, the animal is irritable and aggressive, and bites nearly every object that comes in its way; in the latter, the muscles of the jaw are paralyzed almost from the first appearance of symptoms, and, being unable to bite, the animal remains more quiet and tranquil. In both forms the disease is the same and the saliva is equally deadly. The dogs with dumb rabies are less dangerous, solely because, their jaw muscles being paralyzed, they are unable to bite. The difference in the two forms of the disease is due to the greater rapidity of the development of symptoms in dumb rabies. Every case of furious rabies eventually turns to dumb rabies, for paralysis of the jaw is one of the final symptoms. What is called the "drop-jaw form" is when the symptom occurs on the first day of the disease instead of after an interval of two, three, or more days, as in the case of furious rabies. The symptoms of furious rabies appear very gradually. The animal appears restless and is very apt to become more affectionate than usual, fawning and licking the hands or face of its master as though seeking sympathy and aid. This is a particularly dangerous demonstration, for if there is the slightest abrasion of the skin there is almost a certainty of inoculation. There are many instances in which hydrophobia has been imparted to human beings in this way. Another very dangerous symptom is when the dog apparently has a bone in its throat and is unable to swallow. This simply means that paralysis has set in. The saliva at this period is very virulent, and many persons have caught the disease by putting their hands in a dog's mouth to relieve it of the supposed bone. The fierce biting and snapping at everything which eventually develops into furious rabies is merely the result of delirium.

Dr. Salmon declares that the popular belief that a mad dog dreads water is a fallacy; and he also disputes the truth of the universally credited opinion that the disease occurs only in the hot season. He brings forward statistics to show that there is little or no difference in the prevalence of the disease between summer and winter. He explains the well-known fact that the development of hydrophobia after inoculation varies in time from seven days to twelve months and longer, by the theory that the virus must reach the brain and spinal cord, and the bacilli multiply there before the whole system is infected; and that the virus of rabies does not spread through the system so quickly as many

other forms of infection. Another reason for this delay is probably to be found in the greater susceptibility of different individuals, and in the condition of their blood.

As a means of protection Dr. Salmon advises the destruction of wandering, worthless dogs, and the enforcement of a law providing for the muzzling, or leading by a chain, of the respectable members of the dog community. If these precautions could be considerately enforced, the writer believes that hydrophobia would be an extinct disease in a comparatively short time. His contention is certainly supported by the results obtained in cities, both here and in other countries, in which muzzling has been insisted upon.

QUARANTINE AGAINST CUBA NOT YET TO BE ABOLISHED.

While the latest reports are that only sporadic cases of yellow fever are occurring in Havana there should be no hurry in relaxing or in abolishing quarantine regulations regarding Cuban ports.

Health Officer Doty very properly advises against such premature action not only on the score that sufficient time has not elapsed to guarantee continuous immunity, but also on the safe principle that it is much easier and more reasonable to go on as we are going than to run the risk of changing plans and eventually being obliged to return to the original ones. There is no complaint that there is any burdensome restriction on our commerce with the West Indies as the time of detention is reduced to the minimum of safety with the additional satisfaction that the public mind is relieved from all apprehension of the possible admission of fever cases here.

So far as Cuba is concerned, it is gratifying to know that the sanitary improvements in and around Havana in tituted by the Army Medical Department have proved what can be done by cleanliness and proper hygienic methods along well recognized scientific lines. By these means, we are attacking the fever at its source and thus guaranteeing the safety of our own ports in the yellow fever belt Let us then take courage as the good work proceeds and be reasonably patient for radical and ultimate results.

News of the Week.

The Dallas (Texas) Medical College was recently made the Medical Department of Trinity University. At its commencement on June 18th there were eight graduates in medicine and two in pharmacy. Rev. P. M. Riley, of Cleburne, acting president of the university, conferred the degrees.

The Army Medical School.—The faculty of the Army Medical School, as newly constituted, is composed of the following members: Col. William H. Forwood, Assistant Surgeon-General, President of the faculty, *vice* Col. Charles H. Alden, retired; Col. Calvin de Witt, Assistant Surgeon-General, professor of military medicine; Major John Van R. Hoff, surgeon, lecturer on the duties of medical officers in war and peace; Major William C. Borden, surgeon, professor of military surgery, *vice* Col. Forwood, designated as President of the faculty; Major Frederick P. Reynolds, surgeon, as instructor in hospital corps drill and first aid to wounded, *vice* Capt. George D. DeShon, relieved.

The Hansen Memorial.—Prof. Rudolf Virchow has made announcement that the bust of Prof. Armaur Hansen will be formally unveiled on August 10. The ceremony will take place in the Lunggaards Hospital at Bergen, and a general invitation is extended to medical men throughout the world to be present at that time. Those intending to assist at the unveiling are requested to communicate with Dr. Sandberg in Bergen, Norway.

The Long Island College Hospital.—Plans are now being drawn for a new building to replace the main structure of this institution. The building will cost about $175,000, and of this amount nearly $125,000 has already been contributed.

Mr. Morgan's Gift to Harvard.—The new buildings for the Harvard Medical School, which are to be erected by Mr. J. Pierpont Morgan as a memorial to his father, are down on the plan as the administration building, anatomy, histology, and embryology building, and physiological chemistry building. These three buildings, it is expected, will cost about $300,000 each, and with the power house and the grading necessary will cost $1,020,000. The other two buildings of the medical school will cost about $250,000 each.

The New Tenement House Law which went into effect in this city on July 1, contains, among others, a provision that "no room shall be occupied for living purposes unless it shall have a window upon the street, or upon a yard not less than five feet deep, or upon a court or shaft of not less than twenty-five square feet in area, opening to the sky without roof or skylight, or unless such room has a sash window opening into an adjoining room in the same apartment which itself has a window opening on the street or on a yard not less than five feet deep, said sash window having at least fifteen square feet of glazed surface, being at least three feet high and five feet wide between stop beads and at least one-half thereof being made to open readily."

It also provides that no room in the basement or cellar shall be occupied for living purposes without a written permit from the Board of Health, that water shall be furnished in sufficient quantity at one or more places on each floor, and that the space underneath all sinks shall be left open.

Insurance Examiners' Societies.—The Association of Life Insurance Medical Directors, at its thirteenth annual meeting, held in Hartford, Conn., on May 28 and 29, elected the following officers: *President*, Dr. George S. Shepherd, of the Connecticut Mutual, Hartford; *First Vice-President*, Dr. Edward H. Hamill, of the Prudential, Newark, N. J.; *Second Vice-President*, Dr. Morris L. King, of the New York Life, New York; *Secretary*, Dr. Brandreth Symonds, of the Mutual, New York; *Treasurer*, Dr. Frank S. Grant of the Provident Savings, New York. *Executive Committee:* Drs. Edward Curtis, of the Equitable, New York; Oscar H. Rogers, of the New York Life, New York, and Granville M. White, of the Mutual, New York.

The American Association of Life Insurance Examining Surgeons, at its second annual meeting under the presidency of Dr. T. J. McGowan, at St. Paul, Minn., on June 3, elected the following officers: *President*, Dr. James H. Stowell, Chicago, Ill.; *Vice-Presidents*, Drs. James Hall Reed, Battle Creek, Mich.; Talbot Jones, St. Paul, Minn.; W. B. DeGarmo, New York City, and George Halley, Kansas City, Mo.; *Secretary* and *Treasurer*, Dr. T. A. Stevens, Caney, Kan.

The Medical Society of New Jersey.—At the annual meeting of this Society, held at Deal on June 25, 26,

and 27, the following officers were elected: *President*, Dr. John D. McGill, Jersey City; *First Vice-President*, Dr. E. L. B. Godfrey, Camden; *Second Vice-President*, Dr. Henry Mitchell, Asbury Park; *Third Vice-President*, Dr. A. W. Taylor, Beverly; *Corresponding Secretary*, Dr. E. W. Hedges; *Recording Secretary*, Dr. W. J. Chandler, South Orange; *Treasurer*, Dr. Archibald Mercer, Newark.

A Woman Teacher of Anatomy at Pavia.—Dr. Rina Monti has recently been appointed teacher of anatomy in the University of Pavia. She is a graduate of Pavia, and has already published several researches for which the gold medal of the university has been awarded her. She is a member of the German Anatomical Society. It is told of a former woman teacher in one of the Italian universities that she had to veil her face while lecturing because of her ravishing beauty.

The Plague is prevailing again in Alexandria and in several places in the interior of Egypt.

The Liverpool School of Tropical Medicine has despatched an expedition to Sierra Leone to determine the most practical and economical measures for the destruction of mosquitos. The sum of £1,000 and traveling expenses have been given by one contributor, and others have given oil, cement, chlorine compounds and fumigators for the killing of mosquitos. An instrument has also been devised by means of which an estimate can be made of the increase or decrease in the number of mosquitos. The expedition sailed for Africa from Liverpool the middle of June.

Professor Pietro Panzeri, whose sudden death from heart disease occurred in April 13th, just at the close of an active professional day, was perhaps the leading orthopedic surgeon in Italy. He was born at Sormano, in 1849, and after campaigning for a time with Garibaldi, he entered the Ghisleri College at Pavia, and later went to Milan, where his primary medical education was obtained. From the first, his chief interest was in orthopedic surgery. In 1884, he founded, in union with Prof. Margary, the *Archivio d'Ortopedia*, and continuedin editorial charge of the same up to the time of his death. He was also the first director of the orthopedic department of the Poliambulanza at Milan. When the Rizzoli Orthopedic Institute was projected at Bologna, in 1892, Panzeri was called to take the chief part in its construction and direction, and remained there until 1899, when he returned to Milan.

Resignation of a Lunacy Commissioner.—Mr. William C. Osborn, one of the three members of the New York State Commission in Lunacy, has sent his resignation to Governor Odell. Mr. Osborn was appointed a commissioner by Governor Roosevelt in April, 1899.

Association of American Medical Editors.—The annual meeting of the editors' association was held at St. Paul, June 3–5, 1901. A committee was appointed to amend the constitution and by-laws of the association by adding rules concerning the nature of the advertising which is to be admitted to the pages of the journals in affiliation with the association, these rules to be binding on all members. Among the papers read were "The Relative Value of Medical Advertising," by Dr. John Punton; "Improvements in Medical Education," by Dr. Dudley S. Reynolds; "Relation of the Medical Editor to Original Articles," by Dr. Harold N. Moyer; "Some Thoughts on the Ethics of Medical Journalism," by Dr. Burnside Foster. The association adopted resolutions favoring the establishment of a psycho-physiological laboratory at Washington, D. C. It also appointed a committee to draft a resolution requesting the directors of the St. Louis World's Fair to commemorate in a suitable manner the work done in medicine and surgery during the past century. The annual dinner was held at the Metropolitan Hotel on the evening of June 3d, President Stone acting as toast-master. The speakers of the evening were Drs. Love, Stone, Moyer, Matthews, Marcy, Fassett and Hall. The following officers were elected: *President*, Dr. Alex. J. Stone, of St. Paul; *Vice-President*, Dr. Burnside Foster, of St. Paul; *Secretary* and *Treasurer*, Dr. O. F. Ball, of St. Louis. The next meeting will be held at Saratoga Springs, N. Y., in June, 1902.

The Virchow Fund for Biological Research.—Some months ago, a committee consisting of Dr. Reed, President of the American Medical Association; Dr. Bowditch, President of the Congress of American Physicians and Surgeons; Dr. Weir, President of the New York Academy of Medicine; Dr. Welch, of Johns Hopkins University, and Dr. A. Jacobi, of New York, Secretary, published an appeal to the American Medical profession requesting contributions to the Virchow fund which was established ten years ago in honor of Rudolf Virchow's seventieth birthday, which was reached October 13, 1891. The fund was created for the purpose of fostering biological, anthropological and general medical research. A large German committee, with national committees formed all over the globe, has undertaken to increase this fund in honor of Virchow's coming eightieth birthday. The contributions must be sent to Germany on the 1st of September in order to be received by the Central Committee in due time. Therefore the American committee hopes that intending contributors will communicate with them before that date.

The Charities Exhibit at the Pan American Exposition, includes the entire exhibit of American charities at the Paris Exposition, with some additions. According to *Charities*, from which we obtain this information, the Parisexhibit was collected from representative institutions throughout the country, under the general supervision of the journal mentioned, thus presenting a comprehensive plan for the graphic study of relief agencies, hospitals and dispensaries, hospitals for the insane, and institutions for other classes of defectives, almshouses, State boards of charities, and other supervising and educational agencies. The exhibit includes also an extensive collection of books, bound reports and pamphlets on charitable and social subjects. Among the agencies that have supplied the most complete and interesting information for the exhibit should be mentioned the following: The New York State Board of Charities, whose exhibit includes photograhs of all the almshouses of the State of New York; the Boston Associated Charities, from which society there are, besides the typical case records, etc., two complete books of forms, photographs and other data showing methods of work; the New York Catholic Protectory, the Rochester Industrial School, the House of Refuge of Glen Mills, Pa.; the John Hopkins Hospital, Baltimore; and the Presbyterian Hospital of New York City. There are represented in all considerably over one hundred charitable institutions, several others having exhibits quite as valuable and as extensive as those mentioned.

Tuberculosis and Civilization.—Capt. E. E. Tilley, U. S. N., Governor of American Samoa, states that tuberculosis is becoming troublesome there, and he attributes its increase to the donning of clothing by the natives. In the old days, before the white men obtained control, the natives went nearly naked, protecting themselves from rain and dampness by liberal applications of cocoanut oil, which was quite as effective as the oily secretion of a duck's back in shedding water. Nowadays, the native man wears clothes

and no cocoanut oil, and when the clothes become wet, a cold follows, and in many cases tuberculosis results.

A Pan-American Quarantine Conference.—In accordance with the suggestion made at the third Pan-American Medical Congress in Havana, it has been decided to hold a conference of delegates from the American Republics regarding the institution of a uniform system of quarantine and the determination of measures best adapted to the suppression of yellow fever. From present indications, the United States Army Surgeons will have decided the latter question positively and finally before next February, at which date the conference will be held in Havana.

Proposed New Site for Philadelphia Almshouse and Hospital for the Insane.—The Department of Charities and Correction has after investigation decided to recommend to the Mayor the selection of Petty's Island as the best site for the almshouse and Hospital for Insane, which at present is connected with the Philadelphia Hospital. It is thought the site can be purchased for $500,000, and that suitable buildings can be erected and the entire work completed at a cost not exceeding $3,000,000.

Small-pox in New York.—There were over three hundred cases of smallpox reported to the Board of Health of this city during June. On one day last week there were seventy new cases.

A Medical Missionary Hospital in Chicago.—It is proposed to erect a new hospital and school building for the American Medical Mission ry College in Chicago. The site favored is on the west side near the Cook County Hospital, and it is expected that the buildings will cost about $100,000.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the United States Navy for the week ended June 29th, 1901. June 24th—P. A. Surgeon E. M. Shipp detached from the *Michigan* and ordered to the Asiatic Station *via* vessel sailing from San Francisco, July 15th. P. A. Surgeon W. B. Grove detached from the Naval Hospital, Norfolk, and ordered to the *Michigan*, June 28th. Assistant Surgeon G. C. Smith detached from the *Vermont* and ordered to temporary duty on the *Alvarado*, July 1. Assistant Surgeon H. M. Tolfree ordered to the *Vermont*. June 25th.—Assistant Surgeon J. S. Taylor detached from the *Manila* and ordered to the Naval Hospital, Yokohama, Japan. Assistant Surgeon W. H. Bucher, commissioned a P. A. surgeon from April 15, 1901. Doctors R. T. Atkinson and A. W. Balch appointed assistant surgeons in the Navy from June 22, 1901. June 27th.—P. A. Surgeon R. S. Blakeman ordered to the Naval Hospital, Norfolk, Va.

A Society for the Study of Medical History has been established in Germany by an organizing committee consisting of Drs. G. W. A. Kahlbaum, of Basel, J. Pagel, of Berlin, and Sudhoff, of Hochdahl. The society will hold its first annual meeting immediately after the close of the forthcoming meeting of the Association of German Scientists and Medical Practitioners. The new society owes its existence to the abolition by the larger association of the section on the history of medicine.

New York News from Paris.—A Paris medical journal asserts gravely that the New York newspapers no longer speak of smallpox or any other disease that may happen at the time to afflict the inhabitants. The reason for this silence, according to our Paris authority, is that the Broadway merchants, not long since, held a meeting and drew up a circular which was sent to the daily papers, notifying them that if they published any more reports of the prevalence of infectious diseases in the city, they (the merchants) would at once withdraw their advertising patronage. "Since that time the journals have not breathed a word regarding publichealth, and if it were not for the official reports of the Board of Health, no one would know that there was any disease in New York."

A New Food Plant.—The United States consul-general at Frankfort-on-the-Main, Germany, quotes from some German papers a description of a plant growing in tropical Africa, belonging to the leguminous class, which is largely cultivated by the negroes as a food article. A French chemist, who recently analyzed the fruit or nut, found that it contained fifty-eight per cent. starch, nineteen per cent. nitrogenous matter, six per cent. hydrocarbon, four per cent. cellulose, three per cent. ash, and ten per cent. water. The plant is called by the African natives woandsu.

First Cousins May Not Marry.—The bill prohibiting the marriage of first cousins which was recently passed by the State Legislature became a law June 24, it not having been acted upon by the Governor within the specified time limit. It is stated that Pennsylvania is the eighth State to adopt such a prohibitory law.—*The Medical News.*

The Medical Society of the State of North Carolina.—At the annual meeting of this society, held at Durham, the following officers were elected: *President*, Dr. R. S. Young, Concord; *1st Vice President*, Dr. A. G. Carr, Durham; *2d Vice President*, Dr. I. M. Taylor, Morganton; *3d Vice President*, Dr. E. D. D. Carroll, Raleigh; *4th Vice President*, Dr. J. M. Parrott, Kingston; *Secretary*, Dr. G. W. Pressly, Charlotte; the *Treasurer* of last year was re-elected. The next meeting will be held at Wilmington in May, 1902. The same city entertained the society in 1892.

An International Invalids' Home in Spain.—It is reported in *El Siglo Medico* that an association of the charitably disposed in Spain are about to establish a home for persons unable to work on account of chronic illness. The institution will furnish accommodation for 2,000 invalids, 1,500 of whom must be Spaniards, while 500 may be natives of other countries.

Obituary Notes.—Dr. J. Augustus Ehler, aged eighty-one years, said to have been the oldest practicing physician in Pennsylvania, died on June 29th, at his home in Lancaster. He was a graduate of the old Pennsylvania Medical College in the class of 1841, an organizer of the Lancaster County Medical Society, and a member of the Pennsylvania State Medical Society and of the American Medical Association.

Dr. John Gardner, seventy years old, a retired physician, was found dead in bed in his room at the Broadway Central Hotel, in this city, on Saturday evening, June 29th. Death was due to disease of the heart, and was hastened probably by the heat. Dr. Gardner retired fifteen years ago. He had lived at the hotel for more than twenty-five years.

Dr. John P. Wheeler, of Hudson, N. Y., died on June 28th, at the age of eighty-four years. He was a graduate of the New York University Medical School in 1843.

Dr. John G. L. Whitehead, of Bordentown, N. J., died suddenly on June 29th, at the age of seventy-three years. He was born in Philadelphia, and was graduated from the now extinct Philadelphia College of Medicine and Surgery in 1852.

Dr. Charles C. Saunders, a dentist of Maidsville, W. Va., died in the Flower Hospital, in this city, on June 27th, from injuries sustained in attempting to board a moving street car.

Clinical Department.

TRAUMATIC HYDROTHORAX.

By J. M. FRANCE, M.D.,
PERRIS, CAL.

C. A., aged twenty-six, native of Sweden, was run over by a farm wagon, one front wheel passing over the left thoracic wall; there was no fracture of the ribs. The accident happened November 27, 1897. The man was under the care of a homœopathic physician from the date of the accident to March 24, 1898, when I assumed charge of the case. His condition at that time was as follows: pulse, 120; respiration, 56; temperature, 99°; apex heat of heart, one inch to the right of the sternum; the whole left thoracic cavity was dull from the clavicle to the diaphragm. A diagnosis was made of traumatic pleuritis, with effusion. I proceeded to aspirate, drawing out 480 c. c. of rose colored serum, but then cyanosis was so great that I ceased further efforts. From March 24 to April 5, I administered hydrogogue cathartics and diuretics, with little or no effect on the secretion of serum. On April 5, I again aspirated, this time taking out 2,160 c. c. of rose-colored serum, removing about half the quantity I thought the cavity contained. I continued the use of cathartics and diuretics with no preceptible effect on the accumulation of serum. On April 19, I again aspirated, this time taking out 4,480 c. c. of rose-colored serum, emptying the entire cavity, as I believed. Again on May 6, I was called upon to aspirate the fourth time, taking out 3,390 c. c., making a total of 11,510 c. c. of serum removed in the four operations. I saw the man in August, 1900, and there had been no return of the effusion, the lung had filled out completely, and the patient was enjoying his usual health and was able to do a full day's work.

AN UNTOWARD OCCURRENCE IN THE USE OF SUPRARENAL GLAND.

By CLEMENT BLOCH, M.D.,
NEW YORK.

The extract of the suprarenal gland is so much in use at present, that I think it my duty not to withhold from the profession a somewhat unpleasant experience I have had with it. A strong young man, professional singer, was operated on by myself last January for chronic empyema of the left antrum of Highmore and frontal cavities (Mikulicz' method). In March the secretion had completely ceased; but there was a strong adhesive band between the middle turbinated body and the septum (the result of a former nasal operation by another rhinologist) which had to be severed, as it not only interfered with the resonance of the voice, but began also to cause reflex disturbances (of an asthmatic nature). To prevent profuse bleeding I dusted a little suprarenal extract into the left nostril. I had done this repeatedly in this same case, without any ill result, but used this time a little more powder than usual. The following day my patient returned with complaints of headache and pain in the throat. On inspection I found œdema of the soft palate, particularly marked in the uvula, and congestion of both tonsils and lateral pharyngeal columns, most pronounced on the left side. The patient being anxious not to discontinue his professional duties, I made several minute incisions into the left tonsil and adjoining cellular tissue, a procedure which resulted in rapid depletion of the engorged tissues.

But for several days there were complaints of pains in the lateral columns and, a few days later, a (catarrhal) superficial round ulcer developed in the right tonsil (which had not been incised), but healed promptly under appropriate treatment. Four days later, a similar ulcer appeared in the left tonsil; this also healed promptly.

It seems almost certain that the described œdema and subsequent affection of the lateral columns and the tonsillar ulcers were due to the strong vasomotor action of the suprarenal gland, which had contracted the nasopharyngeal blood vessels to such an extent that venous stagnation resulted peripherally.

It might be argued that, in that case, the œdema ought to have been unilateral; but, when powder is blown through one nostril, some of it will inevitably get into the other also with the expiratory current of air; and there was, indeed, more marked congestion of the left side. Yet in this connection I must note a similar case (of pharyngeal œdema) which I saw six years ago at the N. Y. Policlinic. The patient, an anæmic young man, seventeen years of age, had apparently done nothing but spray his nose and throat with a mixture of benzoinol and Dobell solution (1:7) which I had ordered for his chronic rhinopharyngitis. I had to resort, in that case, to the hypothesis of idiosyncrasy. Still, in this present case, I think that too much of the suprarenal gland had been given, and I should advise that this substance be applied in aqueous solution.

149 West Ninety-first Street.

FOREIGN BODY LODGED FOR FOUR MONTHS THE TRACHEA OF A THIRTEEN-MONTHS' OLD CHILD.

By HARRIS F. BROWNLEE,
DANBURY, CONN.

The following case is worthy of note as an incident in general practice on account of the age of the child, the length of time which the foreign body had been lodged in the trachea, and the vague history which the case presented during that time.

While visiting another patient, I was casually asked to look at a baby nine months old. The mother said the child had been on the floor, and as a result had croup. The child, a bright little girl, seemed perfectly happy, but presented a slight rattle in respiration, and occasionally gave a little croupy cough.

In the morning she had had a coughing spell while on the floor, but it was not hard, and was not thought of sufficient severity to have been caused by the inhalation of a foreign body, although that possibility was spoken of at the time. She was cutting a tooth, which was nearly through, and the gum looked very irritated.

This condition continued for about a week, in spite of various medication for croup and cold. About that time, the tooth came through, and the throat seemed much better, though there was still a very soft rattle. With the advent of another tooth, the breathing became disturbed, and a harsh, croupy cough presented itself, which, however, subsided as soon as the tooth came through.

This continued for four months. I was unable to make a diagnosis. Other physicians saw the child during this time, but obtained no relief for her. The same soft rattle continued, with an occasional croupy cough. The opinion seemed quite general that the case was in some way influenced by the process of teething, but in this I could not wholly concur, although the child was decidedly worse at those times.

Finally, I saw the child again, just four months after my first visit; she was then thirteen months

old, rather anæmic, and did not look as bright and active as usual. She was suffering from marked dyspnœa, the inspiration being so labored as to hollow in the whole front of the chest. Expiration was not so much interfered with, but evidently there was a stenosis of the larynx or trachea which could no longer be treated expectantly, although the baby was then cutting a large double tooth.

Tracheotomy was advised, and, the consent of the family having been obtained, the child was taken into the Danbury Hospital. During the twenty-four hours preceding operation, the dyspnœa had steadily increased. Chloroform was administered, but when anæsthesia was only partially complete, the obstruction became total, and a rapid operation was at once necessitated. An incision was made down to and into the trachea through the cricoid cartilage, allowing exploration either upward into the larynx or downward into the trachea. The opening did not permit of the ingress of air into the lungs, but by carrying the incision a trifle downward, a stenosis of the trachea was exposed, in the center of which was a foreign body. After removing the foreign body, the stenosis was found so firm that no air could pass it, and it was necessary to carry the opening a little lower and put in a tracheotomy tube. The tube was left in place for two days, after which the stenosis was so far removed that air entered freely through the natural passages, and the external wound was allowed to close. The foreign body proved to be a flake of coal cinder, about one-quarter inch in width and one-half inch in length, and about the thickness of a finger nail, which had undoubtedly been inhaled four months previous, and had remained all that time in the trachea, at first causing very little trouble, but finally resulting in a complete stenosis by the inflammatory products around it.

The child made an uneventful recovery.

ON A FORM OF SARCOMA OF THE OVARIES AND ITS PECULIARITIES.

By W. MOSER, M.D.,

BROOKLYN, N. Y.,

Physician to the German Hospital.

There can be no question that fibromata and carcinomata of the ovaries are at times confounded both macroscopically and microscopically. In their gross appearance the œdematous fibroids have some resemblance to sarcoma. What one pathologist calls a carcinoma the other might designate sarcoma. In malignant neoplasms of the testicle the same difficulty arises.

The form of sarcoma of the ovaries here referred to is one presenting more clinical than microscopical differences. These are the following: The affection is bilateral, and starts in both ovaries at one and the same time, so that when examined grossly they exhibit a remarkable symmetry as to size and shape. They are uniformly smooth and of the same size, and are not lobulated as are fibromata of the ovary. They are not sarcomata engrafted upon pre-existing fibromata. The manner in which these tumors originate and develop speaks strongly against their parasitic nature.* Upon their removal metastases are very apt to develop; and not in the liver, as so frequently happens with carcinoma, but in the lungs as in sarcoma of the uterus, and especially sarcoma of bone and notably of the humerus.

Microscopically I have found them of the "mixed" variety, *i e.*, containing small round cells, large round cells, and spindle-shaped cells.

In making the statement that metastases are more apt to occur in the lungs than in any other internal organ, I do not mean to imply that secondary sarcomata may not occur in the liver or secondary carcinomata in the lungs.

The clinical and microscopical pictures ought in all cases to be carefully associated. Cysts are more apt to form in sarcoma than in fibroma of the ovary. The growths in question are probably not the cysto-sarcomata of some authors. They (cysto-sarcomata) are usually unilateral, and form one large cyst or cystic mass, while these tumors contain only a few small cysts or none at all.

Calcareous masses are more apt to occur in fibroma than in sarcoma of the ovary, and could be confounded during life with osteoma or osteo-sarcoma originating in some bone in the pelvis or especially with a lithopedion.

* The parasitic theory of cancer is gaining ground, but more evidence is necessary to solve the problem. It is possible that some forms of sarcoma may be parasitic.

A CASE OF ANATOMICAL ASYMMETRY.*

By JAMES E. DAVIS M.D.,

DETROIT, MICH.

The stigmata of degeneration as illustrated in the young child afford a most interesting study bearing upon the subject of heredity. On May 14th the writer attended Mrs. S. in her third confinement, the labor being normal and without incident excepting for a breech presentation and delivery.

The child presented the following asymmetrical form and development: Right foot.—There was one small supernumerary digit of soft cartilage formation, without nail, and of uniform size from base to distal extremity, with attachment at the side of the fourth phalanx of the little toe. Left foot.—This had a completely developed extra digit, slightly larger than the little toe, which was normal, and the attachment was on the side of the third phalangeal joint, the two toes being slightly webbed.

The right hand showed a well-formed supernumerary digit of the two distal phalanges. The third phalanx was wanting and attachment was a by fibrous band to the side of the little finger. The left hand had a completely developed extra finger attached similarly to the normal fourth digit.

The penis presented the appearance as if it had been circumcised, there being foreskin sufficient to cover only about one-fourth of the glans.

At the umbilicus three coils of intestines invested with peritoneum protruded on the lower side of the cord, forming a mass about the size of a goose egg. With a little persistent manipulation the mass was entirely replaced and the edges of the opening were accurately approximated with No. 3 catgut. The supernumeraries of the right foot and left hand were ligated and removed with the scissors.

The child, a boy, now eight days old, appears strong and well nourished, weighing eight pounds. The closure of the abdominal opening seems complete and strong.

The history gives no record of asymmetry in the family of either parent. The physical and mental development of the parents is rather poor.

831 Fort Street, West.

* Reported at meeting of Detroit Medical Society, May 22, 1901.

Book Reviews.

TUBERCULOSIS AS A DISEASE OF THE MASSES AND HOW TO COMBAT IT. By S. A. KNOPF M.D., New York. Awarded the International Prize, July 31, 1900. New York: M. Firestack, 1901.

THIS essay deserves wide dissemination among both the professional and lay classes. It contains an enormous amount of useful information in regard to the prevention of tuberculosis and the cure of its ravages, and it is written so that the layman will have no difficulty in understanding and carrying out the instructions Our greatest advances in the combat against tuberculous infection are evidently to be along the lines of prophylaxis, and works of this kind are therefore most valuable.

A TEXT-BOOK OF GYNECOLOGY. Edited by CHARLES A. L. REED, A.M., M.D., Gynecologist and Clinical Lecturer on Surgical Diseases of Women at the Cincinnati Hospital, etc. New York: D. Appleton & Co., 1901.

THE present volume adds another to the already somewhat overburdened literature of gynecology. The collaboration of a number of writers tends to increase accuracy in discussion and broadness of treatment in the different departments of a subject, so that, in this regard, the present work may be considered a success. A number of well-known writers on gynecological subjects and subjects relating to gynecology have contributed a systematic series of articles which are arranged as if the volume were written by one man, and as if he had desired to offer a treatise on gynecology arranged on the usual plan of such works. The illustrations are numerous and excellent, many of them clearer and better than is usual in such books, and under each there is a short explanatory paragraph. The special diseases of the female urinary organs, and the diseases of the rectum are considered in chapters at the end of the book, and though such subjects are not strictly gynecological, their consideration seems advisable in works of this kind. It seems unnecessary to pick out chapters for special commendation, but that on neoplasms of the uterus, and that on disorders of menstruation might be so noted. The general make-up and appearance of the book is good, and it will undoubtedly prove a satisfactory work of reference.

CL NICAL PATHOLOGY OF THE BLOOD. A Treatise on the General Principles and Special Applications of Hæmatology. By JAMES EWING, A.M., M.D. Professor of Pathology in Cornell University Medical College, New York City. Philadelphia and New York: Lea Brothers & Co., 1901.

IT is only within recent years that the blood has been considered as having a special and distinct pathology of its own, and therefore the special literature of the subject is modern. Much of this literature is American, and the present volume is a creditable addition to previous works. The author's plan has been to write a working manual upon pathological conditions in the blood, embodying an epitome of the subject up to the present time, arranged and amplified according to his own ideas. After a chapter or two devoted to blood examination and analysis, which are well written and practical, the author takes up in order the various diseases accompanied by changes in the blood, describes and illustrates these changes, and discusses their significance. Four chapters are devoted to an excellent description of the different phrases of the malarial organism. The illustrations which are drawn by the author are very satisfactory, and the bibliographical notes are encyclopedic in their thoroughness.

APHORISMS, DEFINITIONS, REFLECTIONS AND PARADOXES: Medical, Surgical and Dietetic. By A. RABAGLIATI, M. A., M. D., F. R. C. S. Ed., Late President of the Leeds and West Riding Medico-Chirurgical Society, etc. New York: William Wood & Co. 1901.

THE author of this entertaining book has some peculiar ideas on the subject of eating which he has previously expressed in his "Air, Food, and Exercise," and which he expounds at much greater length in the present work. He believes, and in this he is not exceptional, that much illness in the world is the result of overeating, but he goes further than most persons in his concrete application of this belief, even giving a list of more than fifty diseases and complaints due to what he calls "poly-siteism" and "pollaki-siteism," or, in other words, overeating, by which he means the ingestion of more than 24 ounces of mixed food in the twenty-four, or the taking of the same or a smaller amount in more than three meals a day. He is a regular Dr. Tanner in his liking for fasts, and glibly recommends a six weeks' abstention from food as a sovereign remedy for many ills. We venture to say very few could be found who would go with the author to the lengths he recommends, but there is much sound sense in his aphorisms, and if he can persuade his readers to pay more attention to the diet of their patients, he will have done a good work. The book is worth reading, for it is the production of an original thinker.

DIET AND FOOD: Considered in Relation to Strength and Power of Endurance, Training, and Athletics. Third Edition. By ALEXANDER HAIG, M. D. Philadelphia: P. Blakiston's Son & Co., 1901.

THIS is a little 16mo. booklet of 109 pages, and may be considered as a sort of supplement to the author's larger treatise on uric acid, which has had such an extensive circulation among the profession. Haig's views are well known. He regards an excess of uric acid in the system as the *fons et origo* of nearly every complaint (not contagious), either acute or chronic, that afflicts humanity, and he here lays down the rules of diet that in his opinion are best calculated to prevent or reduce this excess. Unfortunately his premises do not always seem to accord with the present teachings of science, and his calculations are not always warranted by his premises. There is much in the book that appears to be sound and judicious, but then again much more that should not be accepted too implicitly.

THE EXTRA PHARMACOPŒIA. By WILLIAM MARTINDALE, F. L. S., F. C. S., Late President and Examiner of the Pharmaceutical Society, and W. WYNN WESTCOTT, M. B. Lond, D. P. H., H. M.'s Coroner for Northeast London. Tenth Edition. London: H. K. Lewis, 1901.

WE have several times had occasion to commend the successive editions of this remarkably useful work, and can now do little more than repeat what we have said before. We know of no book so convenient for reference on all subjects relating to drugs and their therapeutic uses as this. We have it in constant use, and seldom are we disappointed in not finding in succinct form all that is necessary to be known about any drug, official or not, used in medicine. The preface to this edition, in recounting the new drugs in the different classes which have come into use since the ninth edition was issued, presents us with a striking review of the progress in materia medica of the closing years of the nineteenth century. At the end of the book is a useful therapeutic index.

MENTAL DISEASES AND THEIR MODERN TREATMENT. By SELDEN HAINES TALCOTT, A. M., M. D., Ph. D., Medical Superintendent of the Middletown State Homœopathic Hospital in Middletown, N. Y.; Professor of Mental Diseases in the New York Homœopathic Medical College and Hospital. New York: Boericke & Runyon Co. 1901.

DRAWING from the vast experience of twenty-five years' work among the insane, the author has given to the profession a series of graphic pictures of the various mental disorders which are commonly met. His classification is modern and his philosophy good. Throughout the work he lays special stress upon the important points, fearing confusion in teaching the rare and non-essential. He advocates the "hospital method" of treatment as opposed to the older "asylum" process of allowing the disease to take its own course with no special mental or other therapeutic measures to supplement restraint.

CHRONIC URETHRITIS OF GONOCOCCIC ORIGIN: By J. DE KEERSMAECKER, Chiefof Service, Diseases of the Urinary Organs at the Centraalklinik of Antwerp, and J. VERHOOGEN, Agrégéat the University of Brussels; Chief of Service, Diseases of the Urinary Organs, at the Polyclinique Libre. Translated and edited with notes by LUDWIG WEISS, M. D., Attending Physician to the Gento-urinary and Skin Service, German Poliklinik; Dermatologist to the Hebrew Orphan Asylum, New York; etc. New York: William Wood & Co., 1901.

THE main object of this work is to teach the profession the value of urethroscopy as a means of diagnosis and treatment in Genito-urinary disease. The authors claim with apparent truth that if one patiently studies the urethral canal with direct means of observation the whole subject becomes clearer and the treatment more successful. The danger of being discouraged by not studying the subject sufficiently long is acknowledged, and yet the advantages to be gained cannot be overestimated.

To facilitate this method of research the authors have given very complete descriptions, accompanied by several excellent urethroscopic pictures in colors. The book is divided into three parts, the first of which treats of the

anatomico-pathological study of the subject; the second, its diagnosis, and the third, its treatment.

Dr. Weiss, in order to complete the subject, has added chapters on the Palpation and Expression of Cowper's, the Prostate, and the Seminal Glands, on Urethral Asepsis, and on the Relations of Gonorrhœa to Marriage.

The work is one which can be highly recommended as authoritative, instructive, and interesting. The type is excellent and the illustrations very useful.

Die Cystitis, von Karl Ritter von Hofmann. Vienna. 1900.

This modest brochure of eighty pages might be a chapter in an exhaustive treatise on genito-urinary diseases. It is the work of a writer who strives to teach, and to do so with a profound consciousness of the responsibility he incurs in the desire to communicate his knowledge to others. The little book throughout is written with painstaking detail. No step of technique is deemed too small for careful explanation. Throughout, the work reveals that the author is a student of English, for each of his German sentences is brief, telling a single fact in an unimbricated manner. In this, von Hofmann's writings call to mind those of Posner, Kollman, and Wossidlo, who have shown that scientific German can be written in a style which permits of ready comprehension. How fully the subject is treated is manifest by the fact that von Hofmann describes even the stains which the remedies employed may make upon the patient's skin and garments; he shows how they may be avoided and how removed. In one instance, and the only one in the book, the author opens the way to criticism when he says that intravesical irrigation is a possible cause of cystitis. Had he insisted that these irrigations, *if not cautiously performed*, may cause traumatism of the mucosa of the bladder, then the argument would certanly have a place. The book is up to the very latest conceptions of cystitis, and the author's treatment of his subject is so intensely practical as to make the book indispensable to any specialist's or even general practitioner's library.

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D. Volume II. New York: William Wood & Co. 1901.

The second volume of this great encyclopædia contains the titles "Blastoderm" to "Chloraloximes." The most important of the articles are "Blood," "Blood Stains," "Bloodvessels," "Brain" (320 pages), "Breast," "Bubo Plague," "Camp Diseases," "Cancer" and "Carcinoma," "Cataract," "Cerebrospinal Meningitis," "Cestoda" and "Chest." There are seven hundred and sixty-five halftone and wood engravings and eleven chromolithographic plates in the volume. There is little that can be said in a notice of a work of this nature, for any critical review would of necessity deal, not with the volume itself, but with the individual articles it contains. These naturally vary greatly in importance, length, and mode of treatment, some being excellent in every respect, others erring somewhat on the side of too great condensation or on that of prolixity. In general, however, the length of the individual articles varies quite uniformly with the importance of the subjects, thanks to the good judgment of the accomplished editor. The articles on health resorts, mineral springs, and materia medica especially are models of their kind, brief, yet filled with exactly the information desired by the consultor. Without disparagement to the first edition, which is still a mine of information and a most valuable possession, it must be said that this second edition, judging from the two volumes now published, is so far improved and extended as to constitute almost a new work. It is one that will be, as its predecessor was, indispensable to the medical practitioner who would keep himself abreast with the times.

A Text-Book of the Practice of Medicine. By Dr. Herman Eichhorst, Professor of Special Pathology and Therapeutics and Director of the Medical Clinic in the University of Zurich. Authorized Translation from the German. Edited by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic. Two volumes. Philadelphia and London: W. B. Saunders & Co. 1901.

At the present day, the medical world does not look for its inspiration and instruction in any such measure as it formerly did to German sources. This is, however, not because the Germans have fallen behind, but because the other nations have forged ahead. The great medical discoveries of the latter quarter of the nineteenth century were not exclusively or even preponderatingly German, but were English, American, French, Italian, and Spanish as well. Nowadays the label "made in Germany" is not the necessary hall-mark of medical ware, and no book or discovery or drug is accepted unquestioned because it has originated in central Europe. Eichhorst's work, therefore, will be judged on its merits, as it may compare with the books published originally in our own or other tongues, and cannot hope for the commendation "sight unseen," as children would say, which Niemeyer's treatise received a generation ago. It has no reason, however, to fear a judgment of this kind, for its intrinsic merits are sufficient to commend it anywhere. Professor Eichhorst is an accomplished clinician and teacher, and he has written an orderly treatise which cannot fail to instruct any one who consults or studies it. Each subject is treated of thoroughly in all its aspects, but it is especially in the sections on diagnosis and treatment that the author is at his best. The editor's notes are lucid and not too numerous. The translation is fairly smooth, but we regret to see that the translator has adopted the ugly style of apocope affected in Philadelphia—the Gould hiccup, we believe it is called. The illustrations are hideous, but that may be the fault of the Zurich type of physiognomy, as many of them are pictures of the author's patients at the Zurich clinic. As a whole, the work is one that can confidently be recommended as a trustworthy guide, and it will be welcomed as a worthy addition to the already long list of treatises on the principles and practice of medicine.

An Index of Symptoms as a Clew to Diagnosis. By Ralph Winnington Leftwich, M.D., Late Assistant Physician to the East London Children's Hospital. Second Edition. New York: William Wood & Co., 1901.

This little volume, a pioneer of its kind, will prove of value not only to advanced students, but to practitioners as well, for in it they have a ready index for the various diseases which must be considered in making a diagnosis. It is not intended to supersede descriptive symptomatology, but rather to refresh the physician's memory when dealing with obscure conditions, and to give him a list of possible explanations for diagnostic purposes.

A Handbook of Materia Medica, Pharmacy and Therapeutics, Including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Practical Pharmacy, and Minute Directions for Prescription Writing. By Samuel O. L. Potter, A.M., M.D., M.R.C.P.Lond., Formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco; Author of the "Quiz Compounds of Anatomy and Materia Medica," "An Index of Comparative Therapeutics," etc.; Late Major and Brigade Surgeon of Volunteers, U. S. Army. Eighth Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son & Co. 1901.

A book which has passed through seven editions in thirteen years is evidently one which has met and continues to meet a want, and needs no word of commendation from the reviewer. Successive editions of a work of this kind do not usually differ much from those which have preceded them, except in the inclusion of some new drug, the utility of which has been demonstrated, or the dropping of some worthless and unused remedy from the list. This edition, however, has benefited by the author's residence for two years in Manila, and contains considerable new material gathered from his experience in tropical medicine. A useful feature of the book is a table of apothecary's and metric weights and measures in parallel columns, placed for convenience of reference on the inside of the front cover. A thumb-index enables one to turn at once to any of the sections in the book. In many respects this is one of the best books on therapeutics that is published in the English language, which means in any language, for this is the branch of medicine in which the English and Americans easily excel.

Transactions of the Medical Society of the State of New York, for the year 1900. Published by the Society.

Besides the usual report and anniversary address by Willis G. Macdonald, of Albany, there are many excellent papers, among which may be mentioned the State Care of Tuberculosis Patients, Prophylaxis in Gynecology, and investigations into the Causes of Cancer. The latter is by Roswell Park.

Manual Teórico y Práctico de las Enfermedades de la Nariz y de sus Senos Accesorios. Por el Professor Ramón de la Sota y Lastra. Sevilla: Escuela Tipográfica Salesiana, 1899.

This manual forms Vol. I. of a system entitled "Enfermedades de la Nariz, Boca y Garganta," intended to cover the entire field of rhinology and laryngology. It is written by one of the very few Spanish specialists in this field

whose names are known outside of their own country, and shows that the author is fully abreast of the times in all that pertains to these special departments of medical practice. The present work covers familiar ground, is concise, well illustrated, and will undoubtedly prove of much service to the author's fellow countrymen and to medical practitioners in Latin America.

CHLOROFORM: A Manual for Students and Practitioners. By EDWARD LAWRIE, M. B., Edin., M. R. C. S. Eng., Principal of the Hyderabad Medical School, etc. London: J. & A. Churchill. Philadelphia: P. Blakiston & Co. 1901.

THIS brochure contains considerable useful information on chloroform, its action, dangers, and use, and the writer makes out a good case for this anæsthetic under proper precautions, which he details. Chloroform has certain advantages not possessed by any other drug used for the same purposes, and if we can avoid certain dangers which it also has, we will perhaps have an ideal anæsthetic. Consequently anything which adds to our knowledge of the subject is worth while.

LES FEMMES DOCTEURS EN MÉDECINE DANS TOUS LES PAYS: Etude Historique Statistique, Documentaire, et Anecdotique sur L'Art de la Médecine Exercé par la Femme. Par HARYETT FANTANGES. Paris: Alliance Coopérative du Livre. 1901.

THIS is a statistical catalogue of the names, nationality, characteristics and other facts relating to women in various parts of the world who have graduated in medicine. The historical material in the volume is the most interesting.

THE TRANSACTIONS OF THE SOCIETY OF ANÆSTHETISTS. Vol. III. London: The Medical Publishing Company, Limited. 1900.

THIS is the latest report of the Society whose object is explained by the title.

DIE PELLAGRA. Von Prof. Dr. V. BABES in Bukarest und Prof. Dr. V. SION in Jassy. Wien: Alfred Hölder. 1901.

THIS is the second half of the third part of Volume XXIV. of Specielle Pathologie und Therapie by Nothnagel. In a monograph of eighty odd pages with two full-page plate illustrations, the authors have presented a most complete account of this interesting disease, beginning with its history, geographical distribution, and statistics and closing with a full bibliography. There are eight illustrations in the text. The chapters on predisposition, on the influence of certain articles of diet, especially spoiled grain, on so-called sporadic pellagra, and on experimental pathology are of especial interest. The pathological anatomy with reference to skin and nerve lesions and visceral changes has been very carefully worked out.

DIE LEPRA. Von Dr. VICTOR BABES, Professor der Pathologischen Anatomie und Bacteriologie an der Universität, Bukarest. Wien: Alfred Hölder. 1901.

THIS work of 340 pages forms a portion of Volume XXIV. of Nothnagel's special pathology and therapy. It is freely illustrated, containing 66 cuts in the text and ten full-page plates, eight of which are colored, and of exquisite workmanship, giving the clinical features of various forms of leprosy. The author bases his work upon a large material observed in Roumania and treats his theme in the light of modern advances as reflected in the work of the Berlin Lepra Congress and the large literature which it called forth. All phases of the question have been entered upon and the result is the presentation of a valuable addition to our knowledge of a most important subject.

Delirium Tremens.—A. Elzholz says that, after the chronic abuse of alcohol toxines similar to those of pneumonococci and other bacteria are formed in the body. If abstinence ensues, or the resistance of the organism be lowered through infectious diseases or otherwise, the poisons, which until then were combined, are set free and delirium results. Abstinence, therefore, assumes great importance in the production of delirium. If, during the use of alcohol, delirium ensues it is because the amount of alcohol taken was insufficient, and there exists a relative abstinence with the elimination of a great amount of toxic substances. In fifty per cent. of the delirious cases in which there exist meningal and bronchial inflammation toxiæmia is at the basis of them.—*Wiener Klinische Rundschau.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, June 27, 1901.

Some Forms of Intestinal Obstruction, Due to Adhesions.—A. J. Cabot reports several cases in which the functional activity of different parts of the alimentary canal has been interfered with as the result of extensive adhesions. Partial twists and kinks in the bowel are prevented from untwisting by these adhesions, which tie them to the parietal peritoneum. The symptoms of obstruction are usually not constant, as the bowel contents can pass through the partially obstructed coil. Overloading, or interference with peristalics by neighboring inflammaton, however, may produce all the symptoms of an acute stoppage. The seat of obstruction in the cases seen by the author have been in the ileum or in the sigmoid flexure. At both of these points we have a movable portion of the intestine running into a more fixed part—the ileum into the cœcum and the sigmoid flexure into the rectum. This relation of a movable to a fixed portion is favorable to the production of the form of obstruction under consideration. The author studies the mechanism of the obstruction and describes his cases.

Catharis in Abdominal Surgery.—L. R. G. Crandon comes to the conclusion that: (1) In acute pelvic peritonitis both enemata and drugs by mouth should be used to produce catharsis before operation: drugs by mouth and oil enemata after operation. (2) In all acute inflammatory conditions of the abdomen where the alimentary tract is involved, the bowels should be moved by enemata alone, before and after operation, the enema of salts, turpentine and glycerine being the best.

Medical News, June 29, 1901.

The Importance of a Recognition of the Significance of Early Tuberculosis in Its Relation to Treatment.—E. L. Trudeau declares that the results obtained at sanatoria have demonstrated not only that the disease is curable, but that it is curable in direct proportion to the stage at which the treatment is applied. Persistent slight cough, with loss of flesh and strength, a slight afternoon rise of temperature of one-half to three-quarter of a degree, and constant lassitude, are symptoms which, even without any appreciable signs on physical examination, point in many cases to incipient tuberculosis. Search for the bacillus should be begun early and persisted in as long as there is any doubt as to the diagnosis. The microscope has been of invaluable aid in the diagnosis of tuberculosis, but the absence of the bacillus from the expectoration is not necessarily a conclusive criterion. In the great majority of cases and consideration of the history of the case and a careful study of the rational signs with a thorough physical examination of the chest, and a microscopic examination of any sputum obtainable, aided by and careful X-Ray examination of the patient when required, will enable the physician to make an early diagnosis. The tuberculin test is not often necessary, but its value lies in the fact that it is most applicable, and will demonstrate the presence, and give corroborative evidence as to the absence of a tuberculous process in the body in just that class of incipient cases where the usual methods of diagnosis fail. Early diagnosis of this dread disease is all-important.

Cutaneous Manifestations in Diabetes.—S. Sherwell first mentions the generalized xeroderma which prevails in the large majority of cases of diabetes. It causes great discomfort and is generally attended with generalized pruritis. The mucous secretion in those cases of the upper air-passages and mouth is gummy, and lies in distinct ridges. Pruritus alone being present in an individual without apparent cause should excite suspicion of diabetes. Eczemas occurring in any region of the skin, but most often on the flexor surfaces, and which are generally attended by the fiercest itching, should also call for careful examination of the urine. The urine often varies at different hours of the twenty-four, so that examination of the morning water is not sufficient. Cleanliness and antiparasitic lotions are the best treatment. Bichloride of mercury, about 1-1000 in a dilute emulsion of bitter almonds, which may also contain a moderate amount of salicylic acid, and resorcin is very valuable. Furuncular and carbuncular manifestations are often concurrent, and are clearly caused by the diabetic state. Erythematous lesions, some evanescent, others as erysipelas, are sufficiently common as a result of this glycosuric state, and also gangrene. Dermatitis herpetiformis or Duhring's disease, is often seen in diabetes. Xanthoma diabeticorum and possibly blastomycastic dermatitis are originated by the diabetic diathesis. Glycosuric urine is sometimes found in infants, on account of the liberal character of the nutrition. Diminution of

the diet, with attention to other conditions, has greatly simplified the treatment and advanced the cure of eczematous and other diseases, and at the same time has caused the total disappearance of the glycosuric character of the urine.

American Medicine, June 20, 1901.

The Hallucinations of Digitalis.—Does Digitalis Cause Hallucinations, Delirium, or Insanity Under Certain Conditions?—Harry Orville Hall describes the illness of a woman between thirty and forty years of age, the curious mental features of the illness being apparently due to digitalis, which was administered. The patient was of robust build, and naturally of an unusually happy and cheerful disposition. The sickness described was at the time attributed to some derangement of the liver. After several weeks she began to have strange hallucinations. The whole course of the illness was so singular that the writer suspected some drug might lie at the bottom of the trouble. There was no other satisfactory explanation The author, in looking up the literature on the subject, found that Darogiez had observed no less than 20 cases, where delirium followed the administration of digitalis.

Prevention of Disease Infection by Micro-organisms Through the Mouth and Nasal Cavities.—Robert Rayburn states that a mouth filled with decayed teeth is always in a septic condition. The septic fluids therefrom are being continually swallowed and passed into the stomach which together with the intestinal canal, they aid in infecting. Thus result many cases of chronic dyspepsia and gastro-intestinal catarrh. Such patients should have the mouth put into perfect condition by the dentist. Mouth breathing is always a symptom of disease. Chronic enlargement of the tonsils being one of the most frequent causes of this condition, requires prompt and thorough treatment, and in most cases these organs should be removed. The same treatment applies also to adenoid and polypoid growths in the posterior nasal spaces and pharynx. Patients should be advised to use the tooth brush and cleanse the teeth with some mildly antiseptic solution three times a day. A dilute solution containing glyceriol of carbolic acid, listerin, or campho-phenique will do what is required. For a tooth powder there is nothing so good as precipitated chalk. Many authorities believe that the regular and systematic cleansing of children's teeth would not only prevent decay of the teeth but would greatly diminish the number of cases of scarlet fever, diphtheria, measles, tuberculosis, typhoid fever and all the other infective diseases which kill so many of our children every year.

Deutsche Medicinische Wochenschrift, June 13, 1901.

Contributions to the Subject of Immunity.—V. E. Mertens undertook to prove for cholera serum conclusions that R. Pfeiffer years ago formulated for typhoid sera, viz., that the specific bacterialisms and agglutinating bodies behaved differently on keeping, the latter depreciating markedly in strength even when every precaution for their preservation is taken. The cholera sera available had been kept on ice for five years and the tests showed that the immune bodies are far more resistent to decomposition than the agglutinating substances, and a further proof is thus afforded of their being entirely distinct bodies. A second research was undertaken to determine whether the direct injection of immune bodies into the blood gave a stronger reaction than the simple subcutaneous administration. For the experiments virulent agar cultures of cholera vibris were sterilized and tested on rabbits. The results showed that by intravenous injection the activity of the serum was from twenty to one hundred and fifty times as great as by the subcutaneous method, a result in accord with the behavior of ordinary drugs administered in these two ways.

A Case of Intestinal Necrosis of Questionable Etiology.—L. Bornhaupt reports a case which is interesting owing to its obscurity. The patient, a man of twenty-two years, was suddenly seized with pain in the abdomen, vomiting and constipation. Purgatives did not act, and for two days the condition grew worse; the face became cyanotic, respiration labored and the pulse feeble. There were no tympanities, abdominal tenderness or localizing signs, and death occurred one hour after admission to the hospital. On autopsy, an area of necrosis was found on the ileum, beginning a short distance above the coecum and extending upwards for about four inches.

Below there was a sharp line of demarcation, but upwards the gangrenous portion merged insensibly into the deeply congested mucosa above; the right ingunial ring was dilated. All the organs were deeply congested, and the right pleural cavity contained a blood clot twice the size of the fist, compressing the lung against the spinal column. The author's theory is that possibly the necrosis was due to a hernial incarceration which subsequently reduced itself, while the immediate cause of death was the hemorrhage into the pleura. The possibility of embolism of the mesenteric vessels must also be thought of, as this produces conditions closely resembling those of occlusion.

The Connection Between Sclerosis of the Coronary Arteries and Diseases of the Heart Muscle.—Th. Neuburger has found that in thirty-eight cases in which he has made the diagnosis of angina pectoris the autopsy revealed the existence of calcification of the coronary arteries, and is of the opinion that the vascular lesion is always the causative factor of the disease. The symptom complex, known as angina pectoris is only a part of a more extensive affection which presents, in order of development, stages of disturbed sensation, disturbed motility and disturbed nutrition. During the first period pain in the cardiac, sternal or gastric regions, which radiates to the left shoulder and arm is observed. This is usually produced by walking or exertion and subsides on rest, it is particularly marked when the stomach is full, and may be barely perceptible to the patient, or run the gamut up to extreme anguish with the sense of impending dissolution and syncope. The second stage is marked by diminished heart power, and shows itself by shortness of breath, lassitude and weakness, while in the third period sudden nocturnal attacks of pain and dyspnœa, with feeble, irregular heart action appear. The treatment is that of heart disease in general; all exertion is to be avoided; amyl nitrate, small sub-cutaneous doses of morphine or sodio-salicylate of caffeine and strophanthus are to be recommended, while glonoin and potassium iodide are less useful. Diuretin works well in combatting the œdema, and powdered digitalis often relieves the asthmatic attacks.

Berliner Klinische Wochenschrift, June 10, 1901.

The Dietetic Treatment of Epilepsy.—R. Balint, carrying out the theories of Toulouse and Richet, treated twenty-eight epileptics by removing as nearly as possible all the sodium chloride from their diet and replacing it by the corresponding bromine salt. After some experiment the following dietary was formulated and used throughout: one to one and a half liters of milk, forty to fifty g. of butter, three eggs and three to four hundred g. of bread and fruit. The bread was specially prepared by baking it with three of g. sodium bromide and no salt. On this diet the patient receives only about two g. of sodium chloride and unconsciously takes three g. of the bromide daily. In all cases the results were highly satisfactory, the frequency and intensity of the attacks were reduced, the mental condition was improved and the general health rapidly appreciated. No signs of bromism ever developed, and the rationale of the method seems to lie in the fact that the sedative action of the bromide is in this way greatly enhanced. The treatment should be tried in all cases, and is most advantageously carried out in institutions where the usual beneficial effects of a regulated daily life can also come into play.

A Case of Hemorrhage from the Internal Carotid following Cholesteatoma.—Heine's patient was a woman of fifty-six who had all her life been suffering from middle ear disease. Shortly after coming under observation a radical mastoid operation was done, and six months later a second similar operation was performed. At this time a large part of the anterior and inferior tympanic wall was removed and a non-pulsating cord the size of a quill was exposed in the anterior angle of the cavity. Four days later in changing the dressings a stream of dark blood suddenly poured out of the wound, but the bleeding could be checked by packing. Nearly a month after operation, a second severe hemorrhage took place and two days later during the momentary absence of the nurse, the patient got out of bed, which indiscretion was followed by instant and appalling hemorrhage. Taken at once to the operating room and anæsthetized the site of bleeding was exposed and firm packing applied successfully, but four days later death resulted from œdema of the lungs. The autopsy revealed the fact that the internal carotid was eroded at its angle in the carotid canal, the vessel being considerably thickened for some distance above and below and its lumen diminished, which accounts for the absence of pulsation noted during the operation.

Is Carcinoma Curable?—A Adamkiewicz answers this question in the affirmative, and goes so far as to say that the problem of providing a remedy has found a scientific solution. The case upon which he bases his conclusions is that of a woman of fifty-eight, who, for several years, had presented the usual clinical picture of pelvic carcinoma involving the uterus, vagina and parametrium, which had advanced so far that serious rectal and vesical symptoms developed, and when the patient presented herself for operation, an eminent authority (Albert) declared the condition inoperable on account of the imminent danger of a breaking through of the growth into bowel and bladder. As a last resort, therefore, the medi-

cal attendant injected the author's "cancroin" with almost immediate effect. The bleeding stopped, the pain abated, and the patient rapidly gained strength, so that she was able to leave her bed and attend to her household duties. Now, one year after she had been given up as hopeless, she feels as well as ever, and is leading an active life, has no bleeding, pain, rectal or urinary symptoms, while examination shows that the formerly vigorously vegetating growth has been transformed into an apparently inert and cicatrized mass which distorts and enlarges the uterus, but is not painful or ulcerating.

Gelatin as a Hemostatic.—H. Gebele reports two cases of epistaxis and one of bleeding from a tooth socket in a hemophiliac which could not be controlled by ordinary means, and were successfully treated by the use of gelatin solutions. Two of the patients made a perfect recovery, but the third succumbed to a double lobar pneumonia, which was rapidly fatal, owing to the fact that the patient had been bleeding for over a week before coming under observation, and was consequently highly anæmic. In conjunction with these clinical observations, some experiments were made on dogs and rabbits with the following conclusions: A considerable loss of blood favors the absorption of gelatin solution, which in turn increases the natural coagulability of the blood. If the preliminary hemorrhage has been but small, the action of the gelatin will be inadequate, which explains some of the discrepancies reported by different authors after a trial of the method. To be efficacious, a loss of a fifth to a fourth of the total blood must have preceded the introduction of the gelatin, which conditions usually obtain in practice when the patient is mostly already exsanguinated when he is brought for treatment. In such cases gelatin solutions of a two per cent. strength for subcutaneous and a ten per cent. strength for local use are very serviceable, while in less serious bleeding the usual chemical, thermal, and mechanical measures suffice.

The Hot Air Treatment of Chronic Middle-Ear Disease.—Hecht reviews the various plans which other writers have advocated for the introduction of ordinary and heated air into the tympanum, and states his own belief that Holländer's apparatus for the application of hot air in skin diseases, provided with suitable aural pipettes, affords the most convenient instrument. The ear speculum is held with one hand and the hot air pipette is introduced and turned in various directions with the other, while the patient himself manipulates the bellows. By this means both of the operator's hands are left free, and all danger of burns is obviated since the patient is instructed to stop working the apparatus as soon as he feels any pain. In a disease like this, for which no average normal course exists, it is impossible to draw satisfactory conclusions, but the writer believes the method does good, and explains the favorable results as being partly direct and partly indirect. In the first place, the hot air rapidly overcomes the macerated condition of the tympanic mucosa, and furnishes a dry cavity in place of the moist chamber so favorable to bacterial growth, and in the second place, the hyperemia so produced is indirectly beneficial through the increased blood supply it entails, since the nutrition of the tissues is thereby greatly favored and the powers of resistance augmented.

French Journals.

A New Physical Sign Characteristic of Alcoholic Intoxication: "The Sign of Quinquaud."—Ed. Aubry reports this sign as described by Quinquaud: The individual is ordered to separate his fingers, and while extending them, he presses them firmly in a perpendicular direction against the palm of the examiner's hand. During the first two or three seconds nothing in particular is noticeable, but soon a series of slight shocks is felt, as if the bones of each finger struck each other successively, finally reaching the palm, against which the finger tips are resting. The crepitation varies in intensity according to the nature of the individual. It is more marked in men than in women. The pressure of the fingers should be moderate. This sign has not been found in epileptics nor in general paralytics. It has been noted only in alcoholics. Although sufficient work has not been done on this subject to make possible very sweeping assertions as to its value, nevertheless, in all cases in which abstinence was indisputable, the sign has never been present. It cannot be yet absolutely affirmed that the sign is specific of alcoholism. At present it is difficult to elucidate its pathogeny. If its specific value can be demonstrated, it will afford a very useful means of diagnosis. It is not yet known to the public, and is easily applied.—*Archives de Neurologie, Number* 66, June, 1901.

Case of Dermoid Cyst with Oily Contents at the Internal Angle of the Orbit.—Chavasse reports the observation of an orbital dermoid cyst, interesting for the following peculiarities. 1. The cyst adhered by a fibrous pedicle to the suture of junction of the frontal bone, with the lachrymal and with the ethmoid. 2. The wall of the cyst had a complete skin covering with well-formed sebaceous glands. 3. The contents were an almost pure oil, composed of fifty-six per cent. of palmitin and forty-four per cent. of olein.—*Le Bulletin Médical*, June 5, 1901.

Treatment by Rest in Bed in Mental Therapy.—Alexandre, Pâris, states that in insane asylums the surgical service is less extensive, the more general is the treatment of rest in bed. Mætorrhagia, wounds and fractures are far more rare than formerly in this service. There were before this treatment was common, constantly arising, cases of hernia, which had to be reduced, resulting from the various exertions of these patients. Every year there were several operations for strangulated hernia. The reducible hernia is now very rare, and the strangulated hernia absolutely exceptional.—*Archives de Neurologie*, May, 1901.

Delirium in Senile Gangrene.—Paul Fabre reports two cases of this kind. In one, the delirium was melancholic, in the other it was acute with hallucinations of sight and hearing. The delirium did not persist in either case, neither patient being alcoholic. The writer believes that the delirium varies as to its cause in various cases. It may arise from cerebral circulatory disturbances, due to arterio-sclerosis; it may be due to disorders of a septicæmic nature, or it may arise from nervous exhaustion caused by the pain.—*Journal des Praticiens*, June 8, 1901.

The Diazo Reaction of Ehrlich in Diphtheria—Lobligeois states that the diazo reaction of Ehrlich is negative in the urine of diphtheria patients. It is, on the contrary, frequent in scarlatina. This reaction can serve as a diagnostic point in the differentiation between scarlatina and post-errotherapic eruptions.—*La Presse Médicale*, June 12, 1901.

Influence of Theobromine on Work.—Féré shows that one gramme of theobromine taken by mouth, immediately augments muscular contraction. In this way, one obtains thirty-one kilograms in place of twenty-three, but soon the force diminishes, till after some time it becomes decidedly lower than normal.—*La Médecine Moderne*, June 12, 1901.

Upsala Läkareförenings Förhandlingar, No. 8, 1901.

A Case of Cystadenoma Papilliferum of the Accessory Thyroid Gland.—A. Pettersson's patient was a man aged fifty-three years, who for a year had been suffering from a growth in the neck which began as a simple nodule on one side. At the time of operation numerous tumors of varying sizes were found on both sides, extending from the mastoid processes to below the clavicles. These were removed without difficulty. They consisted of connecting strands following the course of the cervical vessels. The subsequent histological examination showed that the nodules were composed mainly of cysts filled partly with colloid material and partly with cauliflower-like papillary masses. The cysts and papillæ were covered with low columnar epithelium, and there were also present islands and strings of epithelium such as are supposed by Wolfler to form the starting point of thyroid adenomata. Cystic tumors of the neck may originate from the branchial clefts, the submaxillary gland, or the thryoid and its accessory glands. The first two possibilities are excluded by the author, who classes his case with the rare papillary cystadenomata of the accessory thyroids. The prognosis in such cases is always colored by the fact that particularly in the thryoid do we find tumors which histologically are typical adenomata and yet infiltrate and form metastases and papillary cystadenomata are especially to be suspected.

Foreign Body in the Trachea Removed by Tracheotomy.—P. Haglund performed a low tracheotomy on a boy aged two and three-quarter years, who three and one-half hours before coming into the hospital had swallowed a pea. The initial attack of dyspnœa had already been recovered from and the patient was suffering no discomfort, but the operation seemed indicated, as palpation of the trachea and larynx gave an impression as if a foreign body were moving within. Two days later, upon reintroducing the tube, which had been temporarily removed, the pea was expelled unaltered, and rapid recovery followed. In discussing the case, the author emphasized the euphoria which is characteristic for foreign bodies in the trachea, and advocated early tracheotomy not only in cases with a positive diagnosis, but also when the presence of the foreign body in the trachea can only be suspected. The incision should be free, and it is better to desist from attempts at extraction, for when the opening is ample spontaneous expulsion usually takes place.

A Case of So-called Stokes-Adams Disease.—R. Friberger's patient, a man aged seventy-six years, had always

been exceptionally healthy until about two years ago, when he suddenly had a series of attacks of unconsciousness, not followed by any paralysis, which were frequently repeated during a period of several days. Such periods of seizure have been repeated from time to time up to the present date. Between the attacks the patient had no dyspnœa, examination of the urine was negative, there was no elevation of temperature. The heart, so far as examination was possible, owing to marked emphysema, seemed normal except for irregularity in force and rhythm. There was no paralysis or disturbance of sensation; the reflexes were all normal. A few moments before an attack the pulse disappeared completely, the face grew pale, respiration became deep and stertorous, and consciousness was lost; the urine was passed involuntarily, and there were slow contortions of the body and extremities. The period of pulselessness lasted about ten seconds, after which there were several strong heart-beats, the face flushed deeply, and consciousness returned. The attacks were gradually decreased and finally checked entirely by the use of stimulants, and nitroglycerin, which latter appeared especially efficacious. Authorities differ as to the causation of the phenomenon. Stokes ascribed it to fatty heart; Charcot and Huchard say that the medulla is at fault, while others, like Dehio, think the heart itself is the seat of the trouble. The symptom complex also appears in other conditions besides arteriosclerosis, *e. g.*, compression of the cervical cord, uræmia, intoxications, etc.

The Journal of Tropical Medicine, June 15, 1901.

Notes on a Case of Amok.—John E. Gimlette describes the physical condition known in English as "running amuck," which is a fairly common occurrence among the Malays. It is characterized by: (1) A sudden paroxysmal homicide in the male, with evident loss of self-control; (2) a prodranal period of mental depression; (3) a fixed idea to persist in reckless homicide without any motive; (4) a subsequent loss of memory for the acts committed at the time. The Malays do not regard the occurrence as an exhibition of true insanity, being more inclined to ascribe it to a spiritual agency, and throughout the East the tendency is to regard it as a vice or crime rather than a disease. The author thinks that the mental upheaval of amok has some of the clinical features of epileptic mania.

An Easy Method of Mounting Mosquitos.—I. Cropper says that all that is necessary is a number of pieces of the brown cardboard of which boxes are made, of the size of a microscope slide, punched with a gun-wad punch five-eighths in diameter. These can easily be fixed to slides with glue or Canada balsam. A second glass slide, fixed to the other side of the cardboard slip, makes the whole complete. The mosquito can be fixed to the glass by a minute drop of balsam or by the tips of the wings, and in this way is readily available for inspection. A little creosote brushed over the edge of the cardboard slip will prevent mold. Entomologists will, of course, prefer pinned specimens.

The Prevalence of Pinta on the Gold Coast.—Osborne Browne says that on the Gold Coast this disease is very common. At first it begins as a very itchy, dark-bluish or black spot, usually on the back of the hand or dorsum of the foot, although it not rarely extends to the palms or soles. At a later stage the initial dark color is succeeded by grayish pink or white, denoting a loss of the natural pigment of the skin. The fungus is in all cases identical.

The Persistency of Plague.—An editorial calls attention to the fact that Hong Kong is now passing through a severe recrudescence of plague, the seventh definite outbreak within eight years. Over a thousand deaths are already reported this year, and the disease is only just attaining the maximum of its fatality. Racial immunity and racial incidence seem to play no part in the onset of plague, household and personal cleanliness would seem to have little to do with the spread of the disease; nor can public sanitation claim that it has done much to thwart plague in its virulence or in its spread.

Mosquitos Collected in Hong-Kong During the First Quarter of 1901.—J. C. Thomson reports that some 7,490 mosquitos have been received and examined, and the proportion of Anopheles to Culex mosquitos proved to be as 227 to 7,263. For the three months the numbers of Anopheles were for January 143, February 35, and March 49. These numbers coincide in their rise and fall with the prevalence of malaria in the colony, for during either February or March in most years the cases of malaria reach their minimum. Mosquitos should be caught by means of glass test tubes and killed by a few whiffs of smoke. No packing of any kind is necessary other than the wrapping of the box in a piece of paper. Mosquitos should be examined within twenty-four hours after capture.

Health Conditions in Trinidad.—The Annual Report by Sir Francis Lovell says that Taus has been greatly benefited by the thyroid treatment. Dysentery has been less prevalent than in former years. Whooping cough prevailed as a mild epidemic. Pani Ghao is prevalent during the rainy season Twelve hundred and thirty-six cases of malaria were reported, 854 being Tertian. Out of a total of 23,403 cases of all disease treated, *one* case only of typhoid was met with, but under the reports of the medical districts several cases are mentioned.

Norsk Magazin for Lægevidenskaben. June 1901.

Necrosis and Hemorrhage of the Pancreas and Multiple Fatty Necroses.—Francis Harbitz reports three cases. He holds that pre-existing obesity plays a large part in the etiology. "Hemorrhagic pancreatitis" he considers to be a misnomer, inasmuch as there is no primary inflammation of either pancreas or adipose tissue, but rather primary necroses, giving rise to inflammation and hæmorrhage. He does not consider the disease due to an infective process, as no microbes have been found either by means of microscopic examinations or cultures. Death results, not from hæmorrhage, nor from pressure on the sympathetic ganglia and nervous plexuses, but from total or nearly total destruction of the substance of the pancreas.

Hemorrhages of the Skin and Mucous Membrane in a Hysterical Patient—Death from Apoplexy of the Pancreas.—S. Holth describes the case of a young woman who for eight years was subject to cutaneous hemorrhagic spots following any psychic emotion. Hemorrhagic bullæ also appeared on the mucous membranes. Hydrotherapy did not permanently improve her condition. Arsenic was administered for two years, in 12 mg. doses daily of arsenious acid, and seemed to be of great benefit. Death occurred very suddenly. At the autopsy an enormous amount of omental and retroperitoneal fat was found, with about two litres of blood in the peritoneal cavity, which came from a source near the "cauda pancreatis." The author believes that the accumulation of fat was perhaps due to the prolonged arsenic treatment, and that the hemorrhage of the pancreas may perhaps have been of hysterical origin. The patient never had hæmophilic, in the ordinary sense of the word, for in the extraction of teeth, and in an operation for a tuberculous affection of the foot, the loss of blood was insignificant. She was not anæmic, nor did her urine show any trace of albumin or sugar.

The Treatment of Pulmonary Tuberculosis.—C. F. Larsen believes that the diet of tuberculous patients should not consist of "stuffing," but should be sufficient to nourish, and at times to repair the waste caused by fever and inanition. He does not approve of forcing albuminous and fatty foods.

Finska Läkaresällskapets Handlingar, May, 1901.

The Causes of Retraction of the Anterior Chamber of the Eye in Primary Glaucoma.—V. Grönholm, as a result of experimentation, concludes that it is not possible to explain the two constant symptoms of glaucoma—retraction of the anterior chamber and hyperæmia of the ciliary body of the theories of retention or of hypersecretion of Von Graefe, Donders and others. The author holds that glaucoma develops by reason of a dilatation of the blood vessels of the ciliary body; this dilatation causes a hpyersecretion and a pressure which push the attachments of the iris forward and cause retention of the aqueous humors.

Embolus in the Superior Mesenteric Artery.—R. Sievers reports the case of a woman suffering from anæurism of the aorta, who was suddenly taken ill and died in twenty-nine hours. An embolus six cms. long was found in the superior mesenteric artery. The author agrees with Litten in considering the mesenteric artery functionally a terminal artery, although not so anatomically. Embolus of this artery, with symptoms of occlusia, is not rare.

Revue de Chirurgie, June 10, 1901.

The Coincidence of Symmetrical Lipomata, with General Progressive Paralysis.—Charles Féré and Marthe Francillon describes several cases. The theories in regard to multiple lipoma have been many, but fail to account for the symmetry of such tumors as the ones described by the authors. They conclude that symmetrical lipomata found in conjunction with general paralysis, which developed before the nervous trouble, should not be considered as trophic disturbances due to lesions of the nervous system, but as teratomata, or embryomata.

Blood Examinations in Surgery.—Jaques Silhol urges that the blood be examined in surgical cases, with a special view to diagnosis. The amount of hæmoglobia should be estimated, and the red and white corpuscles, and dry preparations made in order to ascertain the varieties of leucocytes—and the changes in shape of the blood cells. By these means we can ascertain the state of the blood, which will indicate the gravity of the affection, and the powers of resistance of the patient. When the hæmoglobia is less than forty per cent, for instance, Mickulicz will not operate. Certain blood conditions assist in diagnosis, as for instance by indicating neoplasms of the stomach, when taken in conjunction with gastric symptoms or by pointing to appendicitis.

Archives Générales de Médecine, June, 1901.

Treatment of Aneurism by Subcutaneous Injections of Gelatin.—Henri Grenet and G. Piquand hold that this treatment may be useful in the fusiform, as well as in the sacculated aneurism, but the reports in regard to it are so inconclusive that it is not possible to make a positive assertion as to its value. The pain and the fever following the injections are due to the action of the gelatin. It has not yet been absolutely demonstrated that emboli and large coagulations are found. If the gelatin enters the blood unchanged, it might readily determine a harmful increase of pressure within large aneurisms with weakened walls. Further study and researches are needed on the subject.

Intra-Pericardial Rupture of the Aorta.—V. Chappet and Louis Gallavardin report a case which they analyze in detail. As a cause of rupture we must take into consideration the possibility of an inflammatory nodule in the external coat of the aorta, obliterating the blood vessels and causing the necrosis of the subjacent portions of the media and interna. Rupture, as a rule, follows secondary lesions, consisting usually of the irruption of blood between the coats of the aorta, either by direct perforation of the wall, by perforation preceded by the dissection of an internal flap, by the formation of a dissecting aneurism lowed by rupture, or by a false aneurism.

Linear Dermatoses.—J. Balzer and L. Alquier give this name to eruptions arranged in long lines not over one or two centimetres in breadth. In contradistinction to dermatoses, arranged in bands, they cannot be said to correspond to any special nerve area. They may have the appearance of acquired cutaneous affections, such as eczema, psoriasis, lichen; of congenital affections, such as nœvi, ichthyosis, or of his well-defined cutaneous troubles The authors describe thirty-two cases. As yet, the reason for the linear arrangement is unknown. Many authorities lean to the embryonal theory, but even were that adopted, it would not be clear whether the defect in development simply creates a linear locus minoris resistentivē on which various skin affections find a suitable location for evolution or whether it causes the dermatoses themselves.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

WAR MEDALS—REORGANIZATION OF THE BRITISH MEDICAL ASSOCIATION—LONDON UNIVERSITY—VICTORIA UNIVERSITY—THE MEDICAL COUNCIL AND THE COLLEGES—DR. IRWINE'S CASE.

London, June 14. 1901.

Wednesday was a red-letter day for the volunteers who have returned from the war, for with great ceremony the King presented medals to about 3,000 of them with some 200 officers of the army and navy, beginning with Lord Roberts. The surgeons included Sir William MacCormac, Sir F. Treves, and Sir W. Thomson. The pageant was one of the most brilliant that could be devised. The aged Duke of Cambridge was present, though he is now rather feeble, and was evidently much interested. The Princess Victoria was specially attentive to her aged relative and persuaded him to take a seat before the ceremony was concluded. You will remember H. R. H. is now 82.

The approaching annual meeting of the British Medical Association is more than usually important on account of the proposed reorganization. The report of the committee on the subject has now been before the branches for several months and has been discussed by many with varying results. On the whole, it may be said that the branches seem to be in favor of, or at least favorably disposed towards, the changes suggested by the committee. On the other hand, there has been evinced no little opposition, and much destructive criticisim has been pronounced. The supporters of the committee hold that the changes proposed would tend to make the Association co-extensive with the profession, in fact, they seem to suppose nearly every regular practitioner would enroll himself as a member. The opposition think this a vain aspiration and even question whether such a result is desirable. Then there is the dead weight of indifference and even of satisfaction with what has been achieved to be reckoned with, and most of all perhaps distrust, of the Council or its more active set. With all its faults the Association has prospered under the old constitution, and moderate reforms, it is argued, rather than radical changes would suffice to bring it into touch with the profession of to-day. It must not be forgotten, too, that since it has been made a limited company the rules of such bodies must be regarded and are perhaps sufficient to do all that is desirable. The meeting at Cheltenham thus has much to consider.

The London University has undergone the process of reorganization, but at present the result is not very tempting to impatient reformers. At present its new constitution is scarcely at work and there is much chafing at the continual delays. The *Times* is publishing a series of articles on the organization of university education in London, in which the need of large sums of money is urged, but whether these will be forthcoming is very doubtful. The fact is, the University as reorganized no more accords with the general idea of such a body than it did before the change. Then it was a mere examining board. Now it is rather a federation of colleges and schools of all kinds with the old examining institutions. Naturally there is much fear lest the old exaltation of examinations should still prevail, and misgiving as to whether the interests of the various included institutions can be reconciled.

An object lesson as to this danger is just now to be seen in the case of the Victoria University. The Liverpool College is no longer contented with its position and wants to become a full-fledged university itself. Liverpool is rich and generous as well as ambitious. Her merchant princes would no doubt endow a university established in their city. They have shown their mettle in establishing a School of Tropical Medicine. But if the Liverpool College obtained a charter Manchester, the seat of Owen's College, the centre of the Victoria University, would demand an equal position. Owens was indeed the origin of the Victoria, and when it wanted a charter its request was granted, but Liverpool and Leeds Colleges were joined with it. Whether this union shall be dissolved is now a burning question with both Manchester and Liverpool, and local feelings seem to be receiving more attention than the greater question as to what would be best for the advancement of higher education in both cities. Leeds does not seem to receive much consideration from either of her big sisters.

On Saturday the case of Dr. Irwine was brought to a conclusion. There was a full meeting of the Council, and some persons seemed to be rather anxious as to whether Dr. Irwine would turn up or further absent himself. He duly appeared, however, in obedience to the order of the Council and stated that as soon as he received the decision of that body he took steps to sever his connection with the Birmingham Institute. He explained the delay that occurred before completing that severance by the terms of his agreement with the Institute and said he had acted all along under the advice of the London and Counties Medical Protective Society. The secretary of that body, Dr. Woods, read the correspondence between the Society and Dr. Irwine. Then Dr. Bateman, of the Defence Union, put in two pamphlets with Dr. Irwine's name on them, and said further that name still appears on a plate at the Institute. Dr. Irwine said he had only heard that morning of this and had telegraphed to have the plate removed. In reply to questions he said he had handed in his resignation on February 21, that he quite understood that the Council's objection was to the advertisements—that the fee was not the question, but the solicitation by advertising of persons to avail themselves of the reduced fee. The Council then deliberated *in camera* after which the president informed Dr. Irwine that it was decided to proceed no further. So the case fizzled out and a good many people think it would have been as well if it had not been taken up, for the Council has lost rather than gained in prestige and has suffered a slight at the hands of the Privy Council. But perhaps the government ought to be made to feel the danger of insulting the whole profession, as the vice-president and Colonial Secretary did in Parliament, for the sake of supporting the pet scheme of the latter's brother.

The Council then proceeded to discuss its dispute with the two London colleges anent their notices that they will no longer require candidates for their diplomas to produce the Council's certificates of registration as students. I have apprised you of the steps leading up to

this defiance of the council by the Colleges in their attempt to steal a march on the other licensing bodies. It is hardly to be expected that the other corporations will maintain regulations which these two repudiate.

Dr. N. Moore supported the colleges in a lengthy speech, declaring that they were as desirous as the Council of improving education in science. But the reason of the differences that had arisen was the want of confidence of the Council in the ability of the Colleges to decide where the scientific instruction should be given. The Colleges had laid down explicit rules to ensure that the institutions they recognized possessed adequate means of instruction in science. A preliminary examination must be passed and the age of 16 reached before the scientific instruction could be begun, so that it was not right to assert that the profession would be flooded with immature students. He held that the Council could not well undertake the supervision and visitation of the places where science was taught and would do better to leave the matter to the colleges. They had undoubted rights which they declined to sacrifice even to preserve registration, which they valued. They were open to consider criticism by the Council of any special case and would examine such case with the greatest care and respect for the opinion of the Council. They would even furnish a list for such critisism—but not for recognition.

NEPHRORRHAPHY WITH FLAP FIXATION.

To the Editor of the Medical Record:

Sir: If surgeons who are interested in the subject of nephrorrhaphy with fixation by the use of capsular flaps, including Dr. Arnold Sturmdorf, who has an interesting contribution on this subject in your issue of June 22d, will turn to the *Journal of the American Medical Association*, of January 28th, 1899, page 177, they will find this measure fully described in almost every detail as given by Dr. Sturmdorf. At the time that I published this description my first patient had been operated on less than one year (January 20th, 1898). I presume I have made thirty operations by this method, and thus far without a single failure. It is unnecessary to anchor the kidney with stay sutures of any kind. Drainage is unnecessary.

In my description, I suggested, as does Dr. Sturmdorf, the making of two columns of muscular tissue so that each column could be attached to a flap of the capsule. This is unnecessary, since a single column answers every purpose, a flap of capsule being brought up on each side of this column, and the flaps attached by sutures so introduced as to embrace the column of tissue, the flaps on each side, and the adjacent tissue on the outside of each flap. Three or four of these sutures will be sufficient. The overlying tissue is then brought together either with catgut in layers or by through-and-through silk-worm-gut sutures, as the thickness of tissue or the judgment of the operator may suggest.

It is, of course, pleasant to have this method adopted by such surgeons as Morris and Sturmdorf. As to the matter of originality, that is of comparatively little importance. At the time that I published this method in the Association *Journal*, I had never heard of the method as being used by any one before me, and from the correspondence with several eminent surgeons, which followed the publication of this report, I was led to infer that the method was original with me. The method itself, however, seems so simple that it would be surprising if others had not previously used it.

J. F. Baldwin, M.D.

Columbus O., June 24, 1901.

A Contribution to the Diseases of the Bronchial Lymph Glands.—F. Schlagenhaufer reports three cases which throw an interesting light on the origin of many cases of cryptogenetic pyæmia and so-called idiopathic brain abscess. All three patients were under the age of 21 and died of sudden acute illness with very high temperature and the general manifestations of purulent meningitis. On an autopsy in each case there was found a suppurating bronchial lymph gland, situated below the bifurcation of the trachea close to the right primary bronchus, and surrounded by an area of necrotic tissue, while in addition to various pyæmic foci in other organs there were numerous metastatic abscesses in the brain. In all these instances there was evidence of tuberculosis, though in one case the lung had not yet been invaded.—*Wiener Klinische Wochenschift*, June 6, 1901.

Society Reports.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION OF MEDICINE.

Stated Meeting, held May 21, 1901.

E. Franklin Smith, M. D., Chairman.

The Etiology of Acute Articular Rheumatism.—Dr. Nathan E. Brill said that much attention had recently been directed to the etiology of acute articular rheumatism, and the case he presented had some bearing upon that aspect of the subject. The patient was a man who was admitted to his service at Mt. Sinai Hospital on February 5th of the present year. His family history was negative and there was no history of syphilis. His present illness was of four weeks' duration, and began with pains in both legs, but no swelling or redness. He had an eruption on the body which had existed for several weeks. His temperature at the time of his admission was 100° and went up to 103° that afternoon. He shortly afterwards developed signs of a pleurisy on the right side. There was tenderness over both tibiæ, and he complained of pain in the left sterno-clavicular articulation and in the fingers of the left hand. Three or four days after his admission the erythematous eruption over his body became much more profuse; some of the papules became larger, approaching in appearance a typical erythema nodosum. Examination of the blood showed a leucocytosis ranging from 16,000 to 19,000. During the past two weeks the man had been absolutely free from fever, but the disease had left him with partial ankylosis of the fingers of the left hand. Blood cultures were made upon five occasions by Dr. Libman and in one instance a streptococcus was found. The man's temperature had been of a very intermittent form, sometimes ranging from 100° to 105° in the course of a day. He was given one dose of antistreptococcus serum, and from that time on his symptoms began to abate.

Dr. E. Libman, who made the blood cultures in the case shown by Dr. Brill, said it was difficult to say whether the streptococcus he found was identical with that which has been described by Wassermann. Five cultures were made upon a medium similar to that employed by Wassermann, and the second culture, made on February 19th, gave two colonies of streptococci; the first culture, as well as the last three, gave no results. The streptococci obtained were injected into three rabbits, and three days later the animals limped and the joints were apparently tender, but there was no swelling. The rabbits were subsequently killed. In two of them no effects of the inoculations were found, while in the third one vegetations were present on the chordæ tendineæ. There were no joint affections. The inoculations apparently produced no effect on guinea pigs.

A Case of Human Myasis and Canthariasis Tenebrio-obscurus, with Demonstration of Larva and Drawings.—Dr. J. J. Walsh said that two months ago he was consulted by a woman who brought with her a worm which she said she had passed from the anus. He recognized it as the larva of one of the beetles and sent it to the Entomological Department at Washington for further information. They reported that it was a species of meal-worm which has occasionally been found in human beings. The worm lays its eggs in meal, and is rather common in this country.

Dr. Walsh said his patient had been using rectal suppositories made of gluten, which is practically a meal product and is formed without sufficient heat to destroy germs that may exist in the meal originally.

Colloid Cancer of the Stomach and Omentum.—Dr. Stephen Smith Burt read a paper on this subject and

reported the following case which had recently occurred in his service at the New York Post-Graduate Hospital: M. P., male, aged 43 years, married, a native of Bohemia, and by occupation a laborer. His family history was good. The only important point in his previous history was that he had syphilis seven years ago.

In May, 1900, he had an attack of pain in the right hypochondriac region and subsequently in other parts of the abdomen, which lasted about three months. Eight weeks ago he noticed for the first time that his abdomen was enlarged and four weeks later that his feet were swollen, especially towards evening. He had been constipated for two months. He complained chiefly of distress in the abdomen, general debility, and constipation. Repeated examinations of the urine revealed nothing of much importance, excepting a high specific gravity associated with a small daily excretion. The patient was very pale and cachectic and extremely emaciated: there was no jaundice; the abdomen was symmetrically enlarged; the superficial abdominal veins were not prominent; there was nothing abnormal about the umbilicus; the feet and ankles were œdematous. The abdominal parietes were tense and resistant and there was ill-defined fluctuation. In the left upper quadrant of the abdomen there were a number of more or less plainly appreciable, irregular, hard, nodular masses. Upon a subsequent examination, following the withdrawal of 190 ounces of fluid from the abdominal cavity, these nodular tumors could be detected extending into the lower half of the abdomen. The inguinal glands were moderately enlarged. Dilatation of the stomach was not manifest. The resonance varied between flatness at the lower part of the abdomen and dulness at the upper portion. There was never any vomiting and the contents of the stomach were not analysed. The temperature was either normal or sub-normal, and remained so until the day before death, when it rose to 103° F. The pulse was generally small and weak, but never rapid. The daily quantity of urine excreted was about twenty ounces. Anæmia was present and progressive; there was no jaundice, hemorrhage, or vomiting, and the mind remained clear until the patient was nearly moribund. The patient usually slept well at night and was able to be up and about the ward and frequently out of doors. He complained of more or less discomfort or actual pain, usually in the region of the epigastrium, but for the relief of this he did not require an opiate until the day before his death, which occurred on February 6, 1901, chiefly from asthenia.

The diagnosis made in this case was colloid carcinoma of the stomach and omentum, the left lobe of the liver, and the transverse colon. The true nature of the growth was discovered by a rather rare and fortuitous circumstance. During the man's illness it was frequently necessary to tap the abdominal cavity in order to relieve the distress caused by the rapid accumulation of the fluid, and upon two or three occasions fragments of the growth escaped through the cannula. These specimens were sent to the laboratory and were pronounced by the pathologist, Dr. Henry T. Brooks, to be colloid carcinoma. The autopsy revealed a diffuse colloid carcinoma of the stomach, omentum, mesentery and peritoneum, and of the left costal, diaphragmatic, and pulmonary pleuræ.

Dr. Beverley Robinson said that so far as he could recollect he had never seen a case of colloid cancer of the stomach, and only two or three of colloid cancer of the omentum or peritoneum. Last fall a patient died at St. Luke's Hospital and the autopsy showed that the case was one of colloid cancer, involving principally the peritoneum. During life the case had been looked upon as one of tuberculous peritonitis, and even an exploratory incision failed to reveal the true diagnosis. There was little or no fever and the emaciation was not very rapid. The fluid which was withdrawn from the abdominal cavity was ascitic in character and could not be differentiated from that of tuberculous peritonitis. These cases were very rare and the diagnosis was difficult. Dr. Burt was fortunate in having secured shreds of the cancerous tissue for microscopical examination.

Dr. Thomas E. Satterthwaite said that colloid cancer of the stomach was so rare an affection that few had the opportunity of seeing a case. Colloid cancer itself was very rare in comparison with other varieties of malignant disease. The speaker said Dr. Burt's case was the only one he could recall in which the diagnosis had been made during life. The value of an exploratory incision in the recognition of doubtful cases of this character should not be lost sight of.

Dr. Satterthwaite said that although the tubercles of colloid cancer could be very large they might also be very minute, and readily be mistaken for tuberculosis, even under the microscope, by one who was not an expert pathologist. The usual bulky form of the tumor might prove of assistance in making the diagnosis.

Dr. Max Einhorn said his experience with this form of cancer was very limited and he knew of no other case in which the diagnosis was made during life. Some years ago he saw a case of colloid cancer involving the posterior wall of the stomach. This patient's chief complaint was pain in the region of the stomach. There was no vomiting, nor constipation, and the loss of flesh was not great. Nothing could be detected by palpation and an examination of the stomach contents proved negative. The motor function of the stomach was apparently disturbed, and as nothing could be done for the man in a medical way it was decided to operate. The operation revealed the true nature of the trouble. The man died a few days later, and under the microscope the growth on the posterior wall of the stomach was found to be a colloid cancer. The pylorus was not involved by the growth.

Dr. Andrew H. Smith said he has had a case of suspected colloid cancer under his observation since last December. The patient was man seventy-four years old, with a certain amount of anasarca, some degree of fullness of the abdomen and some enlargement of the liver. There was a soft cardiac murmur and the action of the heart was exceedingly irregular. The urine had a low specific gravity; it contained no albumin and only an occasional cast. The case was first regarded as one of cardiac insufficiency, with possibly a certain amount of disease of the liver. The abdomen gradually became more distended, but palpation did not give the sensation usually communicated by fluid, and a change in the position of the patient produced very little change in the level of the abdominal contents. Two attempts were subsequently made to draw off fluid with the trocar, but in each instance only a small quantity was obtained, and the instrument apparently came in contact with something that interfered with the flow of the fluid. For a time the kidneys almost ceased to excrete any urine and the anasarca became so pronounced that it had to be relieved by very free catharsis. After a period of inaction, during which only about fifteen ounces of urine were secreted daily, the kidneys, in the course of twenty-four hours again became active, secreting from fifty to sixty ounces of urine daily. Dr. Smith said he was inclined to attribute this temporary disturbance of the function of the kidney to the pressure of a rapidly growing mass and that the relief of the pressure was due to the fact that the mechanical relation of the mass to the renal vessels, had suddenly changed, and again permitted the free flow of urine through those vessels. This patient was now in a very deplorable condition and probably will not live much longer. Against the diagnosis of colloid cancer in this case was the absence of anything like a nodular condition. The patient had never suffered from pain or vomiting, but the latter symptom is usually absent when both gastric orifices are free.

Dr. Burt, in closing, said he knew of but two other

cases of colloid cancer—both of the omentum—in which the diagnosis was made during life. He did not know of a single case in which the diagnosis of colloid cancer of the stomach was made during life. In both of the two cases referred to the diagnosis was made with the aid of an exploratory incision, colloid cancer not having been previously suspected. In his own case, Dr. Burt said he was satisfied that he had to deal with a cancer, but he did not know that it was of the colloid variety until some of the material had escaped through the needle.

Some Points of Intracranial Neoplasm considered from the Neuronic Standpoint.—By F. Savary Pearce M. D., of Philadelphia. In this paper, the author dwelt upon the theory of movement of the ultimate nerve element, the neuron; and through this separation of dendrites and collaterals the regulation or not of nerve impulses which have been generated (*endogenous*) or modified by the brain mass, where the energy here has been due to *exogenous* causes.

The point was made that many symptoms of brain, tumor, such as the hysterical, paræsthetic, anæsthetic paralyses or convulsions, not localizable by the known scientific anatomico-physiological facts were at all times difficult (*never* consistent in hysterical phenomena) or impossible to correlate with the well-known anatomical division into ganglia and tracts. As it is normally the inhibitions of cerebral and spinal activities control impulses in a regular fashion. When tumors produce insidious irritation of the protoplasmic mass of nerve cells, it is reasonable to suppose such irritation may cause retraction of the processes, or by disturbance of circulation cause intercellular pressure, which may also be a cause for breach of contact of certain ganglia, as the basal, and tracts.

It will be thus seen in logical sequence if impulses (nerve energy, or, as some observers have conceived, the possibility of this force as being a form of electricity working in the highest possible mechanism) are changed in their transmission from the definite and normal channels through the ganglia and various tracts.

Theoretically the said nerve impulses could be diverted in various and irregular directions to the disturbance of *all* known classic symptomatology of intracranial neoplasm. In such widespread disturbance depending upon the idiosyncracy of the nerve protoplasm, will aberrant symptoms prevail. So that, accurate as we may be in anatomy and physiology, the irregular control of nerve impulse in this manner in brain tumor would set aside the said mechanical relations of function with the central nervous system, leaving an irregular array of phenomena indicated above and which must be taken into account in the study of this most difficult branch of medicine.

Complex bodlly movements etc., we frequently know *why* are perverted, but we are only dimly conscious of *how* they are produced, hence the justification of this interesting speculation of a theory which may presage a fact.

Dr. Charles L. Dana said he did not know exactly what Dr. Pearce meant by the "neuronic theory." He probably meant that certain psychical processes are due to the separation of the dendrites of one neuron from those of another. This theory has found some adherants, but it is hardly possible to discuss it, as it is practically unproven and is not supported by a single scientific observation. There is no doubt about the existence of the neuron: it is the biological unit in the nervous system, but this fact will not justify us in drawing inferences by which we can explain physiological phenomena. The hypothesis of Dr. Pearce, namely, that certain symptoms of brain tumor are the result of retraction or separation of the dendrites, while it cannot be either proven or disproven, does not add very much to our knowledge of the situation and nothing at all to our capacity to diagnose brain tumors.

Dr. Dana said that during the past few years, very little progress has been made in the recognition of brain tumors and their localization. In diagnosis of brain tumor, the studies in the pathology of the blood now give us some light: for example, the presence of marked leucocytosis will possibly enable us to decide whether we have to deal with an abscess or a tumor, and it its not unlikely that a further investigation of the "eosinophilia" of the blood may help us in recognizing the kind of tumor. In the localization of cerebral brain tumors, a study of the presence or absence of the motor touch, the sense by which we recognize the form of an object, may prove serviceable. The loss of certain local reflexes may also prove helpful, while the symptoms of acromegaly will lead us to suspect that the pituitary gland is involved. Percussion of the skull has been of value in some instances. Thus far we have received no assistance from the Roentgen rays in the discovery of brain tumors.

Dr. B. Sachs said the idea of associating the neuronic theory with tumor of the brain was like bringing a pigmy and a giant together. One is associated in our minds with something that is gross; the other with something minute. Of course, there must be some connection between them, in a way, because the neuron is the basis of the entire structure of the nervous system but the idea of trying to explain the symptoms of such a gross lesion upon any theory which involves the neuron seems to be rather hazardous. The one practical point in connection with the neuronic theory is that it does away with the distinction formerly made between diseases of the gray and of the white matter, and enables us to understand that apparently both of these structures may be simultaneously affected.

Aside from mere speculation, Dr. Sachs said, we have a knowledge of certain points in connection with the localization of brain tumors. We know that if a growth is located in a certain area, it will give rise to "signal" symptoms, while if it is located in what have been termed the "silent" parts of the brain, it does not present any symptoms. The percentage of cases of tumor of the brain in which we are not able to make the diagnosis is not great.

Dr. Pearce, in closing, said that while the theory he had suggested in his paper was not proven, and no statistics could be offered to support it, still, it could not be disproven. Briefly stated, the theory is that a growing tumor in the brain is able to excite certain activities of the adjacents cells, or, by pressure, produce separation of the neurons or interfere with their circulation, which in turn produces an aberration of the function of those cells, and the impulse is not distributedtin the proper direction, as it would be in health.

Splenic Myelogenous Leukæmia, with Pulmonary, Laryngeal and Faucial Tuberculosis.—Dr. Arnold Sturmdorf reported this case. The patient was a woman, thirty-five years old, married, and the mother of a healthy child, now two years old. The family history is negative, with the exception that one sister died of tuberculosis, while a second is said to have recovered from the disease. The patient was born in Brooklyn. From her second to her tenth year she lived in the northern part of Ireland, after which she returned to Brooklyn, where she has since resided.

Splenic enlargement was first noticed incidently during her normal puerperal convalescence two years ago. As it caused no inconvenience, it was ignored. Her present illness began on New Year's day, 1901, when, without premonitory symptoms or apparent cause, she awoke suffering from pain in the throat, cough and hoarseness. After several weeks of unsuccessful treatment, her physician sent her to Lakewood, where

she remained five weeks without apparent benefit. From that time to the present she had gradually grown worse, and has lost about twelve pounds in weight.

Examination, April 17, 1901:—Spleen, enormously enlarged, hard, smooth, and prolapsed; not painful. Its upper pole can be palpated for a short distance beneath the left costal arch; its anterior border, sharply demarcated, extends over into the right side several fingers' breadth beyond the middle line, and presents a distinct indentation at the level of the umbilicus. Its lower pole dips deep into the pelvis, where its characteristic edge can be palpated through the anterior vaginal wall, between the bladder and uterus, the latter being crowded backward.

The lungs present indistinct cavernous signs between the clavicle and third rib on the right side anteriorly and over the left supra-scapular space posteriorly. The uvula and left half of the faucial arch, including the pillars and tonsil, are diffusely red and infiltrated. The junction of the left uvular border and soft palate is deeply fissured. This whole involved area presents a number of discrete, small, round, superficial ulcers covered by a grayish-yellow coating. The tonsillar crypts are filled with yellow semi-solid plugs. The epiglottis is pale, but otherwise normal. The glottis is obscured by a characteristic pyriform swelling of the left arytenoid, and numerous papillomatous excrescences filling the inter-aryteniod space. Sputum, and smears from the faucial ulcerations show tubercle bacilli in abundance.

Many blood counts were made. These showed characteristic fluctuations, which may be summarized as follows:—(1) The occurrence of febrile temperature is accompanied by a characteristic alteration in the relative proportions, but not in the sum total of the white corpuscles. (2.) This alteration is manifested principally in the polymorphonuclear and myelocyte elements. (3.) The polymorphonuclear count rises parallel with the temperature curve, while the myelocytes decrease proportionately. (4.) The rapid increase in the number of the polymorphonuclear elements suggests an intercurrent leucocytosis.

The first blood count, made on April 17th, gave the following results:—Hæmaglobin, forty-eight per cent.; (Gower). Red corpuscles, 2,800,000; white corpuscles, 156,000; ratio, about 1:18. On May 10th the hæmaglobin was fifty-two per cent.; red corpuscles, 3,200,000; white corpuscles, 116,000.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting held May 20, 1901.

PARKER SYMS, M. D., PRESIDENT.

Cancer of the Posterior Wall of the Larynx Involving the Œsophagus.—DR. FRANCIS J. QUINLAN exhibited this specimen, which had been taken from a woman who had presented herself at the hospital complaining of excessive ptyalism. It was some time before the growth could be mapped out and a portion snared off for microscopical examination. It was eventually found to be an inoperable carcinoma. An attempt was made to treat the case by Dr. Dawbarn's method of ligation of the carotids, but it was found impossible to include all of the important arterial branches in the ligature, and the woman died a short time afterward.

Prostate Removed by Perineal Prostatectomy.—DR. PARKER SYMS presented a prostate that had been removed by him on January 24, 1901, from a man of sixty-two years. The man had suffered from complete retention of urine for a number of months prior to the operation, passing the overflow and requiring frequent catheterization. The prostate had been removed by perineal prostatectomy without a suprapubic incision. This had been accomplished with the aid of a rubber inflatable bulb passed into the bladder through the membranous urethra. It was then inflated to a diameter of about two inches and a half, and by pulling on the rubber stem, which was in reality a rubber drainage tube, the operator was enabled to reach the prostate and enucleate it. The speaker said that he was of the opinion that this method of operaing had greatly reduced the mortality. He had himself operated nine times by this method. All of the patients had lived, and all but one had secured complete restoration of the function of the bladder. In the unsuccessful case the bladder had been so fixed that he had been unable to reach it as he had not at that time devised his special catheter. Microscropical examination had shown that no portion of the bladder or of the urethra was involved in the operation.. These patients were able to retain their urine practically all night, and were cured of their cystitis.

DR. ROBERT NEWMAN said that the case under discussion was certainly one in which nothing else could have been done but an enucleation. He would like to know why Dr. Syms preferred the perineal to the suprapubic incision. It seemed to him that the only objection to the suprapubic incision was that the prostate then lay sodeeply that it could not be easily seen during the operation. This could be overcome by the use of the electric light.

DR. J. W. S. GOULEY said that the operation of prostatectomy had been measurably simplified by the devices employed by Dr. Syms. Ever since enucleation of the prostate had been advocated, he had been opposed to the suprapubic incision, believing it to be a needless complication. The section of the membranous urethra is a simple procedure. On several occasions he had had to reach the prostate for the removal of phosphatic calculi, and had not experienced difficulty in doing this through the perineum. The enucleation of the prostate by the suprapubic incision was very different, and was certainly not advisable.

DR. Syms, in closing, said that he preferred the perineal route because it seemed to him to be the most direct, and the one affording the most direct drainage in the line of gravitation. The bladder in these cases was almost invariably infected, and when the suprapubic incision was made there was always a pocket left from which drainage was incomplete. Dr. Alexander had made use of the suprapubic opening for the purpose of introducing two fingers and forcing the prostate down into the perineal wound. When suprapubic drainage was employed the patient was confined longer in bed. Most of his patients had been out of bed in five or six days, a point of considerable importance to these old men. In his cases the patients had experienced immediate relief, and had shown very slight reaction after the operation. The perineal operation without suprapubic incision was a comparatively slight one, and seemed to him even safer and less formidable than the Bottini operation.

The Vaginal Route Compared with the Abdominal Route in the Surgical Treatment of Pelvic Diseases in Women.—DR. J. RIDDLE GOFFE was the author of this paper. He said that in any disease in the female pelvis which could be treated by the vaginal route with equal safety and success as by the abdominal route, the former should be given the preference because after such operations convalescence is more rapid, there is less fever, and the procedure is safer. At the present time, in his opinion, the only operation indicated for cancer of the uterus was vaginal hysterectomy. The operation, for cancer confined to the uterus itself, was a very simple procedure. According to his experience, simple ovarian cysts and abscesses of the ovary could be removed with perfect success and safety through the vagina. It was a matter of no importance how large that cyst might be, because after it had been tapped and allowed to collapse, it was easy to remove it through the vagina. If the

abscess was large the same method should be adopted. Retroversion of the uterus had been treated by tampons and pessaries, but it was an accepted fact that only about five per cent. of those treated by pessaries were cured, the other 95 per cent .being compelled to wear a pessary for the remainder of their lives. Retroversion of the uterus could be relieved very simply by an operation through the vagina. It was not a condition which would justify an operation attended by dangers either immediate or remote. A large proportion of the cases in which Alexander's operation was done had infection of the soft tissues; a considerable percentage had either single or double hernia, and the operation was absolutely contraindicated whenever there was any complication, such as disease of the appendages or adhesions. Ventral fixation would certainly cure the retroversion, but it was an operation involving an abdominal section, and this always meant a weakening of the abdominal wall. Because of this tendency to hernia after abdominal section, the speaker had come to look upon every laparotomy as a serious procedure. On the other hand, the peritoneum of the pelvis was much more tolerant of surgical interference than the abdominal peritoneum, and it was well known that this region has a special blood supply. Through a vaginal incision the malposition of the uterus could be rectified and the round ligaments shortened. Most of his vaginal work was done through the anterior fornix, the necessary room for surgical manipulations being secured by combining a longitudinal with a lateral incision. This operation found a specially useful application in young single women. Conservative operations on the appendages could be done with the same facility and thoroughness by the vaginal as by the abdominal route, and so could myomectomy for small fibroid tumors. If the tumor confined to the true pelvis and was not larger than a four-months pregnant uterus, it was perfectly possible to remove it through the vagina. If, however, the fibromatous uterus reached above the true pelvis, it was better to resort to abdominal section.

Dr. William R. Pryor said that far conservative and evacuative procedures the vaginal route far exceeded the abdominal route. He believed that for cancer of the body of the uterus the vaginal operation was an absolute failure. This belief was emphasized by the fact that one observer had reported 1,365 cases of cancer of the uterus operated upon by vaginal hysterectomy, and yet, after three years, it had been possible to trace only 60 women who were alive or who had not had a recurrence of the disease. He thought it was the present consensus of opinion that in cases of gonorrhœal disease of the appendages both appendages should be removed. He had found it possible to relieve by vaginal operation 83 per cent. of the women coming to him with fibroids of the uterus. He believed just as good work could be done through the posterior as through the anterior cul-de-sac, and with somewhat less traumatism, to say nothing of the probability of securing somewhat better drainage through the peritoneal pouch posteriorly. He preferred not to do a myomectomy because fibroids were connected with a diathesis, and the only proper surgical operation was one which would remove them all. Dermoids were ordinarily best removed through the anterior incision. But the great advantage, after all, of the vaginal route was the opportunity it afforded for making exploratory incisions without detriment to the patient, thus providing a valuable means for establishing a correct diagnosis in many doubtful cases.

Dr. A. Brothers said that his experience with the two routes under discussion had been about equal, comprising about 100 operations of each kind. He would insist that it is not so easy to work through the vagina as by the abdominal route, and that the vaginal operation should be attempted only by experts. Surgical operations through the vagina must necessarily be done in a limited space, and in a field more or less obscured by the oozing of blood. The control of hemorrhage was also more difficult per vaginam except for those of large experience in such work. It could not be denied that the reported mortality was much less in vaginal than in abdominal work, though this did not apply to the attempts of tyros in this field. He did not look upon the vaginal route as the one of choice in the majority of cases of suppurative disease in the pelvis. As a general thing, the abdominal route was the one of choice for the surgeon, though the patient ordinarily preferred the other.

Dr. Eden V. Delphey said that the operation of abdominal section, even the mere opening of the abdomen, was attended by far more shock than incision through the vagina. The operation for salpingo-oophoritis was a difficult one if done by the vaginal route, except in the comparatively rare cases in which there were no adhesions.

Dr. Pryor took issue with Dr. Brothers regarding the difficulties of the vaginal operation. He said that the surgeon did not ask for more than three inches of space through which to see the appendages in an abdominal section, and the same amount of space was at his disposal when operating by the vaginal route. There were no important vessels divided in the vaginal operation. It was, however, no longer the abdominal versus the vaginal route, for each operation has its own special field.

Dr. Goffe, in closing, said that in operating through the vagina and working upward it would be found much easier to get into the line of cleavage than when working from above downward.

Penetrating Gunshot Wound of the Abdomen without Injury to the Abdominal Contents.—Dr. Henry Roth read this paper. He said that a number of cases had been reported in which bullets had penetrated the abdomen and had passed among the intestinal coils without doing any serious injury to the bowel. In fifty-eight cases of gunshot wound of the abdomen treated at the Cincinnati Hospital there had been only three in which the viscera had not been perforated. Dr. Roth then reported the following case, which had come under his observation in the hospital service of Dr. Parker Syms: The patient was a boy of ten years who, in July, 1899, had accidentally shot himself with a 22-calibre revolver in the abdomen near the umbilicus. Soon afterward he had begun to vomit, and on the following day he was brought to the hospital. At that time his temperature was 100.6°F., pulse 100 and respirations 22. Under ether, the abdominal wound was explored, and a perforation was found in the peritoneum, but further exploration failed to detect the bullet or any wound of the abdominal contents. The boy recovered, and was about to be discharged from the hospital when attention was directed to a swelling under the skin about six inches to the left of the bullet wound in the umbilical region. This swelling proved to be the bullet, and it was removed. The speaker said it was generally recognized in civil life that when there was a bullet wound of the abdomen an exploration should be made to determine whether or not the peritoneal cavity had been penetrated. Such an exploration should be done as soon as possible and after all preparations had been made for laparotomy. The wound of entrance should be enlarged for a distance of about one inch upward and downward, and then dissected laterally down to the peritoneum. The reports from the Spanish-American war showed that a large number of persons who had gunshot wounds of the abdomen recovered without operation. It must be remembered, however, that a large proportion of those injured in the abdomen died on the field from hemorrhage. Time was a very important element after a battle, hence it was out of the question to spend an hour or more in exploration on a case which was quite possibly hopeless.

Dr. Gouley referred to a dissecting-room subject which had he seen in which a bullet was encysted in the mesentery. There were no signs of injury to the coils of intestine.

Dr. A. Ernest Gallant said that his experience in dispensary work had suggested the necessity for uttering a word of caution against probing needlessly and exploring gunshot wounds. Many cases that had been subjected to such meddlesome surgery had suppurated, whereas such a methed of healing had been decidedly exceptional when an antiseptic dressing had been applied and an expectant plan of treatment adopted.

Dr. Roth, in closing, said that after exposure of the peritoneal surface, in the case just reported by him, there was no doubt that the opening there found had been produced by the bullet, and not by subsequent probing.

Therapeutic Hints.

Seborrhœa Oleosa and Hyperidrosis.—

℞ Formalin ..... ʒi–ʒii.
Glycerin ..... ʒii.
Aq. colon.
Alcohol rect. ..... āā ʒiii.
M. S. Apply.

—Ravogli.

Tuberculosis.—

℞ Iodoform ..... gr. i–iii.
Strychninæ sulphatis ..... gr. $\frac{1}{40}$.
Arsenii iodidi ..... gr. $\frac{1}{12}$.
Balsami Peruviani ..... gr. ii–iv.
Sig. One to three pills daily.

—Solis-Cohen.

Cough in Phthisis.—

℞ Camphoræ ..... gr. ii.
Heroin ..... gr. $\frac{1}{12}$.
Cresoti ..... ♏i.
M. ft. pil No. i. S. One when necessary.

—Daly.

Leucorrhœa.—

℞ Pulv. aluminis,
Zinci sulphatis,
Acidi carbolici,
Sodii biboratis ..... āā ʒi.
Aquæ ..... ℥vi.
M. Sig. Tablespoonful to quart of water. Douche.

—Burtenshaw.

Emulsions.—

℞ Castor oil ..... ℥iss
Comp. tinct. lavender ..... gtt. v
Mucilage of acacia ..... ℥ss.
M. Sig. Rub well in mortar. Dose, tablespoonful.

Or,

℞ Cod liver oil ..... ℥v.
Oil of bitter almonds ..... gtt x.
Creosote ..... ʒss.
Mucilage of acacia ..... ʒiii.
M. Sig. Tablespoonful dose.

Or,

℞ Cod liver oil ..... ℥iv.
Brandy ..... ℥ii.
Mucilage of acacia ..... ℥ii.
Oil of bitter almonds ..... gtt. x.
M. Sig. Tablespoonful dose.

Or,

℞ Santonine ..... gr. xii.
Castor oil ..... ℥iss.
Syr. tolu ..... ℥iss.
Mucilage of acacia ..... ℥iii.
M. Sig. Tablespoonful every four hours.

—Robert C. Kenner.

Ascites.—

℞ Elaterin ..... gr. $\frac{1}{12}$.
Strychninæ sulphatis ..... gr. $\frac{1}{40}$.
Glonoini ..... gr. $\frac{1}{200}$.
Ext. digitalis ..... gr. $\frac{1}{4}$.
Caffeinæ citratis,
Pulv. caryophylli ..... āā gr. i.
M. Ft. caps. No. i. Sig. One capsule, q. 3–6. h.

—A. H. Bigg.

To Produce Diaphoresis.—

℞ Pulv. camphoræ ..... gr. ss–iss.
Pulv. opii ..... gr. $\frac{1}{4}$ – $\frac{1}{2}$.
Potassii nitratis ..... gr. iv.
Sacchari ..... ʒii.
M. Ft. chart No. i. Sig. One powder in a hot drink at bedtime.

—Von Graefe.

Cutaneous Pruritus.—

℞ Potassi bromidi ..... ʒiiss.
Ext. belladonæ ..... gr. ivss.
Acidi carbolici ..... gr. xv.
Ext. Glycyrrhizæ ..... q. s.
M gt. pil No. 50.. Sg. One 4 times a day.

—Eichhorst.

Asthma.—

℞ Sodii iodidi,
Sodii. bromidi ..... āā gr. ii.
Ext. euphorb. fl.,
Tinctura lobeliæ ..... āā gtt. iii.
Nitroglycerini ..... gr. $\frac{1}{200}$.
M. Sig. One dose, and repeat in half hour if necessary.

—Jackson.

Fermentative Diarrhœa.—

℞ Pulv. ipecac ..... gr. x.
Pul. populus ..... ʒi.
Pulv. capsici ..... ʒiss.
Pulv. nucis vomicæ ..... gr. x
M. Ft. pil No. 40. S. One t. i. d.

—C. W. Canan.

Post-Nasal Catarrh.—

℞ Menthol,
Camphor ..... āā gr. xviii.
Liquid albolene ..... ʒvi.
M. Sig. Use as spray.

—M. G. Price.

Chorea.

℞ Liq. potassii arsenitis ..... ♏iii.
Ferri et ammoni citr ..... ʒii.
Glycerini ..... ʒss.
Aquæ ..... ℥iii.
M. S. ʒi. t. i. d.

—H. D. Chapin.

Some Incompatibles.—Mineral acids, with alkalies and relatively weak salts of other acids, such as bromides, chlorides, and iodides.

Alkalies, with acids and relatively weak salts.

Arsenic, with tannic acid, salts of iron, lime, and magnesia.

Bitter infusions and tinctures, with salts of iron and lead.

Bromides, with acids, acid salts, or alkalies.

Calomel, with antipyrin, alkalies, lime water, salts of iron and lead, and iodide of potassium.

Spirit of camphor, with water.

Chlorides, with silver salts, lead salts, and alkalies.

Chloroform, with water, except in minute quantity.—*Maryland Medical Journal.*

Various Hints.—Convulsions may be frequently cut short like magic by turning the patient on his left side. The nausea as an after effect of chloroform or ether narcosis may be generally controlled in the same manner.

When chilly from exposure, breathe very deeply and rapidly and the increase in bodily warmth will be surprising.

Vomiting after the administration of chloroform may frequently be prevented by replacing the inhaler with a linen cloth steeped in vinegar, allowing it to remain over the face for some time.

People who have weak hearts should always have their principal meal in the middle of the day, and with as little water as possible.

Many a woman's ruin is due to the old idea that a woman can safely leave her bed on the tenth day after confinement.

Crude petroleum, poured upon a burned surface and covered loosely with cotton, will subdue the pain almost at once.

Black pins in surgical dressings are preferable because they will not rust, and can be more readily seen when they are to be removed.

Strong spirit of ammonia applied to the wounds of snake bites or rabid animals, is better than any caustic. It neutralizes the virus.

In post-partum hemorrhage try tying a piece of strong webbing tightly above the knee of the patient.

Carbolic acid poisoning can be quickly cured by giving cider vinegar diluted with equal parts of water in half tumblerful doses every five or ten minutes for a few times.

To keep the hand soft after using plaster of Paris, carbolic acid, etc., an application on going to bed of ointment composed of melted beeswax, tallow, and sweet oil to the hands will soften them in one night.

Cocaine poisoning is antidoted well by strong coffee.

A daily sponge bath is necessary for the pregnant

woman, in order that the skin does not become inactive and throw its work upon other organs already severely taxed, especially the kidneys.

Potassium permanganate is an efficient antidote if taken while morphine is still in the stomach. Grain for grain it will completely decompose morphine.

A typhoid fever patient will do well upon a diet of rice water.

Ice applied to the external genitals—the scrotum in men, the labia in women—is said to be the best and simplest method for controlling blood spitting and nosebleed.

A baby may be filled up to the neck with milk and still be hungry.

In prescribing infant foods it is worth remembering that rice is an astringent and farina a laxative.

A towel dipped in boiling water, wrung out rapidly, folded to proper size, and applied to the abdomen, with a dry flannel over the hot towel, acts like magic in infantile colic.—M. E. Douglass.

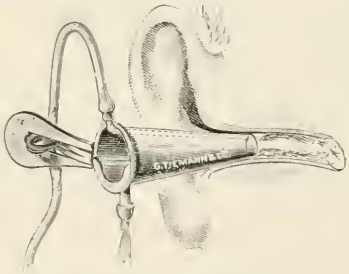
New Instruments.

A NEW DEVICE FOR SYRINGING THE EAR.

By L. G. LANGSTAFF, M. D.,

BROOKLYN, N. Y.

This device may be used for any condition in which it is necessary to syringe the ear. It is attachable to the bag or fountain syringe, to which it may be connected by means of a glass connecting tube or by the small hard-rubber tip which comes with the syringe. The accompanying cut shows its construction and operation so clearly that little in the way of description need be added. Briefly, however, it consists of an ordinary cylindrical metal ear speculum of the middle size. Along its upper wall runs a very small channel which terminates in a small slit-like opening at its inner end, and at the outer end in an expanded portion for the attachment of a connecting tube with the bag. The syringing solution returns through the speculum proper and by means of a tube, if necessary, into a basin supplied for the purpose. This means for conducting the return flow,



A New Device for Syringing the Ear.

however, need only be used when the prolonged application of hot water is required. In these cases I take a small section of thick rubber tubing and slip it over the inner end of the speculum so as to prevent the escape of the fluid on the outside of the speculum in the return. To the handle of the instrument is attached a spring cut-off. Pressure by the thumb on this spring allows the fluid to run; removal of the pressure, of course, stops it. The action is instantaneous; there is no slopping or spilling of the fluid. Instead of the fountain syringe I have attached Valentine's irrigator to it after detaching his metal handle with sliding cut-off. For syringing wax from the ear (for which it is very efficient) the convenience of raising the reservoir to a considerable height is of value.

As regards convenience, safety, and efficiency this instrument has entirely fulfilled my expectations. The jet of fluid strikes the upper wall—where it should—and spreads out over the walls and drum membranes, thus avoiding direct force on the latter. The stream is continuous and steady, and as it is small a large quantity of fluid is not required. Children submit to this kind of syringing with apparent comfort. The use of the instrument requires no skill and in syringing in a case of a suppurating otitis absolute reliance can be placed on the ear being thoroughly cleansed (an indispensable condition to cure) by the unskilled nurse or by the patient himself. The insufficient cleansing of the ear in suppurating conditions I regard as the most potent cause of delayed cure. The kinds of syringes in use in the hands of our patients are easily accountable for this. No child can be expected to stand the explosive jets of air and water which the ordinary piston syringe produces, *i. e.*, providing the stream goes to the drum membrane at all. There is also the danger of so plugging the canal that there is no room for the return flow, thus forcing in or rupturing the drum head. The risk of doing harm in this way frequently results in the inexperienced nurse doing the work in such a perfunctory manner that nothing is accomplished. The way is thus open to the usual dangerous complications.

The indications for prolonged douching with hot water are fully met by this instrument. With the drain tube attachment a patient may be syringed while lying down. In syringing out wax, the constant strong jet of water directed at one point has an excavating power which soon results in the effectual removal of the wax. As a speculum its value is scarcely impaired, only about one-tenth or less of its lumen being occupied by the inner tube. This feature of the instrument has obvious advantages.

19 Seventh Avenue.

AN IMPROVED TROCAR.

By CARL STRUEH, M. D.,

CHICAGO.

As a means of avoiding an obstruction of the cannula by the bowels, which we meet quite frequently in tapping the abdomen and which necessitates the introduction of a sound in order to push the bowels away from the cannula, it is advisable to provide the upper end of the latter with a number of perforations, as is shown in the accompanying illustration.

These perforations make any obstruction of the cannula impossible and allow as complete a draining of the abdominal cavity as is possible under any circumstances.

The strength of the cannula is not impaired by these perforations, if the latter are not larger in size than the head of a pin.

464 Belden Avenue.

Suprarenal Extract in Ear Diseases.—Dr. W. H. Bates (*Hot Springs Medical Journal*), says that we have no remedy so useful for the relief of deafness. Acute cases have been permanently relieved in one treatment. Chronic cases are temporarily improved and require other treatment to obtain permanent results. The remedy is indicated in all forms of deafness, and this author has not met a case which was not benefited temporarily. The method of administration is important and one must use freshly prepared solutions. 1. The solution of the extract is syringed through the punctum of the lower lid down the nasal duct and allowed to flow over the orifice of the eustachian tube. This is repeated until the hearing is no longer improved. 2. The extract is applied to the inferior and middle turbinated bodies until the nose is widely opened. 3. A dfew rops are syringed into the tympanum through a puncture of the membrane tympani. This method does not usually improve the hearing. 4. The internal administration of 5 grains three times a day should be employed in chronic cases, as it is often beneficial. After the hearing has been improved by the suprarenal temporarily, nitrate of silver applied to the eustachian tube is followed by more permanent benefit. Bloodless operations are performed on the middle ear with the aid of suprarenal.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 6, 1901:

	Cases.	Deaths.
Measles	274	10
Diphtheria and croup	251	54
Scarlet fever	376	30
Smallpox	97	15
Chickenpox	40	
Tuberculosis	230	149
Typhoid fever	33	10
Cerebro-spinal meningitis		3

Tenements in London.—During the past fifty years London municipalities have constructed dwellings containing some 6,132 rooms, whilst organized private action has, in the same period, provided buildings containing 50,402 rooms. This total is by no means exhaustive, since it does not take into account certain semi-suburban dwellings, and could not take note at all of all the work of private associations. In an examination of the cost and rent of tenements, Dr. Sykes has stated that the cost of construction varies from £4 ($20) to £40 ($200) per room, for cost of goods, site and sewers, whilst the cost of building varies from £35 ($165) per room in the country to £135 ($675) in London County Council tenements. There has been an enormous increase in the cost of building in London of recent years, and wages in six years have risen from twenty-five to thirty-five per cent., whilst the hours of labor have fallen ten to twelve per cent.—*Public Health.*

Some Points in the Cure of Constipation.—Sir James Sawyer, of Birmingham, England, read a paper on this subject at a recent meeting of the Leicester Medical Society. Habitual constipation, he said, had long engaged his attention, as he took it to be a subject worthy of deep consideration. Constipation must not be confounded with intestinal obstruction. The former concerns the large intestine only, the latter the whole tract, small as well as large. Constipation is slow fæcal passage through the large intestine, where alone fæces are to be found. Intestinal obstruction is practical interference with the passage of the contents in any part. Constipation prolonged may determine organic obstruction, koprostasis, fæcal stagnation. The human fæces consist of a pasty mass of insoluble food, mixed with pancreatic secretion and mucus, colored by bile, and shaped by the intestine. Fæces, besides the above, are more; they are in part an excretion the removal of injurious products. Excretion and the formation of fæces go on when no food is taken, in starvation and fever. People indulge in manifold errors of habit and effort, by altering which many forms of constipation can be relieved. We should all try these methods, before having recourse to drugs and enemata. Patients always wish for a strong purge, but they should be educated to a more reasonable idea. The following rules should guide the medical practitioner: 1. We should never leave these things to our patients; all should be under our control. 2. We should never give drugs until constipation cannot be cured without them. 3. We should never give drugs without well-regulated adjuvants of alvine relief.

The steady use of purgatives shortens life. This is felt when, after the climacteric, the bowel refuses to respond, and chronic constipation results. This may mean ten years off the life of an ordinarily healthy individual. Habitual constipation is a penalty of civilization due to neglect of the desire, due to defecation on a seat, to diminution in activity of the abdominal and respiratory muscles, and to abstinence from fruit. It should be a rhythmical act, once in twenty-four hours, at a fixed time, best after a meal, whether there be want or not, at other times, whenever there be a want, it should never be put off. Resisting the desire drives back the fæces into the sigmoid flexure, by contraction of the rectum, where they can be tolerated. Cancer of the sigmoid may be determined by chronic irritation. Most women are habitually constipated, a condition due to lack of effort, and to the pressure of stays, causing feebleness of the abdominal muscles, besides mechanical obstruction in the ascending and descending colon. In pendulous belly an abdominal belt is useful. The natural position in defecation is that of a child with the knees touching the back of the arms. It is the best position for the abdominal muscles to act, and the hernial orifices are closed. This position may give relief when other measures fail. Women with fat nates have especial difficulty when using a seat. The seats of water-closets are generally too high, and should be lowered by at least six inches. Respiratory exercises before breakfast and dinner are of use: 1. To exert pressure on the liver, place the heels together, raise the arms at right angles to the body and rotate them backwards and forwards, two or three times. 2. Separate the feet, raise the arms and sway from side to side until the hand touches the leg below the knee. 3. The chief points of accumulation are the cæcum and the sigmoid; these parts may be compressed by the psoas and iliacus muscles by standing beside a table and putting first one foot and then the other on it.

Foods: Green vegetables should be taken; fruit, especially apples (cellulose excites peristalsis), and marmalade are excellent for breakfast.

Drugs: Each person has his favorite. Sawyer personally preferred aloes and considered that belladonna and nux vomica were of little use: He was wont to prescribe the following:

℞ Aloës Socotrin ..... gr. i, ii. or iii.
Ferri sulph. ..... gr. ½.
Ext. hyoscayami ..... gr. i.
Ft. pil. t. p. i. n.

The quantity of aloes requires readjustment, generally reduction. Sometimes when a patient is impatient, one must give a drug and turn to adjuvants later. This should be done also in cases of atonic condition with dilated and loaded bowels. Salts and senna, carraway seeds, raisins, and figs are frequently very useful.—*Quarterly Medical Journal.*

Health of European Troops in India.—The statistics of the European Army bear evidence to the healthiness of the year, and the absence of war, in greatly reduced sickness-rates and a comparatively low death-rate. The latter was 12.75 against 20.05 in 1898 and 16.40 in 1889-98. Venereal diseases and ague, were, as usual, the chief causes of admissions, and typhoid fever and hepatic abscess, of deaths. There was only one case of cholera in the whole army—an unprecedented experience. An interesting table shows the mortality from cholera, during the last twenty years in quinquennial periods, indicating a gradual reduction, which is not shared by native troops, prisoners, or the general population. The admission-rate for ague was low, also for remittent and simple continued fever. There was a great decrease both of morbidity and mortality, from typhoid fever. The rates were 20.6 and 5.14 against 36.9 and 10.17 in 1898. The reduction is attributed to the healthy year, fewer drafts, and no field service.

There were eighty-three cases of scarlatina with six deaths, most of which were traced to infected transports. There was a slight rise in tubercle mortality, but other respiratory diseases were not in excess. There was a considerable abatement in fatal bowel complaints. Hepatitis was less common and the mortality from liver abscess was somewhat reduced. The admission rate for venereal diseases was 313.4 against 362.9 in 1898 and 485.7 in 1897. The diminution is explained by the treatment of men with venereal diseases as out-patients, the effect of the new Cantonment Act, and the more prolonged treatment of the cases. There was a great reduction in heat stroke, due no doubt to less exposure and fatigue. Seven cases of plague occurred in four Bombay Stations, with two deaths. The death-rate of officers of the British Army was 8.81, and of the Indian Army 7.36, of women 14.55 and of children 41.99—all better than the average. —*British Medical Journal.*

Opium in India.—According to a statement made by Lord George Hamilton, the area under poppy cultivation in Bengal in 1898-9 was larger than any other year of the decade, and the quantity of opium produced was considerably larger than it was in the preceding year.

Lethal Effect of Yew—The sudden death of a patient, says the *Medical Press*, in Mullingar Asylum from eating yew (taxus baccata) leaves arouses attention to the inadvisability of ornamenting the recreation grounds of asylums with plants and trees of well-known lethal properties. To both men and animals the yew is poisonous, as has been noted by classic writers including Cæsar, Virgil, and Livy. Bentley and Trimer state that the leaves and young branches in all circumstances act as a narcotic acrid poison. Numerous cases of poisoning are recorded in medical literature, as may be seen by reference to works on forensic medicine. That fatal results do not occur more often from the use of the leaves is greatly to be wondered at, for the tree is common throughout the three kingdoms, and they are a favorite domestic remedy for worms, female irregularities, and less seldom as an hypnotic. At one time was recommended in the treatment of heart disease as a substitute for digitalis, over which it was said to possess the advantage of not being cumulative in its effects. In India the fruit and leaves were credited with antilithic properties, and some native physicians claimed litholytic properties for them. As a remedy for convulsions in children and for epilepsy in adults, the infusion of the leaves was once freely prescribed. Their active toxic action would imply that they possess properties that are well worth physiological examination, and they may possibly become a valuable addition to our therapeutic remedies. At present we practically know nothing more than that the tree yields a powerful poison for man and beast, and such knowledge is sufficient to warrant its exclusion from all places where the insane, children, or cattle may eat it.

The Sanitation of Health Resorts and Country Houses.—It is a duty which dare not be neglected to call public attention to the fact that many so-called health resorts are more insanitary than our crowded, smoke-grimed, steam-sodden factory towns. It is not the large popular seaside or "spa" town which is so much to blame in this connection, as the newly-born and pretty little seaside village, which had been discovered and had had greatness thrust upon it by railway companies and excursion agents before it was really prepared to start housekeeping on its own acccount, and has no such thing as a sewerage system or a water supply, and perhaps no engineer to prepare either. The man with a large family is easily lured into sending the said family to such a place, or perhaps to one of the many advertised country farmhouses or cottages, with never a thought of inquiring into anything but the rental. It is not too much to say that the average "small country-house to let during the summer months" is a danger trap, which should be most carefully examined before it is entered. Adults do not suffer from the bad conditions of such houses or "health resorts" to such an extent as children, for they can wander abroad more and their constitutions are firmer; but what a common experience it is for parents on returning home from such places to exclaim with amazement that they cannot understand their child being ill, because it has come back from the seaside or the country only a few days ago! The preventive remedy for such things at present is for parents to get their medical man to make inquiries from the local medical officer of health as to the sanitary state of the place in which they propse to spend their holidays, and to be guided by his advice. But surely it is a matter in which the government might interfere by prohibiting the letting of houses for holiday purposes, unless such houses have previously been certified by the local sanitary authority to be free from all conditions dangerous to health.—*Medical Magazine.*

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, United States Marine Hospital Service, during the week ended June 29, 1901:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS
California, Los Angeles	June 15th to 22d	1	
District of Columbia, Washington	June 15th to 22d	1	
Indiana, Evansville	June 22d	1	
Louisiana, New Orleans	June 15th to 22d	3	1
Kentucky, Lexington	June 15th to 22d	1	
Massachusetts, Fall River	June 15th to 22d	6	
Fitchburg	June 1st to 8th	1	
New Bedford	June 15th to 22d	.	1
Quincy	June 15th to 22d	1	
Michigan, Detroit	June 15th to 22d	2	
Grand Rapids	June 1st to 22d	8	
Missouri, St. Louis	June 8th to 16th	34	
Nebraska, Omaha	June 15th to 22d	5	
New Hampshire, Manchester	June 15th to 22d	1	
New Jersey Newark	June 15th to 22d	.	2
Jersey City	June 16th to 23d	2	
New York, Buffalo	June 19th	1	
Elmira	June 15th to 22d	1	
New York	June 16th to 22d	60	20
Ohio, Cincinnati	June 14th to 21st	4	
Cleveland	June 14th to 21st	24	
Pennsylvania, Lebanon	June 15th to 22d	9	
Philadelphia	June 15th to 22d	2	
Rhode Island, Providence	June 15th to 22d	.	1
Tennessee, Memphis	June 14th to 21st	8	
Utah, Salt Lake City	June 15th to 22d	2	
West Virginia, Wheeling	June 15th to 22d	1	
Wisconsin, Green Bay	June 16th to 23d	1	

SMALLPOX—FOREIGN.

Canada, Stanbridge	June 6 Present		
Colombia, Panama	June 10th to 17th	6	
France, Paris	June 1st to 8th	..	24
Germany, Hamburg	June 1st to 8th	2	
Great Britain, Glasgow	June 7th to 14th	18	1
Liverpool	June 1st to 8th	1	
London	June 1st to 8th	1	
Greece, Athens	June 1st to 8th	1	
India, Bombay	May 21st to 28th	..	8
Calcutta	May 18th to 25th	..	25
Karachi	May 19th to 26th	10	6
Italy, Messina	June 1st to 8th	16	1
Russia, St. Petersburg	May 24th to June 1st	11	6
Warsaw	May 18th to 25th	..	7
Spain, Corunna	June 1st to 8th	..	1
Straits Settlements, Singapore	May 4th to 11th	..	1

YELLOW FEVER.

Costa Rica, Port Limon	June 13th	1	

CHOLERA.

India, Bombay	May 21st to 28th	..	3
Calcutta	May 18th to 25th	..	65

PLAGUE.

China, Hongkong	May 11th to 18th	122	113
Egypt, Hiniet	June 3d	2	
Zigasac	June 3d	1	
India, Bombay	May 21st to 28th	..	192
Calcutta	May 18th to 25th	..	47
Karachi	May 19th to 26th	112	107
Japan Formosa	May 21st	41	29

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HYDROPHOBIA, AND THE PASTEUR METHODS.

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WHOEVER is familiar with the history of medicine knows of curious changes in the way in which certain subjects have been considered. There was a time, for example, when the diseases of the human body were attributed to supernatural, or rather superhuman agents; afterwards they were attributed to changes in the material parts of the organism; at another time they were attributed to changes in the spiritual essence with which it was believed to be infused, while now the general theories of disease are in accord with the prevalent materialism. Likewise the whole conception of disorders changes from time to time, so that it is with difficulty that we get a clear idea to-day of what some of the older writers intended in their descriptions. This, which has taken place in the large field of medicine, and in long ages, sometimes proceeds more rapidly, and a few years suffice to put old observations and theories in new and strange lights. This is the case in regard to what for many centuries has been called hydrophobia. There was a time when, to write intelligently on this subject, one could follow the plan usual with scientific students, of collecting facts, analyzing and comparing them, and deducing conclusions as the result of a logical process. But since about fifteen years ago this has been changed. As Mohammed swept before him those who questioned his divine authority, so has the school of Pasteur, followed by an admiring, if not a critical, multitude, swarmed over the face of the scientific world, brushing aside all the knowledge in regard to rabies accumulated before its day and reducing to a small remnant those who think that the sneering epithet of "obscure blasphemers" hurled at them by one of the blindest of Pasteur's advocates (Verneuil), can be borne better than the abandoment of what they regard as the truth and the proper way to determine the merits of a scientific question.

Under existing circumstances, I will not to-day repeat or add to what I have often before done, by presenting a methodical study of the history of hydrophobia, of its nature, of its pathology, of its diagnosis, or of its treatment. I shall rather state some facts, bearing on the merits of the claims of the followers of Pasteur, that I think are not known to all who wish to hold sensible opinions in regard to the nature of hydrophobia and its management.

Fifteen years ago I published[1] an elaborate criticism of the way in which Pasteur arrived at the conclusions he gaily announced to a correspondent of the *Paris Figaro*, as follows: "Anybody bitten by a mad dog has only to present himself at the laboratory of the Ecole Normale, and by inoculation I will make him completely insusceptible to the effects of hydrophobia, even if bitten subsequently by any number of mad dogs." Later he said: "Whoever gets bitten by a mad dog has only to submit to my three little inoculations, and he need not have the slightest fear of hydrophobia." And, again, in reliance on his brilliant assumptions: "I am confident my treatment will be successful if commenced at any time before actual hydrophobia sets in, even if a year elapses between the bite and the commencement of treatment."

It is curious to note that all these boasts have been abandoned with a quietness in marked contrast to the trumpetings with which they were announced. The Pasteur treatment has never rendered a single person "insusceptible to the effects of hydrophobia;" there are now no "three little inoculations;" and the large number of deaths following the application of the Pasteur method soon led to the remarkable evasion contained in the plea that deaths occuring during or within fifteen days after the conclusion of the treatment were due to the fact that it was used too late. (In passing, the observant reader may inquire, what it is that so shortens the incubation of a disease that rarely manifests itself in periods as brief as have sufficed to see the end of many who fled from it to the refuge offered by Pasteur Institutes.)

These failures in what Pasteur claimed are the more distressing when we reflect that for them he had abandoned a much safer and better way of ridding the world of hydrophobia, namely, by eradicating the disease in dogs. Only a year before, at the Inter-National Medical Congress at Copenhagen, he, while on the platform, received a timely telegram from Paris announcing the complete confirmation by a French Commission of his claim to have discovered a sure method of protecting dogs against contracting rabies from bites. Amid shouts of applause he read this telegram to the audience and accepted the homage of those who did not know—as I know, by carefully analyzing the report of the Commission[2]—that of forty-two experiments reported only two—so far as the report informs us—were carried to a conclusion, and that there is no evidence in the report of the fact that the members of the Commission were free from the idolatrous credulity with which Pasteur at that time inspired the French or exercised any such care as was needed in so important and delicate a matter. The positive terms in which this Commission endorsed the claim of Pasteur that he could protect dogs against contracting rabies might well fill the hearts of those who listened with hope for mankind and with admiration for its benefactor. But, alas! I cannot find that from that day this sure way of removing

[1] Comments on Pasteur's Method of Treating Hydrophobia, MEDICAL RECORD, Feb. 13, 1886.

[2] *Gazette Hebdomadaire de Méd.*, Août 15, 1884, pp. 547-549.

hydrophobia from the earth has ever been put in practice: And the disillusion—did it come? Not in the least! The fiasco seems to have escaped the attention of the medical profession, lost in wonder at a new claim of this master of pyrotechnics. This new claim was that he had discovered, as stated above, another "sure" method, namely, that of preventing the outbreak of hydrophobia in persons bitten by rabid animals.

This announcement, like the one before mentioned, was hailed with acclamation, and those who had not detected the flaws in Pasteur's reasoning, the contradictions in his statements, and his failure to carry out projects that he had outlined, greeted him with most extravagant terms of praise. In this country some of his admirers, with misguided zeal, hastened to follow his lead in such ways as their varying ignorance of the matter suggested. For example, in December, 1885, a New York admirer endeavored to propagate the fancied germs of hydrophobia, cultivated in glycerine and agar, and the first "American Hydrophobia Institute" was organized, with well-known names back of it. At the same time, a similar institute was started in St. Louis, absurdly promising to be prepared to treat all comers within three weeks. These institutions seem to have perished at birth or soon after; and it was some years before a French immigrant established a Pasteur Institute in New York, while another foreigner set up one in Chicago. About three years ago a third was opened in Baltimore, where there had been some disappointment because four persons out of eight, sent to the New York Institute in December, had died within about two weeks of the time of their treatment. In other lands Pasteur Institutes have been established in such numbers that I know of more than twenty such institutes in different parts of the world.

I have endeavored to learn what have been the actual results of the Pasteur treatment on the mortality from hydrophobia, and I am sorry to say that these results entirely agree with the expectations I had formed from an abstract consideration of Pasteur's work. It has been claimed that a very large number of lives have been saved, and comparisons emanating from Pasteur Institutes—and often cited by persons with a very superficial acquaintance with the facts—make it appear to the unwary that before the inauguration of this method the mortality from hydrophobia was one to sixteen, sixteen per cent, or even fifty per cent. (taking different Pasteurian authorities), while the mortality has been reduced by the treatment to about one-quarter of one per cent. In a circular issued in 1899 Pottevin claimed that at the Pasteur Institute in twelve years there had been treated 21,631 persons bitten by animals. Of these, he says, only ninety-nine have been lost: "That is 21,532 human lives that Pasteur and his disciples have saved." Well may Lutaud[3] exclaim: "So the directors of the famous Parisian Institute have the audacity to try to make us believe that, without the discovery of the great Pasteur, 21,631 persons would have succumbed to hydrophobia and that in France alone." And, shall we blame him, when he says that such a statement is not an audacity—but a lie?

These absurd and false statements I have repeatedly criticised in public addresses; but these criticisms fall on stony ground when addressed to men whose minds accept as trustworthy figures that imply that, but for the Pasteur method, the deaths from hydrophobia would, in the years succeeding its establishment, have multiplied enormously beyond anything known in previous history. The last time I made a statement of this kind to a medical society that I had been invited to address, one of its most distinguished members jocosely told the society that I knew nothing about the subject, and another, equally distinguished, met my statement that deaths from hydrophobia had not decreased but increased in France, by reading from a slip of paper statistics purporting to show a progressive and rapid decrease in the mortality. The latter fell into error —which he soon after admitted to me in writing—by quoting at second-hand a statement made by one connected with the Pasteur Institute in Paris that referred, not to the mortality from hydrophobia in France, but to the claim for a comparative reduction in the mortality among persons subjected to Pasteur's preventive inoculations.

The fact is that I find, in going over the work of a number of Pasteur Institutes, that hydrophobia has proved to be a more fatal complaint since their establishment than it was before. I have in my notes a memorandum of the deaths from hydrophobia in the city of Paris for the five years preceding and the five years following the inauguration of Pasteur's methods. The figures are taken from reports of Dujardin-Beaumetz to the Academie de Médecine[4].

This will be seen to furnish, for the years 1880 to 1884, forty-three deaths, and for the years 1885 to 1889, fifty-nine deaths. In addition to this, a large number of deaths followed the Pasteur treatment which are not included in these statistics. The figures vary from year to year in the two lustrums referred to above, but the only material difference between them is that in the first we have four deaths for the lowest and twenty-one for the highest, while in the second we have three for the lowest and twenty-two for the highest—the latter being for the year in which the Pasteur method was brought out, when the largest advertisement of it was made in the newspapers of Paris, when everybody was talking about it all over the world, and when cases of lyssaphobia multiplied everywhere in consequence of this morbid discussion. So marked was the increase in deaths from rabies among animals at this time in France that I find Nocard,[5] in 1888, speaking to the Academie de Médecine of Paris of the cases occuring in Paris, says that a like increase was observed "everywhere in France;" while in 1892 Galtier declares[6] to the same body that hydrophobia has "singularly increased."

I have recently studied with interest the statistics given in an elaborate work on hydrophobia by Dr. A. Högyes,[7] of Budapest, who is at the head of the Pasteur Institute in that city. After citing some of the imperfect statistics of previous years giving the annual mortality in different countries as follows: Prussia, 19.5; Bavaria, 3.5; Belgium, 2.6; England, 10; Scotland, 1; Sweden, 5.8; France, 30; Hungary, from 1809 to 1818, 25, he sets down the annual mortality in Hungary, from 1881 to 1885, as 9.6. In connection with these figures it is noticable that he says the deaths in Hungary were, 22 in 1886; 9 in 1887; and 15 in 1888.

[3] *Journal de Médecine de Paris*, Sept. 17, 1899, p. 377.

[4] *Bul. de l'Acad de Méd. de Paris*, xxi., 1889, p. 367, xxiii., 1890, p. 452.

Lustrum preceding:		Lustrum following:	
1880	4 deaths.	1885	22 deaths.
1881	21 "	1886	3 "
1882	9 "	1887	9 "
1883	4 "	1888	19 "
1884	5 "	1889	6 "
	43 "		59 "

[5] *Bul de l'Acad. de Méd. de Paris*, xxi., 1889, pp. 373–378.

[6] *Bul. de l'Acad. de Méd. de Paris*, xxvii., 1892, p. 405.

[7] Nothnagel, Specielle Pathologie und Therapie, V. Bd., V. Th., 2 Abth., Art. Lyssa.

In another part of his work[8] he states that the deaths from April 1900, to December 31, 1895, were as follows: Of those submitted to preventive inoculation, 106; of those not inoculated, 132. This is a total of 238 in five and three-fourths years, or over forty-one annually. If this is compared with the figures he gives from 1881 to 1885, namely, 9.6, it will be seen that there appears to have been an increase to over four-fold what had taken place before. Another curious feature of his statistics is the fact, that in Germany, from 1889 to 1894, 4,352 cases of actual or suspected rabies occured in dogs, and there were only ten deaths in human beings, that is, one death to 435 cases observed in dogs. In France he gives a record[9] for the same period of 6,327 cases in dogs, and states that 8,275 Frenchmen were treated in the Pasteur Institute in Paris. On the most moderate estimate of the ratio of mortality to bites accepted by the Paris Institute, this would have furnished 516 deaths, if untreated, or one to about twelve cases in dogs. In other words, it appears that there is an enormous discrepancy between the ratio of deaths from hydrophobia to cases of rabies in dogs in Germany and that in France—the latter having a mortality thirty-eight times as great.

This great disparity between France and other countries has not altogether escaped the attention of the followers of Pasteur, who, in France, have added to their other evidences of ignorance of what goes on outside of their own country by claiming that the comparative immunity of England, Belgium, Holland, Austria, and Germany is due to the administration of effective muzzling laws.[10]

As a matter of fact, the muzzling laws of England are as inefficient as they are in this country, and those of Germany do not prevent the taking up annually of a very large number of unmuzzled and suspected animals whose opportunities for biting are quite sufficient to cause a large number of deaths from hydrophobia. The contrast between Germany and France is further shown by the statement that in Prussia there was, in 1895, not a single death from hydrophobia, though 386 cases of mad dogs were reported, and 906 suspected animals in addition were killed by the police.[11]

I will not pursue further this line of argument. I think a conscientious examination of the statistics of every country where Pasteur Institutes have been widely exploited will show that the deaths from hydrophobia have actually increased.

One way in which this comes about is that the men at the head of these institutions, in addition to making unwarranted promises of cure, sometimes make equally unwarranted prognoses of fatal issue. In some cases these prognoses may be fairly assumed to exert a most unfavorable influence upon the patients, in other cases the patients recover in spite of them, and thus expose the ignorance as well as the lack of conscience of those who have been made them.

It is probably generally not known that in different parts of the world men with no interest whatever except the good of their fellow-beings have raised their voices in protest against the unprincipled assertions and behavior of those who have been most active in propagating the Pasteur theory in regard to hydrophobia. It will not do for the advocates of this theory to attempt to depreciate the force of what these men say by intimations that they are inferior in intelligence to those who have gone with the heedless crowd. In France, from the very beginning, the good and great Professor Peter protested against the mania which suddenly seized his countrymen in regard to Pasteur; while Dr. Lutaud, Editor of *The Journal de Médecine de Paris*, has unremittingly and conclusively exposed in his *Journal* and in a book,[12] the fallacies and the unblushing falsehoods put out by persons connected with the Pasteur Institute in Paris; while in England, Dr. Thomas M. Dolan, for years an investigator of the subject of hydrophobia and author of several books on the subject, has exposed the Pasteur theory in a carefully prepared book,[13] and Surgeon-General C. A. Gordon, of the British Army, has written a book[14] in which he exposed many of the fallacies put forth as argument by Pasteur and his followers.

In my long experience as a controversialist on this subject, I have failed so far to find a supporter of Pasteur who showed any practical acquaintance with the arguments of these authors. They all seem to have been satisfied with the presentations of the case which came from persons devoted to the Pasteur theory; while those who are opposed to the Pasteur theory are far more accurately acquainted with the whole body of assertions and arguments of its defenders than any one of them appears to be.

The most recent publication illustrating this particular weakness is a report on Rabies by the Committee on Public Health of the Medical Society of the District of Columbia, issued in 1900 by Dr. D. E. Salmon from the Bureau of Animal Industry in the United States Department of Agriculture. In this I observe a number of what might be called "conventional" loose statements—so regularly are they repeated without any attempt at verification by the devotees of the Pasteur theory—and especially Pasteur's utterly unwarranted and false statements in regard to the mortality rates after bites of rabid animals, and the relative mortality after bites at certain ages and after bites upon certain portions of the body. After nineteen years of assiduous studying of the various aspects of the subject of hydrophobia, I feel warranted in expressing the opinion that there is no more conspicuous mark of unfitness to discuss it than the credulity which accepts statistics put out by a number of so-called Pasteur institutes with the constructions placed upon them by their collators, or the cowardice which prevents disputants from challenging what comes from sources that they know to be tainted with fraud. Some of these points I discussed in a paper published in 1894.[15] In this paper—which is accessible to any one who wishes to employ it for his information or who wishes to correct its statements in proper scientific fashion, I have stated the results of my personal investigation in regard to the points just named, and have compared them with the findings of other investigators. From this paper I quote the following statements.

"In regard to the relation of the period of incubation to the age of the patient and the situation of the bite, the statistics of the United States for the last six years are, I think, very instructive. They indicate precisely what is found upon studying the thousands of cases reported in books and medical journals which I have investigated, namely: That the facts do not in the least support the theory that bites near the center of the nervous system are more dangerous or more likely to be followed by a brief period of incubation than those inflicted on more re-

[8] Op. Cit., page 169.

[9] Op. Cit., page 11.

[10] Dujardin-Beaumetz. *Bul. de l'Acad. de Med. de Paris*, xxvii., 1892, p. 863.

[11] Medical Record, October 23, 1897, p. 601.

[12] Études sur la Rage, Paris; 1891.

[13] Pasteur and Rabies, London, 1890.

[14] Rabies and Hydrophobia, London, 1887.

[15] Report on Hydrophobia, *Medical News*, June 16, 1894.

mote parts. In our statistics we find a child four years old bitten on the face, with an incubation-period of nearly five months, and a man thirty-five years old bitten on the hand, with an incubation-period of only four weeks. We have also a four-year-old child bitten on the finger, with an incubation-period of three weeks, and an adult bitten on the leg, with an incubation-period exactly the same. Taking all the cases together, we find that after bites on the face the incubation-period was less than the time-honored quota of six weeks in only a third of the cases, while the same is true of a full fourth of the cases of bites on the hand and wrist. These facts correspond to what other statistics show. Nobody can predict the length of the period of incubation, even approximately, from a knowledge of the seat of the bite or from a knoweldge of the age of the patient. Assertions to the contrary are either pure assumptions or are founded upon averages, which are false and misleading." In the same paper I published the subjoined table:

TABLE OF SITUATION OF BITE, AGE OF PATIENT, AND PERIOD OF INCUBATION.

Face.			*Hand and Wrist.*		
Age.	Incubation.	Remarks.	Age	Incubation.	Remarks.
Baby.	3 w'ks.		5 years	4 w'ks	Cauterized.
4 y'rs	6 "	Cauterized.	11 "	3 "	
4 "	6 "	"	11 "	9 "	
4 "	8 "	"	12 "	8 "	Dog not rabid
4 "	19 "		13 "	19 "	
5 "	3 "		15 "	sev'l "	
6 "	6 "		15 "	22 "	
6 "	6 "		19 "	10 "	
8 "	9 "		22 "	9 "	
9 "	13 "		28 "	7 "	Cauterized.
11 "	3 "		Adult	4 "	
13 "	6 "		"	5 "	
Adult	3 "		"	8 "	Cauterized.
"	3 "		"	9 "	
"	6 "	Total, 15.	"	13 "	
			"	13 "	
Arm.			"	78 "	
14 y'rs.	13 w'ks.	Cauterized.	"	12 years.	
Adult	13 "		35 years	4 weeks.	
40 y'rs	13 "	Total, 3	48 "	6 "	
			48 "	13 "	
			50 "	40 "	Cat-bite.
Leg.			53 "	8 "	
7 y'rs	18 weeks.		Old	13 "	Total, 24
Adult	3 "				
"	13 "	Total, 3			

This table gave the details of the cases occurring in the United States in the six years preceding 1894.

When I began the study of hydrophobia my views were practically the same as those of conservative writers in the text-books; but I soon became impressed with the insufficiency of the evidence I found to establish the fact that hydrophobia is a disorder which can be regarded as specific in the sense in which this term is properly employed. I know that a fairly consistent train of symptoms, usually ending in death, has followed the bite of dogs believed to be rabid; but the study of a very large number of cases has left me with the conviction that this is about as likely to follow the bite of a dog that could not be suspected of being rabid. In 1895, in a report to the Medical Society of the State of Pennsylvania,[16] I said:

"I have, since we last met, made a study of my records for five years of what I have labelled "mad dog scares" in my notes. The result of this study indicates that in fifty-five instances of alarms about mad dogs, with a record of one hundred and seventy-five persons (of all ages) bitten, I have found only three deaths from so-called "hydrophobia." This, if correct, would indicate that the natural mortality from the bites of rabid dogs is 1:58, or less than 2 per cent. The vast majority of the deaths attributed to hydrophobia have followed bites by unsuspected dogs, and very few have followed bites by dogs that ran amuck and that excited alarm at the time. It is a very curious fact, taken in connection with this one, that a very large number of the deaths from so-called hydrophobia follow the bites of dogs that had no history or appearance of any disease.

"The number of cases for the past year is about what I have before reported for other years. The total probably does not include all the cases that have occurred in the United States; but I think that it represents the actual figures as accurately as the statistics attainable in other countries, without government assistance in the work of collecting statistics. Against this number of actual deaths we may set the absurd claims put out by Pasteur institutes of so-called "cures." Last year the institute in Paris treated 1194, all supposed to be liable to die of hydrophobia; and these figures will probably be used to support the assertion copied into books all over the world, that Pasteur has reduced the mortality from hydrophobia to less than 1 per cent. of those bitten by rabid animals. It is astonishing and disheartening to find men occupying responsible professorial positions who fail to see the utter fallacy of such claims or to appreciate the wrong they do by accepting and approving them."

So much in regard to theoretical considerations. I wish at this time to add a word or two about the practical application of my convictions. I have noticed in some recent publications in regard to rabies, insinuations that those who did not share the opinions of the Pasteur followers should be held responsible for the ravages of this dreaded disorder. Perhaps I have no reason for championing those who are thus referred to beyond the fact that if my own views have not escaped notice it may be that those who do not agree with them—in addition to holding views that I regard as unwarranted by the accessible evidence—do not know that I am quite in favor of the measures which their own school has praised as most useful in preventing hydrophobia, namely: the proper muzzling of dogs. In May, 1900, in reply to a letter from one of the Commissioners of the District of Columbia, asking my opinions in regard to the enforcement of a regulation for muzzling dogs, I said: "I favor a dog-muzzling law and its thorough application:—First, because I consider it proper to adopt any reasonable measure to allay a fear which is genuine, even though it be exaggerated. Second, because the most innocent attacks by dogs are sometimes followed by most disastrous consequences. If a so-called rabid dog is little more dangerous than a healthy one, it is equally true that a healthy dog is little less dangerous than a rabid one. And I think the community should have full and constant protection against dog-bites, irrespective of questions in dispute about hydrophobia." From this it will be seen that I consider the most important measure for limiting the ravages of this disorder—no matter on what theory it may be accounted for—would be the removal of causes of alarm in regard to it.

Finally, I desire to repeat what I have publicly said a number of times and what I wish could be properly appreciated by the profession: I fear we shall never have a correct idea in regard to what is called hydrophobia or success in managing it until the profession wholly abandons two measures the pernicious influence of which no one can understand without years of continuous study, namely, the use of caustics, and especially of the nitrate of silver in the treatment of suspected bites, and the use of narcotics and violent restraint in the management of the fully developed disorder.

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THE ETIOLOGY OF ALOPECIA,*

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AT a meeting of the American Medical Association in 1899, I read a paper on the subject of alopecia, in which I advanced the theory that the form of this disease commonly met with in male adults, is caused by a poisonous material circulating in the general blood current.

I further stated that this pathological condition is the result of an auto-infection, in which the offending substance is absorbed by the blood from the air-cells of the lungs, where it has been elaborated by decomposition of the organic material normally present in respired air.

In this paper it is my purpose first to explain the particulars of this same theory, then to call attention to the seeming completeness with which it accounts for the presence or absence of alopecia among certain classes of individuals, and finally to give the results of a series of experiments based upon it and applied to various animals.

Along with all this, by implication, however, rather than by direct statement, it is hoped that attention will be drawn to a locus of infection in the human body that, in the opinion of the writer, has not been accorded the consideration its importance seems to call for.

The Theory.—In order to explain the nature of the theory, it is necessary first to recall to some extent the anatomy of the human thorax and lungs, and to touch upon some features of the physiology of respiration.

The thorax is a framework consisting of bones securely joined together by muscles and other tissues, and in shape may be said to be a truncated cone.

The ribs, which form the chief part of the vertical portion of this cage, are attached to the bodies of the dorsal vertebræ by arthrodial or sliding articulations, and, as they pass around to the front of the chest, gradually increase in length from the first to the seventh, after which they gradually shorten. Also, beginning with the first, which lies nearly horizontal, the ribs gradually increase in downward obliquity until the ninth is reached, below which this characteristic becomes less marked.

The diaphragm, which forms the floor of the thoracic cavity, is attached anteriorly to the cartilage of the sixth rib, a fact which lets us see that the thorax itself is a cage with a gradually increasing circumference from top to bottom, and also, in the same order, with a gradually increasing downward slope of the ribs, which form the chief part of its wall.

The inside of the thorax is lined, on each side, with the parietal layer of the pleura of the corresponding lung, which is adherent to the ribs, cartilages and intercostal muscles, and to the diaphragm. Beneath this membrane is the visceral layer of the pleura, which is lightly adherent to the lungs itself. There is between these two layers of pleura the so-called pleural cavity, but in health this space is so small that the two layers may be said to be in close contact with each other, and kept so by the atmospheric pressure of fifteen pounds to the square inch. The object in calling attention to the lack of space between the parietal and visceral pleura is to emphasize the fact that in health the lungs, although not actually attached to the thoracic wall, are yet intimately moulded to its inner surface, and that they continue persistently to maintain this relationship, whatever be the frequency or extent of changes in the shape or size of the thorax itself.

Respiration, for the accomplishment of which the structures just referred to have been provided, can be separated into inspiration and expiration. Inspiration is produced by muscular exertion elevating the down-sloping ribs, or depressing the piston-like diaphragm, the result of either of these procedures, or of both combined, being to enlarge the chest cavity and thereby cause air to rush through the trachea into the lungs, in conformity with Nature's edict concerning the existence of a vacuum. Expiration, on the other hand, is produced, not by muscular effort, but by gravity and the elastic property of the tissues of the lungs themselves. These acting together exert sufficient force to bring the chest back to its contracted condition as soon as opposing muscular stress has been removed. In forced expiration, muscular exertion, of course is called into requisition.

Besides a separation into its component parts, respiration can be classified into types which are based respectively on the part of the thorax chiefly involved in each one's production. Thus when the upper ribs take an active part in the process of expanding the chest, so as to produce inspiration, the breathing is said to be of the *superior costal type.*

When, on the other hand, the lower ribs and diaphragm take an active part in this function, while the upper ones remain immovable (a condition always possible on account of the origin and insertion of certain muscles, such, for instance, as the musculus accessorius ad sacro-lumbalem), the breathing is said to be of the *inferior costal type.*

Finally, when the diaphragm alone is concerned in carrying on the function under consideration, the breathing is said to be of the *diaphragmatic* or *abdominal type*, the latter name being given on account of the movement imparted to the anterior abdominal wall when this mode of respiration is employed.

Turning our attention now to the lungs themselves, we find that they contain hundreds of millions of hollow minute spaces called air-cells, which in size vary from 1-200 to 1-70 of an inch in diameter and which combined present a surface from 100 to 130 times greater than the superficial area of the body. These air-cells are assembled in distinct masses or groups about the dilated extremities of the bronchial tubes, so as to form so-called lobules.

A crude representation of one of these lobules may be made by comparing it to a bunch of hollow grapes, which, at its center, has an elongated cavity that connects with each grape by a small opening and with the main trunk by a hollow stem.

The lobules themselves, closely invested externally with blood vessels, lymphatics, and nerves, so that each lobule may be regarded as a complete lung, a fraction of an inch in diameter, are placed close to each other throughout the lungs, and are held securely in position by a network of areolar fibrous tissue.

On account of this arrangement of the lobules air within the lungs is held in small sacks, so to speak, which are connected by small tubes, of greater or less lengths, with a common cavity extending outside the body, and from this circumstance there results a condition of great importance.

This is, that *air is received or expelled by any part of the lungs only as there is, at the same time, expansion or contraction of the chest wall overlying the part in question;* and conversely *when there is no movement of a portion of the chest wall there is no air received or expelled by the air-cells of the lungs lying beneath the portion of chest wall under consideration*, and all this, in both instances, without regard to the amount of air that may be in the lungs at the time.

*Read at a meeting of the Detroit Academy of Medicine, June 11, 1901.

A rough demonstration of the principle involved may be made as follows: Suppose a number of small bellows to be ranged in a row and connected by their nozzles with the cavity of a tube, which is open at one end and closed at the other, and that force is applied to one of these bellows in such a way as to diminish or increase its size. In such case there is disturbance of the air in its own interior and of that in the tube with which it connects, but not of the air in the bellows left unacted upon. The reason for the latter statement is that the air in these bellows is enclosed in dead ends, so to speak, and air rushing past the openings by which they connect with the tube can at most do nothing more than create small eddies in the air of their nozzles—an effect that can cause no appreciable disturbance of the air in the bellows itself.

Each lobule of the lungs, with its bronchiole, 1-70 of an inch in diameter, connecting it with a larger tube, may be compared to one of the bellows above described, and like it will have its enclosed air disturbed only when its own bulk is increased or diminished by outside force.

An application of the rule we have just been endeavoring to establish to the different forms of respiration above mentioned gives the following results: When the superior costal type of respiration is employed, air is received and expelled by every part of the lungs. The reason for this is that, in this form of breathing, the upper ribs rise during inspiration and, in so doing, necessarily lift up the others, since all the ribs are connected together; and during expiration all the ribs descend together, for the reason that gravity and elasticity of the lung tissue (the forces concerned in this portion of the respiratory act) affect all alike.

When the inferior costal type of breathing is employed, however, a different condition prevails. In such case, there is no movement of the extreme upper ribs, and in consequence of this and in accordance with the rule just formulated, there is no air received or expelled by the portion of lungs lying beneath the motionless upper ribs.

And when the abdominal type of respiration is employed, a form of breathing in which there is practically no movement of the ribs, the feature that forms the chief result, when the superior costal is supplanted by the inferior costal type of respiration, becomes still more pronounced.

Considering the foregoing we can say that, when the respiration of the human individual changes gradually from the superior costal to the abdominal type, there is developed, fairly early in the process, a condition wherein the extreme upper portion of the lungs neither receives nor expels air with the respiratory act; and further that, as the transition in the type of breathing goes on toward its limit, the extent of this area of unused lung becomes larger and larger, and finally reaches its greatest radius when true abdominal breathing has become established.

In a given case it is probable that the extent of unused lung is not fixed, but is one that varies considerably under different influences—such as exercise. Be this as it may, it can be said of it with certainty that it is always located at the upper portion of the lungs and that it contains respired air. Reasons for the first of these statements have already been given. The second depends for its proof on the fact that after the lungs uncollapse, so to speak, at birth, and receive into their interior the breath of life, they never again return to an airless condition except as a serious complication of disease. To ascertain the amount of air left in the lungs at the end of expiration we have to turn to our physiologies again. According to these the amount of air expelled in ordinary quiet respiration is but $\frac{1}{5}$ of what the lungs contain. This lets us see that when a portion of lung is left unused it still contains $\frac{5}{6}$ as much air as it does as the end of inspiration.

The air remaining in the lobules and tubes of the unused portion of lungs will be termed respired air, although it must contain much more of the materials normally eliminated by the lungs than the so-called tidal air of respiration, which has rested within the lungs but a comparatively short time.

Now respired air contains, among other substances, *organic material*. This has been known for years. Austin Flint, Jr., in his "Physiology of Man," published in 1868, says: "The pulmonary surface exhales a small quantity of organic matter. This has never been collected in sufficient quantity to enable us to recognize in it any peculiar or distinct properties, but its presence may be demonstrated by the fact that a sponge completely saturated with the exhalations from the lungs, or the vapor from the lungs condensed in a glass vessel, will undergo putrefaction, a property distinctive of organic substances."

E. T. Reichert in "An American Text-Book of Physiology," published in 1900, comparing expired with inspired air, says: "Expired air is 4.78 volumes per cent. poorer in O; 4.34 volumes per cent. richer in CO_2; it is saturated with water vapor, and is of higher temperature and of less actual volume. In addition expired air contains various effete bodies, such as organic matter, hydrogen, marsh-gas, etc."

In this quotation, attention is directed not only to the statement concerning the presence of organic matter, but also to the assertions that respired air is warm and saturated with water vapor.

Taking into consideration what has been written to this point, it can be said that, on account of his mode of respiration, the human individual frequently allows respired air to remain undisturbed in the upper portions of his lungs; and that when he does permit this to happen, there is present, in an absorbing cavity of his body, organic matter in the presence of warmth and moisture — a condition most favorable to the development of decomposition.

Now it is the contention of the writer that when the above conditions have been established long enough for such process to occur, decomposition of the organic matter present always does take place; and that, as this retrograde change goes on, a product is elaborated, which being taken up by the blood, exerts a selective poisonous action upon the growth of the hair, and thus becomes the cause of the form of alopecia under consideration.

Application of the Theory to Various Classes of Human Individuals—Men and Women.—Simple observation is sufficient to establish the fact that young adult females rarely suffer from alopecia, while males, of a corresponding age, very commonly do so. According to the theory we are endeavoring to establish, this means that the former regularly employ the superior costal type of respiration, while the latter frequently make continuous use of a different mode of breathing. That these are the conditions that actually prevail, the following quotations and statements are presented as proof:

In "An American Text-Book of Physiology," to which reference has already been made, occur these words concerning respiration: "The costal type is well marked in women and the diaphragmatic type in men."

In Dalton's "Treatise on Human Physiology" may be found the following: " . . . in the adult male, in the ordinary quiescent condition, the diaphragm per-

forms most of the work in the act of respiration; and the movements of the abdomen are the only ones which are especially marked. . . . In the female the movements of the chest, and particularly of its upper half, are habitually more prominent than those caused by the action of the diaphragm; and this difference in the mechanism of respiration is a characteristic mark of the two sexes." Further quotations of a similar nature might be made but these are deemed sufficient for the purpose for which they are given.

To investigate the causes for these differences in the type of respiration employed by the two sexes, hardly comes within the scope of this paper. Since, however, the costal type of breathing is developed in women to a degree far beyond what is possible in men, it may not be out of place to glance over some of the reasons involved.

In the first place, the dress of women, of all civilized countries, at least, is such that descent of the diaphragm is greatly restricted, and the consequence, among these persons, the costal type of respiration, is adopted as a matter of necessity.

In the second place, this mode of respiration can be carried on much easier in women than in men, for reasons of an anatomical nature. In Gray's "Anatomy" occur these words: "The ribs, generally, are more movable in the female than in the male." In another part of the same work is the following: "The upper border of the sternum is on a level, in the male, with the lower part of the body of the second dorsal vertebra, and in the female with the lower part of the body of the third." This is equivalent to the statement that the anterior end of the first rib, which is attached to the same portion of the sternum in both sexes, in the female has a range of motion greater than it has in the male, by the thickness of the body of the third dorsal vertebra—a matter of nearly an inch.

Now the greater the distance the anterior ends of the ribs travel, in moving from the oblique toward a horizontal position, the greater the expansion of the corresponding portion of the chest, or what is the same thing, the greater the disturbance of the air contained in the lungs lying beneath.

Considering the foregoing, we can say that, on account of dress and also on account of great mobility and range of motion of the ribs, women regularly make use of an exaggerated form of upper costal breathing; while men, on account of absence of obstruction to descent of the diaphragm, and also on account of limited mobility and range of motion of the ribs, frequently make no use of this type of respiration.

In this connection, the writer can state that, within the past few years, he has seen three young adult women suffering from alopecia, and that in each of these cases the disease followed an attack of pleurisy or pleuro-pneumonia, accompanied by painful adhesions, which interfered with superior costal breathing.

Adults Suffering from Pulmonary Tuberculosis.—Common observation, as well as the writings of numerous medical authorities, shows that these unfortunate individuals, as a class, not only are not affected by alopecia, but on the contrary, are usually rendered conspicuous by the luxuriance of their hair growth.

The theory under consideration explains these conditions in the following manner. In tuberculosis of the lungs the disease is usually located at the apices. When this is the case, the only part of the lungs where air can remain stagnant is either solidified by the pathological process present, or the absorbing power of the walls of the air-cells is rendered nil by the same agency. And when the disease is located in some other portion of the lungs, the demands of the system for compensation to make up for loss of lung tissue, brings into action all portions of the lungs remaining unaffected.

Persons Leading Sedentary Lives.—That individuals, who may be classified under this head are particularly prone to suffer from alopecia is assumed as a matter of fact. According to the theory, there may be a double reason for this. One is that lack of exercise lessens the quantity of air needed by the system for the purpose of oxygenating the blood, and in consequence lessens the expansion of the chest during respiration. The other is that the head-bent-forward posture, so often assumed by persons of this class when working over desks, causes the scaleni muscles (those three muscular strips that pass down on either side of the neck from the cervical vertebræ to the two upper ribs, and in quiet respiration elevate the upper part of the thorax) to become relaxed to such a degree that muscular contraction in them, sufficient to elevate the ribs when the head is erect, is wasted to a greater or less extent in taking up slack. On account of this there is a constant tendency for individuals of this group to lose whatever superior costal breathing they may have started with and come to employ more and more some other type of respiration.

The Aged.—That alopecia is common among the aged of both sexes is a statement that calls for no proof. The cause for this condition has usually been ascribed to senile changes in the hair itself. The theory we are presenting, however, offers a different explanation of this phenomenon. At the outset attention is called to the fact that the influence of dress, which in adult life has so much to do in separating the types of breathing employed by the two sexes, is in age often eliminated.

In "Gray's Anatomy" we find these words in a description of the articulations of the cartilages of the ribs with the sternum: "After middle life, the articular surfaces lose their polish, become roughened, and the synovial membranes appear to be wanting. In old age the articulations do not exist, the cartilages of most of the ribs becoming continuous with the sternum."

This means that as age comes on, the exertion necessary to carry on the costal type of breathing is constantly becoming greater, and this at a period of life when the muscles are constantly growing weaker. And, in consequence of these conditions, that the respiration, if not already of the abdominal variety, is urged in the direction of this type by influences which are ever becoming more and more potent.

On account of the greater range of motion of the ribs in the female, and also on account of the influence of a lifelong habit of costal breathing, women in age should lose the costal mode of breathing more seldom and more slowly than do men; or, in other words, should suffer more rarely from alopecia. Observation would seem to show that this is the case.

Individuals in General.—In concluding this portion of my paper I may state that a personal observation, extending over a period of ten years and applied to thousands of cases, has never failed to give me ocular proof of the existence or non-existence of superior costal breathing, according as the individual under observation was or was not free from the form of alopecia under consideration.

Experiments Based Upon the Theory and Applied to Various Animals.—The plan here was to keep respired air in the presence of warmth and moisture long enough for decomposition of its organic matter to occur, then to inject the substance resulting from this decomposition into the blood of animals and to note the results. These experiments were begun in

April, 1900, in the Bacteriological Laboratory of the Detroit College of Medicine and were carried out in the following manner:

A middle-aged man, who had long suffered from alopecia, was placed in a pneumatic cabinet and three inches of a vacuum established about him. As he breathed deeply under the influence of this force enough of his expired air was directed into a collapsed rubber bag to distend it. The capacity of the bag used was one gallon and the air was kept from escaping from it by a clamp applied to the rubber tube that formed its nozzle.

Next a half-gallon bottle or flask, previously made sterile, was filled with warm distilled water and closed with a rubber stopper, through which passed two glass tubes in ordinary wash-bottle fashion. The rubber tube of the bag already described was then connected to the shorter of these glass tubes, the clamp closing it was loosened, and by pressure respired air was forced into the flask until the surface of the distilled water had been lowered to within two inches of the bottom (Fig. 1).

As soon as this was accomplished the bag was disconnected from the flask, the wash-bottle stopper was carefully removed and another, also of rubber and with two glass tubes passing through it, was put in its place. The glass tubes of this second stopper were so arranged that inside the flask one reached just through the stopper, while the other extended down some distance and then, at an angle of 45 degrees, passed to near the side of the flask. The former was designed to afford an exit to the liquid when the bottle was tipped up and the latter to allow air to enter as the water flowed out.

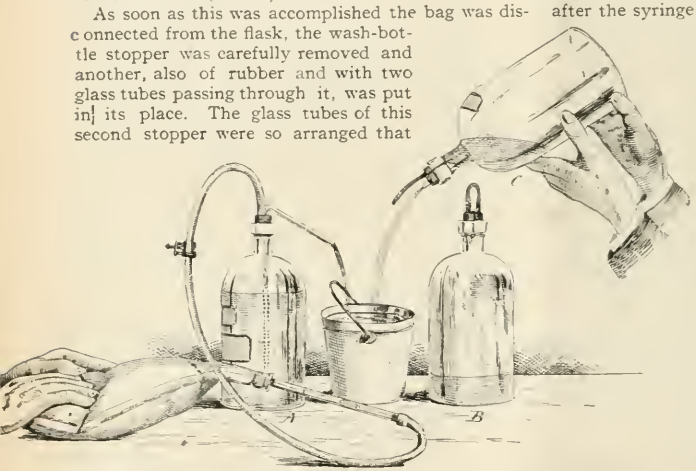

Fig. 1.—Apparatus Used in Making the Experiments. A. Transferring respired air from rubber bag to flask. B. Flask ready to be placed in the incubator. C. Extracting liquid from the flask.

Outside the flask both these tubes reached a short distance above the stopper and were drawn out so nearly to a point that only a small opening was left at the end of each. Finally these openings were closed by a single piece of rubber tubing drawn over the ends so as to form a loop.

By this arrangement it was possible to get water from the flask and at the same time let air flow in so as to afford a vent by simply slipping off the rubber tubing from the shorter of the glass tubes and decanting (Fig. 1).

The flask thus stoppered, with its contents of respired air and distilled water, was placed in an incubator the interior of which was kept at temperature of 98.6° F.

When the flask was placed in the incubator the respired air within, both as to condition and surroundings, was very similar to the same air when chambered in the lungs. Moreover, after it had been in the incubator some hours this similarity was made more marked by the fact that drops of water gathered upon the inner surface of the flask to such an extent that the air within was completely surrounded by a wet surface.

On April 30, 1900, after the flask had been in the incubator ten days, the first injections were made. The animals used were a medium-sized fox terrier dog and a large hen. In the case of the dog the injections were made through the loose skin between the shoulders and in the hen at various points over the abdomen.

The injections were made in the following manner: The flask containing the respired air and water was taken from the incubator, agitated sharply for a few moments so as to entangle in the water any substance that might be in the air, the rubber tubing was slipped off the straight glass tube in the stopper and some of the liquid was poured out into a small-mouthed salt-bottle which had been kept warm in the incubator.

From this bottle an ordinary serum syringe (previously warmed) with a capacity of 5 c. c. (1¼ drachm) was charged and the bottle tightly stoppered. The dog received the first injection and the hen the second after the syringe had been recharged from the liquid remaining in the bottle. These injections were made once daily.

By May 13, 1900, after fourteen injections had been made, a strip of bare skin, about the size of the middle finger, had appeared along the center of the posterior part of the abdomen of the dog, and one the size of the whole hand, over the same part of the hen. By June 1, after thirty-two injections, these patches had extended forward to the breast, in both animals, and also some distance upon the sides. On June 20, after fifty-two injections, the whole abdomen of each animal was bare, and irregular areas of uncovered skin extended upon the sides. These were symmetrically placed on the two sides of the same animal. No further injections were made on these animals after June 20.

During the time they were receiving the injections the animals showed no signs of disturbed health. The dog occupied a large box-stall, and ate his food and played about in a natural manner. The hen had a large furnace room in which to roam about, and besides eating and acting as hens ordinarily do, laid, on an average, two eggs in three days during the whole time. In her case, as in that of the dog, the weight remained unchanged. In both cases the only change apparent in the uncovered skin was an increased dryness.

A constant supply of injecting liquid was kept on hand by charging a new flask, in the manner already described and placing it in the incubator, when it was judged the supply on hand was within ten or twelve days of exhaustion. A flask lasted, on an average, sixteen days. Both the dog and the hen recovered their protective coats after the injections were stopped, but did so rather slowly. The dog regained his first. On July 25, more than a month after the last injection, the hen still had a patch over the abdomen, corresponding to the part first denuded, where a stubble, like shoe-pegs sticking through the skin, represented what in time would become feathers.

After June 20, 1900, no further experimentation was undertaken until the following fall. During the intervening time, the writer had frequently to hear from his medical friends expressions like the following: Suppose injections, of the kind you

mention, do cause hair and feathers to disappear! What does that prove? Probably continuous daily injections of almost any substance would cause disturbance enough in the nutrition or nervous system of the animal to make hair or feathers fall out.

Fig. 2.—Photograph of Pigeons after One Hundred Daily Injections Had Been Given. No. 1 received liquid from the flask containing respired air from a man not suffering with alopecia. No. 2 received liquid from the flask containing respired air from a man suffering with alopecia. No. 3 received liquid from the flask containing atmospheric air. No. 4 received liquid from the flask containing freshly expired air. No. 5 received distilled water. Nos. 1 and 2 were the only ones affected. The breast feathers cover up considerable of the uncovered spaces.

To meet these and other objections, the following experiments were undertaken. On October 20, 1900, a flask was charged with respired air from the lungs of a man not affected with alopecia. This was accomplished by having the man draw a moderately deep inspiration, then hold his breath a few moments, so as to allow time for the air in the lungs to become charged with excrementitious material, and then, by forced expiration, drive as much respired air as possible into the collapsed rubber bag before referred to. Usually three such expirations repeated at intervals of a few minutes, were sufficient to fill the bag. The flask containing this air was labeled No. 1. Another flask was charged with respired air from the lungs of a man affected with

Fig. 3.—Photograph of Pigeons after One Hundred and Forty-three Daily Injections Had Been Given. Note the complete absence of feathers in Nos. 1 and 2 and the unaffected condition of the others. No. 2 is dead as the result of an accident on the preceding day.

alopecia. The pneumatic cabinet was used in this case. This flask was labeled No. 2. Another flask was charged with atmospheric air. This was labeled No. 3. All these were placed in an incubator as before. Besides these, liquids in two other flasks were prepared at the time of use.

The animals used in this series consisted of one fox-terrier dog, five full-grown hens, and five full-grown pigeons. The dog received daily injections

Fig 4..—Pigeon No. 1 after One Hundred and Forty-three Injections Had Been Given.

from flask No. 1, which contained respired air from a man not affected with alopecia. The results from these injections compared with those of the previous experiment, when respired air from a man with alopecia was used, were identical. The hair disappeared first from the posterior part of the abdomen, and the uncovered area, thus starting, increased gradually by extension outward and forward until the whole of the abdomen and sides were bare. After one hundred injections, work on the dog was stopped, and in four or five weeks new hair covered the region that had been affected So much for the dogs.

The hens and pigeons formed two series treated exactly alike, so that a description of one will answer for both. It is necessary only to say, that the effects in the hens, while corresponding in character with those that occurred in the pigeons, were developed more slowly and to a lesser degree, a condition ascribed to the fact that the quantity of liquid injected into the hens was smaller in proportion to body-weight than that given to the pigeons.

The injections were begun on October 29, 1900. Each animal received daily five c. c. ($1\frac{1}{4}$ drachm) of the liquid. Pigeon No. 1, received liquid from flask No. 1, which contained respired air from a man without alopecia. Pigeon No. 2, received liquid from flask No. 2, which contained respired air from a man with alopecia. Pigeon No. 3, received liquid from flask No. 3, which contained atmospheric air. Pigeon No. 4, received liquid from flask No. 4, which contained freshly respired air, that is air, the same as No. 1, except that no time was given for decomposition to occur, and pigeon No. 5, received simply distilled water. The hens received the same substances in the same amounts and in the same order as the pigeons.

The injections proceeded exactly as in the first experiments. By February 6, 1901, after one hundred injections, pigeons Nos. 1 and 2, showed patches upon the abdomen that were bare (see Fig. 2). In the illustration, the long breast feathers cover a large part of the denuded surfaces. The other pigeons were unaffected. After February 6, the quantity of fluid injected daily into each animal was increased from five c. c. ($1\frac{1}{4}$ drachm) to ten c. c. ($2\frac{1}{2}$ drachms). On March 21, 1901, after one hundred and forty-three daily injections, pigeons Nos. 1 and 2 had lost completely their protective covering. (See Figs. 3 and 4, which were taken on the same day.) The other pigeons were still unaffected.

In Fig. 3, pigeon No. 2, is dead. On the preceding day, during an altercation with No. 1, he fell or was thrown into a pan of cold water and so chilled that, when found some time later, he was cold and exhausted, and he died soon after. This unfortunate occurence points out the lack of wisdom displayed in keeping these two birds in the same cage

After March 21 no more injections were given. By April 10, twenty days after receiving the last injection, pigeon No. 1 had regained feathers of about one-third their normal length upon wings, tail, and shoulders. (Fig. 5.)

By May 10, fifty days after the last injection, pigeon No. 1 had regained a coat of feathers normal everywhere, except about the neck, where the skin was still visible, when the head was extended. Even here, however, feathers were beginning to grow. (Fig. 6.)

Beyond the accident to pigeon No. 2, there was no interference with the work on account of impaired health of any of the animals. A peculiar circumstance in connection with pigeons Nos. 1 and 2 was the difference in the condition of their skins after the feathers had disappeared. The skin of No. 1 kept soft and pliable and was covered with a white brany desquamation that whitened anything with which it came in contact. The skin of No. 2, on the contrary, was of a bluish color, tightly adherent to the tissues beneath and perfectly free from des-

Fig. 5—Pigeon No. 1 Twenty Days after the Injections Were Stopped.

quamation. In the hens the only change in the skin was an increased dryness.

Another peculiar circumstance, in connection with the animals that lost their coats, was that the skin appendages about the heads were more resistant to the action of the substance injected than those of other parts of the body. Attention is called to the fact also that, in every one of the two dogs, three hens, and

two pigeons that lost their protective coverings, the tissues at the posterior part of the abdomen were the first to be affected, although the injections were made in regions of the body widely different.

The results of the experiments just described show that when respired air from the human lungs is kept chambered in the presence of warmth and moisture long enough for decomposition of its organic matter to take place, there is developed a substance which, when introduced into the blood of certain animals, exerts a selective poisonous action upon the hair, or tissues analogous to hair with which such animals may be endowed, and that beyond this, so far as careful observation can determine, it produces no effect whatever.

Furthermore, the same experiments would seem to show that this peculiar effect cannot be expected to pertain to any substance other than the one mentioned above.

Trichotoxicon.—With the existence and action of the substance under consideration demonstrated, the need of a word, to take the place of a phrase or sentence, in making reference to the substance itself, is apparent. To meet this want, the writer presents Trichotoxicon from the Greek Θρίξ, hair, and τοξικον, poison.

Fig. 6.—Pigeon No. 1 Fifty Days after the Injections Were Stopped.

Conclusions.—If trichotoxicon is developed when respired air is chambered in the presence of warmth and moisture outside the lungs, will the same substance be developed when respired air is chambered, with the same surroundings, inside the lungs? It certainly is difficult to think of any reason why it should not.

And again, if trichotoxicon, circulating in the blood current of a lower animal, is bound to exert a specific action upon certain tissues of that animal, is it proof that the same substance, introduced into the blood of a human being, will exert a like influence upon the same tissues, or tissues of an analogous nature, of the human being? While proof seems to be too strong a word to use in this connection, it is not too much to say that there is a great probability that it will.

From a consideration of what has been written above, it seems to the writer not unreasonable to conclude that alopecia, of the type under consideration, is caused by an auto-infection in which trichotoxicon is taken up by the blood from the air-cells of the lungs, where it has been elaborated during decomposition of organic matter normally present in respired air.

550 Jefferson Avenue.

THE FUTURE TREATMENT OF HAY-FEVER.*

By H. Holbrook Curtis, M. D.,
New York.

On June 7, 1900, I read a paper[1] entitled "The Immunizing Cure of Hay-Fever" before the American Medical Association at Atlantic City. In this paper I gave an account of experiments which for two years I had been making of internal and hypodermic exhibition of watery extracts of flowers. A résumé of what I said at the June meeting is as follows:

Some two years ago I reported to the Section on Laryngology of the New York Academy of Medicine the results of some experiments that had been made on a patient who, from childhood, had suffered from violent attacks of neurotic coryza, with most severe constitutional complications during the paroxysm. These attacks, simulating the most severe type of an attack of hay-fever, completely prostrated the patient, and usually lasted for about two weeks. The patient, who was an unmarried woman of thirty-five, frequently presented this picture—the finger nails were cyanosed, the extremities were cold, and a state of collapse supervened which required the most vigorous measures to sustain life. These attacks were brought about by an exposure to the perfume of flowers; and so susceptible was she to these odors, that to pass a florist's shop in the street would be sufficient to produce a paroxysm. It was on this patient, who was from one of the best known families of St. Louis, that I determined to try the effect of immunization, by giving internally and hypodermically the watery extract of certain flowers and their pollen. I commenced by giving the sterilized infusion of roses, and after two weeks found that the patient could tolerate that flower in her bedroom. I then tried the violet and lily-of-the-valley, and was equally successful with each flower. After I had immunized her to three flowers, it was found that adding others to the bouquet always kept at her bedside, did not produce any bad effect; and since then there has been no recurrence of the paroxysms that heretofore rendered her life unendurable. This patient, however, was of so pronounced a neurasthenic type—she was also tuberculous—that I made a very guarded report of the case before the Laryngological Section of the Academy at that time, preferring to wait for more experience with other cases before communicating further on the subject.

Another patient once told me that it was impossible for her to go into the ipecac department of a drug house, where she was employed, without getting a violent "crying cold with asthma," and that when she worked in ipecac, she had to take some tincture of syrup in drop doses for several days before she came in contact with the drug—a precaution which she found always prevented an attack. This young lady informed me that a friend of hers was likewise affected and also benefited by the same precaution. It was the remembrance of this case that originally suggested to me the possibility of an immunizing treatment for hay-fever. A point of especial importance is the curious fact that not only is immunity from attack secured by this mode of treatment, but also after the onset of the pollen or flower fever, and the paroxysm is at its height, the attack is at once lessened and often controlled by the exhibition of the causative drug. I have found this to be the case with golden rod and lily-of-the-valley, and also with ragweed corasthma. A Philadelphia physician, who is affected with a violent coryza by the odor of salicylic

*Read before the American Laryngological, Rhinological, and Otological Society, May 25, 1901.

[1] *Medical News*, July 7, 1900.

acid, has recently told me that this disturbance does not occur while he is taking the salicylate of sodium.

The experiences narrated above prompted me last summer to obtain through a drug firm the services of a botanist to secure the flowers and pollen of enough ragweed to make an experiment on a large scale this year on so-called hay-fever, and to determine whether the hypothetical deductions from the experiments I have already conducted are truly as important as I believe them to be. The tincture and the fluid extract are the solutions most available. In my recent experiments I have discontinued the use of hypodermic medication.

The drugs were delivered to me so late in August of last year that the preventive treatment could not be carried out, but in no case of the eight or ten on which I tried the treatment at the commencement of the attack, was there anything but remarkable results even when the enemy had been in full control for two weeks.

Permit me to append a letter from a Brooklyn clergyman, which is a good sample of the general estimation in which the drug is held by some of the worst cases on record:

GRACE CHURCH, UTICA, N. Y.,
December 12, 1899.

MY DEAR DR. CURTIS: Before I left Brooklyn, I wanted to write and tell you how deeply I am indebted to you for the relief which you gave me from hay-fever during the past summer and autumn, but the rush of moving prevented my doing so. However, you must listen to my refrain, and it may interest you.

In August, 1889, I had my first attack of hay-fever, when I was living in Wethersfield, Conn., from which place I removed to Brooklyn at the close of the month just mentioned. Regularly, every year since, on August 19th, except in 1894, when it came on August 21st, the hay-fever appeared. In three days, my eyes would be so inflamed and bloodshot that a few minutes with the newspaper was as much reading as I could do; my nose became swollen, and the edges of the nostrils had to be rubbed with salve after the paroxysms of sneezing to prevent them from cracking open. At least one-half of the time I could not breathe through either nostril, and panted with open mouth like a dog; in bed at night I had to prop myself up with pillows to catch any sleep at all; I had no appetite; no anything. This condition would last into October, taper off in November, gradually disappearing after the arrival of the killing frosts. My attack this year had been running several days before I received your medicine, and I was astonished at the abatement of the enemy in forty-eight hours. You know the rest of the story—good appetite, sleep at night, and only enough of a touch of hay-fever for me to know that I was prone to the attack of the fiend.

Perhaps you will now understand why I consider myself to be Most gratefully and sincerely yours
B———.

In the title of this paper, hay fever is used in its popular sense, but the malady to which the treatment I have suggested applies is ragweed corasthma. I have several cases on record of goldenrod and lily-of-the-valley corasthma, which have been cured by solidago odora and convallaria majalis, respectively, in three or four days; but, while these are interesting as contributive evidence, the old enemy, ragweed, is the recognized king of pollens, whose term of office begins August 12th to 20th in these latitudes, and whose cruel reign is only ended by the first frost.

If my theory be correct, that this "rhinitis vasomotoria periodica" or "corasthma ambrosiæ" may be prevented by giving from two to ten drops of the tincture or fluid extract of ambrosia artemisiæfolia t. i. d. in water, during the two weeks preceding the paroxysm, I shall consider that I have heralded what I believe to be a great discovery, with becoming modesty. If, on the other hand, the results I have obtained are not verified by others, I may only say that greater men and more scientific observers have been misled by initial results that time did not substantiate. I should be pleased, however, to give to any physician who will conscientiously aid me in investigating the subject such directions that he may experiment for himself upon severe cases, in order that a collection of reports from disinterested physicians in widely separated localities may be of benefit to the cause of scientific research.

In August, 1900, at my suggestion, the fluid extract of ragweed was combined with aromatics in order to disguise its unpleasant taste and make it more palatable to the patient. With every bottle sent out in reply to inquiries from the profession, a blank, which read as follows, was enclosed:

LIQUOR AMBROSIA,

FOR THE PREVENTION OF HAY FEVER.

This preparation is used to immunize those cases which, in these latitudes, are affected about the 15th to the 20th of August.

Cocaine must not be employed as an adjunct.

As this treatment, while affording extraordinary relief to the few cases upon whom it has been tried, is still in the experimental stage, the physician who uses this bottle of medicine will confer a favor by returning this blank, properly filled out

Patient (male or female)?
Age?
How many previous attacks?
Attacks generally commenced?
Attacks generally ended?
Was asthma present?
Was nose occluded during attack?
Was nose perfectly free before attack?
Has the patient any intercurrent disease?
Does patient use alcoholic beverages?
Does patient smoke excessively?
Do other flowers than ragweed cause attacks?
Did patient's father or mother have hay fever?
Do patient's brothers or sisters suffer from the malady?

On October 3d, the following letter was sent to those to whom the medicine had been forwarded:

DEAR SIR: The season is now so far advanced that you may be able to tell with some accuracy whether or not the "Liquor Ambrosia" has been of any use in your case of hay fever.

Kindly let me know what your experience with this remedy has been. Respectfully, etc.

———

The first thirty-four consecutive replies received to this letter were sufficiently satisfactory to warrant the manufacture of several thousand bottles for the continuation of the experiment another year (eighteen told of complete recoveries, four of considerable improvement, while twelve were negative). In order to get an idea of the difficulties encountered in making a fair estimate as to the value of a new remedy, I reproduce a few of the responses taken at random:

SPRINGFIELD, VT.

DEAR DOCTOR: Worked like magic. Patient greatly relieved in forty-eight hours and cured in a week. Even more brilliant result in another case. — —, M.D.

ST. CLOUD, MINN.

DEAR DOCTOR: In reply to your letter, will say "Liquor Ambrosia" was of great use to me. It practically cured me. If I had taken it before the attack became seated on me, I feel sure it would have prevented it entirely. I intend to lay in a stock next year, and feel sure it will prove entirely effective.

———

DEAR DOCTOR: The result obtained from the use of "Liquor Ambrosia" has been a success. Three bottles have been used, and the suffering at no time has been severe. The patient thus expressed himself: "The medicine has done all that could be expected."

———, M.D.

NEW YORK.

DEAR DOCTOR: I beg leave to acknowledge receipt of the bottle of "Liquor Ambrosia" which you had the kindness to send me. I have been taking it according to directions over a period of four days, since which time I have not had any trouble from my hay-fever, and during the last three days have not sneezed at all.

I beg to thank you for your thoughtfulness in supplying this remedy, and with kind regards, I remain.

——.

SPRING LAKE, N. J.

DEAR DOCTOR: In reply to your letter of October 3, I would say that I believe my son said he did not experience any particular relief from the medicine.

——.

WASHINGTON, D. C.

DEAR DOCTOR: My experience with the "Liquor Ambrosia" has been very satisfactory. I am about sending notes of my own case, but I do not wish my name used publicly, although privately I am speaking freely in its favor. I know of three cases where it seemed to greatly ameliorate the symptoms, although not taken until the middle of the attack. I think you will be quite justified in preparing it freely for use in the next season. ——, M.D.

LOCKPORT, N. Y.

DEAR DOCTOR: Replying to yours of the 3d, just received, I am pleased to say that my wife and myself used the "Liquor Ambrosia" during the attack of hay fever, and that it appeared to afford some relief—at least I did not suffer as much this year as during previous years. We used three bottles and then gave it up—feeling that we did not commence its use early enough for it to act as a preventive. The attack was well on its way when we commenced its use. We feel now we will try it next year a few weeks before the season. ——.

BROCKTON, MASS.

DEAR DOCTOR: Replying to your courteous note of inquiry of the 3d inst., regarding the results of the "Liquor Ambrosia," in my hand, I can only say that my observation with the drug is confined entirely to its effect in my own person. Commenced August 6th taking the Liquor in ʒi doses, t.i.d. and continued it with gradually increasing doses to ʒii t.i.d. till September 6th. I regret to say I observed no appreciable effect; possibly the onset of my attack of hay fever was a little later in coming on; otherwise no change. ——, M.D.

BUFFALO, N. Y.

DEAR DOCTOR: Relief derived from the remedy has been most satisfactory. I increased dose during worst days at end of August to two or three teaspoonfuls, as necessary to fight off the attacks. I remained in the farming section and played golf in the midst of all kinds of weeds, with entire comfort. Sometimes, in the worst days, I took as many as 15 teaspoonfuls of the Ambrosia in 24 hours.

LAKE GENEVA, WIS.

DEAR DOCTOR: Your letter to Mr. —— of this place, of October 3d, has been handed to me for a reply; since the case of hay-fever in his family was under my observation, and being a sufferer, I took the remedy a short time.

In neither case were the results at all satisfactory. Possibly we began treatment too late in the season, the attack having begun. In both cases, considerable stomach disturbance even from minimum doses caused, after a few days' use, much inconvenience. I was much disappointed, but will give it another trial on some other cases next year. Much of our supply remains in my hands. Does it keep indefinitely?

Regretting I cannot report more favorably, I am, etc., ——, M.D.

UNION CITY, IND.

DEAR DOCTOR: I secured the medicine for my own use, after receiving the reprint of your article. You will see by enclosed blank that I have experienced probably twenty attacks. Have tried out most lines of treatment promulgated by the profession, but with very different results. Attack commenced this year on the 8th of August. Received the Ambrosia on the 22d or 23d, and commenced taking it. Attack was an unusually severe one, with more of less asthma every night. Improvement was marked from the first day, and continued with such gratifying results that, at the end of one week, I discontinued the Ambrosia, and did not take it again during the season, having continued practically free of the disease. I took about one-half of one bottle during the week. After the first day of treatment, I had no recurrence of asthma; after two of three days could breathe freely through the nose, the conjunctivitis disappeared, and I was practically well, although I had a slight coryza, with some sneezing during balance of the season.

Let me suggest that Ambrosia in tablet form would be a desideratum.

With regards, I am, yours very respectfully, ——, M.D.

From a careful estimate from all sources of information, and from my own personal experiences, which may cover about one hundred cases, I have concluded that cases which are dependent entirely upon ragweed as an exciting cause, may become immunized in about sixty per cent. of the number treated. When there exists a mixed infection, and when the cases show a preponderance of asthmatic symptoms, a nasal spray of suprarenal extract may with benefit be employed. An internal exhibition of the suprarenal products is also beneficial to the dyspnœa as well as to the œdematous condition of the nasal mucous membrane.

Last year's work has demonstrated that a preparation of ragweed is in a majority of cases an adjunct of very great value in the treatment of hay fever, and it seems reasonable to suppose that perhaps a tincture of goldenrod or some other plant may be found efficacious in those cases in which the ragweed seems to have no appreciable effect. Exactly how great a palliative this treatment will prove will of necessity take two or three years' investigation to determine, as it is impossible to get a layman to take sufficient interest in the subject to send a proper analysis of his case, and to overcome the timidity of the professional man in introducing any remedy unless he feels that his name and reputation will not suffer thereby.

I can therefore thus far only report a most satisfactory progress with the possibility of a very favorable outcome in regard to the immunizing treatment of hay fever.

118 MADISON AVENUE.

Epiploitis Mistaken for Strangulated Hernia.—A. L. Peyroux reports a case in which a painful, hard, tense, irreducible tumor of the scrotal pubic region apparent after an accident on horseback. It was accompanied by vomiting, constipation, and a bad general condition, with a feeble and slow pulse (45 a minute). The diagnosis of strangulated hernia was made, and operation was begun, but no hernia was found. Epiplocele was present and was radically cured. The author justifies the error made in the diagnosis by the fact that all the symptoms given were those of hernia. Moreover the treatment was perfectly correct for the condition found.—*Archives Provinciales de Chirurgie.*

Pathogeny of Nasal Hydrorrhœa in Spasmodic Coryza.—Upon microscopical examination of the tissues in this condition, Brindel finds an accumulation of round cells in the neighborhood of the epithelium and an epithelial desquamation corresponding to the crisis of the attack. There are a considerable multiplication of the blood vessels and very marked dilatation of the veins. Extravasations of blood occur in the tissues of the mucosa principally toward its external surface. Hydrorrhœa is to be looked upon, not as a function of secretion, but as a transudation of serum (possibly a little bloody) though the meshes of the connective tissue of the mucosa, a sort of œdema with immediate excretion of extravasated liquid. The exact pathogeny of this vasomotor dilatation is still undetermined.—*Revue Hebdomadaire de Laryngologie, etc.*

THE PRESENT STATUS OF THE CARCINOMA QUESTION.

By N. SENN, M. D., Ph. D., LL. D.,

CHICAGO.,

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Propositions.—1. The most notable contributions to the present status of the carcinoma question are to be found in the investigations which have thrown new light on the origin, growth, segmentation, and manner of local and general dissemination of the carcinoma cell.

2. Carcinoma is a tumor resulting from an atypical proliferation of epithelial cells from a matrix of embryonic cells of congenital or post-natal origin.

3. The law of the legitimate succession of cells holds true in the origin and growth of tumors, both benign and malignant, as well as in the production of normal and inflammatory tissue.

4. As carcinoma always originates from epithelial cells, primary carcinoma in mesoblastic tissue is impossible from a histogenic standpoint, unless a matrix of embryonic epithelial cells has become displaced during the development of the embryo, or embryonic epithelial cells have become buried in mesoblastic tissues after birth, by injury or disease.

5. The histology and histogenesis of carcinoma speak against the parasitic origin of this disease.

6. The stroma of carcinoma consists of pre-existing connective tissue fibers and their descendants.

7. Carcinoma cells usually multiply by irregular, atypical karyokinesis, and this pathological segmentation is an important indication of malignancy, and as such is of considerable diagnostic value.

8. The progressive extension of a tumor to adjacent tissues and organs, regardless of their anatomical structure, is a strong proof of its carcinomatous character.

9. Regional metastasis in carcinoma takes place exclusively through the lymphatic channels, and the pre-existing lymphatic structures take no active part in the origin and growth of the secondary tumors.

10. General dissemination of carcinoma usually takes place by direct implication of veins in the primary or secondary tumors. Carcinoma cells reach the venous circulation through the formation of an intravenous tumor thrombus, through carcinomatous endophlebitis, or, finally, through perforation of the vein wall by isolated carcinoma cells. Retrograde intravenous extension of carcinoma is due to the transportation against the venous current of minute emboli of carcinoma cells surrounded by a mantle of blood corpuscles which move, step by step, upon the intima. Retrograde extension through the lymphatics may take place in the same manner, but there is very little doubt that it is more frequently the result of carcinomatous endolymphanitis.

11. The increase of carcinoma seemingly shown by some recent statistics is more apparent than real.

12. Heredity is a generally recognized potent predisposing cause of carcinoma.

13. As a rule, carcinoma occurs in persons of advanced age, but occasionally is met with in persons less than twenty-five years of age, and in the latter case the disease is characterized clinically by its great malignancy.

14. Carcinoma seldom follows a single injury, but develops more frequently in consequence of repeated injuries or prolonged continuous irritation.

15. Among the predisposing causes of carcinoma must be enumerated racial, climatic, and topographical influences.

16. Chronic inflammatory products, cicatrices, and benign epithelial tumors produce local conditions favorable to the development of carcinoma.

17. The positive results of implantation and inoculation experiments have so far failed in establishing beyond all doubt, upon a bacteriological and histological basis, the parasitic theory of carcinoma.

18. A careful study of the experimental researches and bacteriological and histological investigations concerning the etiology of carcinoma does not at the present time warrant us to claim for this disease a parasitic origin.

19. The experience of centuries and the internal use of innumerable remedies have demonstrated that so far carcinoma has not been materially influenced for the better by this method of treatment.

20. Direct medication of carcinomatous tissue by parenchymatous injections has no influence in retarding or arresting its growth, while the injection of sclerogenic substances into the connective tissue around the border of the tumor appears to restrain the local extension of the disease by impairing the blood supply to the parenchyma of the tumor.

21. Local applications of any kind in the treatment of ulcerating carcinoma must be considered at best only in the light of palliative measures.

22. The actual cautery and chemical caustics have only a limited field of usefulness in the treatment of open inoperable carcinoma. They should never be employed in the treatment of closed carcinoma as a substitute for the knife.

23. The treatment of carcinoma by different sera has, without any exceptions, yielded only negative results.

24. The early and radical operative treatment of carcinoma offers the only prospect for permanently eliminating the disease.

25. The permanency of the results of the operative treatment of carcinoma cannot be determined in less than ten years after the operation.

26. A radical operation for carcinoma should never be attempted unless the local conditions and general health of the patient are such as to promise an equivalent of the immediate and remote risks to life and comfort involved in the operation.

27. Taking it for granted that carcinoma is the product of an erratic, planless cell-growth outside of the range of the physiological influences which preside over and regulate normal growth and tissue repair, it appears logical in the search for curative agencies to make experiments and observations with the view of finding a remedy which would destroy the tumor by causing an early and speedy degeneration of its parenchyma, or which would possess the property of converting embryonic into mature epithelial cells, thus converting a carcinoma into a benign epithelioma.

Some Remarks upon Venom and Antivenene.—Joseph McFarland concludes that by the subcutaneous and intravenous injection of unheated crotalus venom it is possible to immunize horses against the chief toxicelement—the nervous poison. The immunity thus afforded is very slightly protective against the irritative poison contained in the venom, and animals whose serum contains even much antivenene may succumb to the local effects of the venom. The development of the immunity is accompanied by the occurrence of large quantities of antivenene in the blood of the immunized animal. The antivenene is fully able to save animals from both crotalus and cobra venoms. The quantity of antivenene in the blood fluctuates according to circumstances, as do other antitoxic serums, and declines as the vital condition of the horse is depressed. The normal endurance of horses to venom varies considerably. The intravenous method of administering the unmodified venom is the best as it is

not attended by sloughing of the tissues. As the immunity does not extend to the irritative poison, and as the protection afforded to animals receiving antivenene is against the venom, not the irritative poison, it is probable that Calmette's method of immunizing animals with modified (heated) venom, which contains more of the irritative substance, saves the animals suffering, and does not endanger their lives.—*Proceedings of the Pathological Society of Philadelphia.*

Experimental Dysentery in Dogs.—H. F. Harris, finding that it was impossible to cultivate the amœba found in dysentery, attempted to cultivate all of the bacteria in the discharges of dysenteric patients, and to determine if these mixed cultures were capable of setting up a dysenteric process. Cultures were therefore made and injected into the intestines of four puppies. There was absolutely no effect produced. It seems therefore unreasonable to conclude that the germ that produced the disease is a bacterium, or at any rate, it seems fairly certain that it cannot be an organism that develops in the culture media ordinarily employed. As the amœba coli was the only other living organism found in the feces that was probably absent from the cultures, it seems logical to suppose that this parasite is the cause of any morbid state that the injection of these discharges may give rise to.—*Proceedings of the Pathological Society of Philadelphia*

An Eruption Resembling Pemphigus Vegetans in an Infant.—E. A. Fischkin reports the case of an infant five months old, presenting an eruption difficult of diagnosis. Syphilis had to be excluded, nor could mycotic disease be admitted. The fact that there had been preceding emaciation, that the disease started with a bronchial catarrh, that the first lesion appeared close to the anus, and that the lesions which were on the upper and lower extremities, cheeks, and forehead were cardylunate with a very few blebs, confirmed the diagnosis of pemphigus vegetans. Corrosive sublimate baths and dusting the lesions with a salicylated starch powder, with elixir calisaya as a tonic, produced such rapid improvement in eighteen days that the author now hesitates to call the disease pemphigus vegetans. He still excludes syphilis for good reasons, but inclines to regard the affection as a trichophytosis.—*Pediatrics.*

Insanity in Women from the Gynecological and Obstetrical Point of View.—A. Lapthorn Smith does not believe in the heredity of insanity, but thinks it is sometimes contagious. Often it is due, not to organic disease of the brain, but to functional disorders of the circulation and of the blood. In many women the disorder of the brain's circulation is caused by reflex irritation carried by the sympathetic from the pelvic organs and caused by retroversion of the uterus, cirrhotic ovaries, fibroid tumors, etc. Hundreds of cases are on record of insanity being cured by removal of the cause, the greatest number of mental cures having followed ventrofixation and the shortening of the round ligaments, for the removal of retro-displacements, while many others have followed the ablation of fibroids, cirrhotic ovaries, the repair of lacerated cervices, and even curetting. If anything is done it must be done thoroughly, as several cases have been reported in which no benefit resulted until a second and more complete operation was performed.—*St. Louis Medical Review.*

New Method of Suture for the Anastomosis of the Cut Vas Deferens or Ureter.—Antonio Ferraro in his experiments on animals, cuts the vas deferens, and into one of the stumps introduces a sewing needle, or slender stiletto, and at a certain determined distance from the extremity of the stump makes a transverse incision of half the circumference of the duct. From the middle point of this incision he makes a longitudinal one which reaches to the extremity of the stump. The same procedure is repeated on the other cut portion of the duct, and there are now two quadrangular flaps, which being placed with their mucous surfaces in contact will be found in perfect coaptation, while the lumen of the duct instead of being constricted is increased. The same procedure can be applied to the ureter when necessary.—*La Riforma Medica.*

A Practitioner's Treatment of Inflammatory and Ulcerative Conditions of the Larynx.—H. Beaman Douglass says the most successful method of treating cases of acute laryngitis, when it is important to recover the voice in a short time, consists in the use of six remedies: (1) An absolutely even temperature, which means that the patient must remain in the same room, which room must be well ventilated and kept at a constant temperature of 67° to 70° F., day and night. (2) Bodily massage given twice a day. (3) The bowels should be moved rather freely. (4) The voice should be rested (5) Tartar emetic internally, $\frac{1}{20}$ grain every hour until nausea appears, or until there is a marked exudation of mucus from the larynx. (6) Applications of sprays of a 6 per cent. solution of suprarenal extract locally into the larynx. The author gives detailed directions for many forms of treatment, but the above he considers most useful in the worst cases of acute catarrhal laryngitis.—*The Post-Graduate.*

Primary Syphiloma of the Conjunctiva.—Carlo Fruginele states that this condition is less rare than usually supposed. It may occur in either sex, in any profession, and usually in persons between twenty and thirty years of age. Its most frequent seat is towards the inner canthus of the eye, and it is usually due to kissing on the eye. It is preceded and followed by a catarrhal conjunctivitis, and characterized by an ulceration of varying size. Its diagnosis is easy, although it might be mistaken for gumma, or for epithelioma. The prognosis is good for the conjunctival lesion, but not for general infection Treatment is general.—*Giornale della Associazione Napoletana di Medici e Naturalisti.*

Stammering.—C. Biaggi holds that stammering is a degeneration of speech, resulting from an arrest of development in the powers of co-ordination of the movements essential to speech. Children who stammer usually exhibit other signs of nervous taint. The remedy consists in gradual, patient training of the individual muscular movements producing speech. By degrees they can be co-ordinated and combined. At the same tme the pupil should be taught to control the bodily contortions and facial grimaces which are so apt to accompany their efforts to speak. In this systematic method of exercise, comparable to the patient and constantly repeated efforts necessary for the learning of the scales and exercises on the piano, the child will gradually acquire control of his speech instrument and become perfeect in its technique.—*La Tribuna Medica.*

Have We a Continued Fever Which is Neither Malarial nor Typhoid?—T. J. Happel of Tennessee refers to a group of cases presenting the regular symptoms of either typhoid fever or malaria in which the Widal test and the microscope yield respectively negative results. The features of this unnamed fever are as follows: Malaise may or may not precede the onset. The fever may appear at any time of year. The initial chill may be slight or severe. The fever curve shows two or three ascents every twenty-four hours. As the case goes on to recovery there is a gradual dropping out of these rises until only one may remain. During defervescence

there may be profuse sweats. There is no delirium no matter what the temperature may be. The tongue is moist and but little coated. The patient does not feel very sick. Constipation is the rule. Rash is absent. There are no rose-colored spots. The pulse and temperature present a marked peculiarity. There is frequently an inverse ratio existing between the two, but the rule is that, except in rare cases, the pulse varies but little from normal, rarely (except in cases in which some local lesions can be determined) beating more frequently than 100 even when the temperature rises to 104° or 105°F. Many of these cases linger along from three to eight weeks of sickness with the pulse not above 84. The only time that we find any normal relation between pulse and temperature is in the last week, when the fever becomes intermittent. In a few cases this relation of pulse to temperature is reversed, and a frequent pulse is found with a low temperature. There is no typhoid facies. There is neither the complete loss of appetite seen in typhoid fever nor the nausea and anorexia of malaria. There are no gurglings in the iliac fossa, no perceptible changes in the liver or spleen, and no symptoms in the respiratory tract. One attack does not prevent another. Between this fever and malarial fevers, pure and simple, there is this prominent diagnostic symptom: In malarial fevers patients are sick from the time of the initial chill or rigor, whilst in this, after the first chill or rigor has passed off and the fever has risen and been reduced in any way, the condition of euphoria, already mentioned, develops, and it is hard to satisfy the patient that he is sick or explain to him why he cannot be at once restored to health. Quinine does not cure this fever.—*Memphis Medical Monthly.*

Serum Diagnosis in Typhoid Fever.—G. B. Mariotti Bianchi concludes that the Widal reaction is always positive in typhoid cases, providing that if it fail at first we repeat the test at a later stage. In some fatal and altogether exceptional cases it is absent throughout the disease. The solution adapted to clinical use is 1:40, at which strength we may be certain of not finding the reaction in other diseases, whereas with a 1:20 for instance, we might obtain agglutination, though rarely, in some other cases of infection. As a rule the agglutinating power of serum appears during the second week. For an early diagnosis Newfeld's method would be the better. The rapidity of appearance of the agglutinating power has no absolute prognostic value, but as a rule, by the use of the 1:40 serum, in cultures of equal sensitiveness to specific serums, the more rapidly the agglutination occurs, the better the prognosis. *Giornale Medico del Regio Esercito.*

Krymotherapy for Anorexia.—Izso Homg describes a new method of stimulating the appetite in wasting diseases to which he gives the above name and for which he claims great efficacy. It consists in filling bags of sailcloth with carbonic acid snow (which is produced when a cylinder containing the liquified gas is opened, the rapid evaporation of the first portions of gas producing so great a degree of cold that the succeeding fluid is transformed into a solid white mass, which retains this state for a considerable length of time), and applying them to the gastric region for about a half hour the same length of time before meals. The surface temperature can in this way be reduced as low as 5° C, but the patients do not experience any unpleasant sensations and after four or five days of this treatment enjoy a remarkable increase of appetite. This is to be explained by the local congestion following the intense ischæmia at first produced, whereby the increased blood supply stimulates oxidation to an unusual degree.—*Klinisch-therapeutische Wochenschrift.*

Eclampsia and the Thyroid Gland.—H. Oliphant Nicholson was led by the observation of various facts to consider that there might be a possible connection between puerperal eclampsia and the thyroid gland. He reports a case of successful treatment of the eclamptic condition with thyroid extract. The theory of its action is given by the author. Practically, in the early stages of the disease, he would give the remedy in five-grain doses night and morning, and after a few days three times a day; when the symptoms of eclampsia have appeared, he would give by hypodermic injection 10 or 15 minims of the liquor thyroidei, to be repeated every hour or two if necessary; or, better yet, ten minims of fresh juice from a sheep's thyroid with an equal quantity of distilled water. Morphine should be used, not less than half a grain for the first injection.—*The Scottish Medical and Surgical Journal.*

Note on the Treatment of the Hair in Typhoid Fever.—H. M. Little has examined into the results of treatment of the hair under different conditions. Sixty-two patients were seen some months after their recovery and the results of treatment noted. Of these thirty-five had their hair cut while in the hospital, and in only seven was subsequent falling of the hair noted. Of these seven, four were cut late. The ultimate result in all was a thicker growth of hair than ever before. In two cases it was thought to be coarser than before. Twenty-seven patients (fifteen women, twelve men), did not have their hair cut, and the hair fell out in all but three. Ten had to have their hair cut later to prevent baldness, seven being women. In seven other cases, not cut, in four the hair was very thin, in two the hair was still falling, and in one the hair, curly before, became thin and straight.—*The Montreal Medical Journal.*

A Case of Failure in the Treatment of Tetanus by Baccelli's Method.—Gilberto Salvioli reports the case of an insane woman, suffering from tetanus due to the infection of self-inflicted wounds. Baccelli recommends the hypodermic injection of 2 to 4 cgm. of carbolic acid every two or three hours until 35–72 cgm. are given daily, it having been found that this substance diminishes the spasms and contractures, acts as an antitoxin and moderates the reflex action of the nerve centres. The writer gave forty-five injections, equivalent to gm. 1.8 of phenic acid in five days, but the patient died. She was in an impoverished organic condition and there had been a month's incubation of the disease, so that she was a poor subject for the testing of the remedy.—*La Riforma Medica.*

Scarlatinoid.—Trammer describes an epidemic of an erythematous disease which in external appearances resembles scarlet fever, but which is clearly distinguished from it by certain characteristics. The exanthem appears first upon the face, that is upon the cheeks, is distinctly papular in character and intensely itchy; it spreads rapidly over the entire body, and disappears in from one to three days. Complications or sequelæ are wanting, so that it is an absolutely benign disease. The affection begins with fever, angina, and coryza and is considered morphologically to resemble scarlet fever. Hence the term scarlatinoid.—*Wiener Medizinische Wochenschrift.*

Notes Upon the Urine of a Newly-Born Infant.—George Carpenter reports the case of a female child whose urine constantly contained a trace of albumin. A large amount of urine was evacuated daily, 18½ ounces the first twenty hours that observations were taken, while for the ten following days the smallest quantity was 17 ounces, the largest 22½. The specific gravity was low, usually 1.001 to 1.002, the highest obtained being 1.005. Casts were absent, and the amount of urea was small, varying between $\frac{1}{6}$ and $\frac{1}{4}$ grain per fluid ounce. There was no evidence of organic disease, and the infant is now well and thriving.—*The Medical Press and Circular.*

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THE ARMY MEDICAL SERVICE.

THE fact that the three boards created during the past winter for the examination of candidates for commission in the Medical Corps of the Army have concluded their labors without having been able to fill more than about one-third of the previously existing vacancies in that department, calls attention to the serious condition of affairs in the medical branch of the military service.

This condition is of recent development and is directly attributable to the army reorganization bill, so far as it affects the Medical Department, passed by Congress during its late session, and it was clearly foreseen and pointed out to Congress, at the time the bill was under consideration, by Surgeon-General Sternberg and various medical officers on duty in Washington. It was anticipated by the Committee on Legislation of the American Medical Association, which appeared before the Military Committee of the Senate and urged that the carefully considered recommendations of the Surgeon General —who was naturally better fitted to appreciate the necessities of his own department—rather than the provisions of a bill drawn by an officer of another staff department, should be given favorable consideration. The whole subject was fully gone over in detail, and the plea of ignorance on the part of Congress, with respect to the probable effect of this bill upon the Medical Department, cannot be entertained.

Previous to the passage of the army reorganization bill, the *personnel* of the Medical Department consisted of 1 brigadier-general, 6 colonels, 10 lieutenant-colonels, 50 majors, and 125 assistant surgeons with the rank of captain or first lieutenant. With the rate of promotion existing under this organization, medical officers were assured of reaching the grade of major after about eighteen years of service, were certain of attaining the rank of lieutenant-colonel, and, except in a very few instances, might expect to reach the grade of full colonel before passing upon the retired list. Such promotion ensured a comfortable income, increasing as the medical officer was promoted from grade to grade, until as a colonel his pay proper amounted to $4,500 annually and his allowances represented a money value of about half as much in addition.

The medical officer could thus look forward to the ultimate attainment of such rank as would not only provide sufficient means for the education of his children but would carry with it such retired pay as would enable him to spend the last few years of his life in peace and comfort, without the necessity of providing for the "rainy day" which must enter into the calculations of the average physician in civil life.

Under such conditions, competition for commissions in the Medical Corps had been for many years very keen among the young medical men of the country. With a large number of candidates from whom selection could be made, a high degree of professional efficiency could be required; with the result that those who were finally commissioned—selected men from what was probably an originally superior class—could fairly be regarded as representing the better element of the medical profession throughout the country. Statistics for the past decade show that scarcely ten per cent. of candidates were able to attain the extremely high standards fixed by army medical examining boards. Recruited in this manner, it is not surprising that the Medical Corps, though until recently limited in numbers to but 190 men, includes in its *personnel* such widely-known men as Sternberg, Billings, Smart, Gorgas, Reed, and others who stand with the leaders of the profession in the advancement of medical science; as well as Hoff, Leonard Wood, and others, whose remarkable executive abilities, particularly evident during and since the war with Spain, have brought not only fame to themselves but honor to the corps which they so worthily represented. Men of such qualities are those who are desired in the Army Medical Corps, and experience has demonstrated that, with the inducements in respect to promotion and pay formerly offered, such men could be secured for the military service.

The army reorganization bill, while it increased the Medical Corps by one hundred and twenty-nine men, provided for this increase almost entirely in the lower grades, the Corps being enlarged by the addition of two colonels, two lieutenant-colonels, ten majors, and one hundred and fifteen captains and lieutenants. The number of captains and lieutenants was thus increased from 125 to 240, while that of the senior officers was increased only from 67 to 81; thus practically reducing the chances of promotion to the grade of major and above in the proportion of from one in two to one in three—or increasing the length of service necessary to attain the grade of major from eighteen years to about twenty-seven years. In fact, so few were the places of higher rank provided under this bill, that, with a large number of young medical men of about the same age entering at the same time, many of the new comers could never expect to attain the grade even of major before retirement. The bill worked no hardships to medical officers already in the service, but its evil effects were directed toward that class of young men upon whom the future efficiency of the Medical Department must depend.

This condition of affairs, while grave in itself, was aggravated in the minds of medical officers by the fact that in no other staff department was promotion so reduced by the army reorganization bill, and it was felt that the Medical Corps had been subjected to unfair and humiliating discrimination. In spite of the fact that the Medical Corps is pre-eminently the scientific corps of the army, the law just enacted

graded it for rank, promotion, and pay below every other staff department and special corps of the army, and, with the exception of second lieutenants, graded it below the line. In accordance with the provisions of this law, a medical officer, to obtain a colonelcy, must in the future pass through three times as many files as an officer of the Quartermaster, Subsistence, or Pay Departments, through more than twice as many files as an officer of the Engineer or Ordnance Departments, and more than one and one-half times as many files as an officer of the Signal Corps. The discrimination against medical officers, compared with senior officers of the line, is equally striking; thus officers of the line, having attained the grade of major, have to pass through but four files to obtain the rank of colonel, while the medical officer has to pass through nine such files.

All these facts are fully appreciated by young physicians, several hundreds of whom are now serving with troops as contract surgeons, and they are declining to become candidates for positions offering so little in the line of promotion and future pay. The young man of worth and spirit is repelled, and he who is willing to accept a position offering such few inducements as a life career will scarcely be possessed of more than mediocre attainments. Men of this class, however, are not desired in the Medical Corps of the army and a lowering of the professional requirements for admittance, as they have been fixed for many years, has not as yet occurred—hence the vacancies, more than eighty in number, which exist in the corps at the present time.

The remedy for the above serious and unjust condition of affairs is simple. The service must be made more attractive, so that the same class of good men will make it their life career in the future as have done so in the past. It is a plain business proposition that the efficiency of the Medical Department must depend upon the class of men who enter it, and that the class of men which can be secured will depend upon the emoluments offered. These emoluments under the army reorganization bill are not what they have been in the past; consequently, until this defect is remedied, an equally good class of men will not come up in any number for examination. The health of the army lies at the foundation of its efficiency. Money, time, and labor spent in training, sheltering, and subsisting the soldier are lost unless a sound physical condition enables him to make return for what the State has expended upon him. The Medical Department, which is responsible for the sanitary condition of troops, is thus most important of all the staff departments, and the interests of the service and country require that it be maintained in a high state of efficiency. If the demand for young medical men of high professional attainments is greater than the supply, then the supply must be increased by higher pay, or, by what amounts to the same thing, better chances of promotion. Congress is responsible for the present state of affairs; Congress should remedy it at its next session.

The Medical Corps of the army has done too much for the advancement of medical science to fail of the earnest and active support of the profession of the country in its efforts to maintain its present high standard of efficiency for the future. To the practitioner of medicine outside the army the recent reorganization bill presents features of directly personal importance. As expressed by Dr. Reed, in his President's Address at the recent meeting of the American Medical Association at St. Paul: "When the Congress, by the enactment of a law, degrades, relatively, the status of an important body of medical men, engaged in the public service, it strikes at the status of every physician in the country. It becomes, therefore, the duty of every member of the medical profession . . . . . to resent as personal between himself and every member of the Congress who voted for this law, the action which cast a stigma upon our profession."

INFECTION AND INTOXICATION.

The interesting letter of Dr. Wasdin, in the Medical Record for June 8th, would seem to call for some reply in justification of the views expressed in our editorial in the issue for May 18th. From a knowledge of Dr. Wasdin's previous communications on allied questions, we feel secure in stating that there is no radical difference between us, that which exists being related to matters of terminology or definition. Dr. Wasdin states that "infection can only mean the reception of an organism into some portion of the animal body and its colonization at such point of entrance." This definition is obviously inadequate, inasmuch as the mere presence of micro-organisms can scarcely constitute infection, else most of us would be constantly infected with pneumococci, with colon bacilli, with streptococci, with staphylococci, etc. From the same standpoint, non-pathogenic bacteria would not, without some transformation within themselves or in their host rendering them pathogenic, be capable of giving rise to infection. As a result of the activity of the invading organisms and of the reaction of the invaded organism, certain substances are generated that exercise morbid physiological effects and are responsible for the state of intoxication, as manifested by chill, fever, delirium, headache, etc. It would seem better, therefore, to include as a necessary part of the process of infection an exhibition of the pathogenic properties of the invading organisms, together with the reaction on the part of the invaded organism.

From these preliminary considerations it will be appreciated that the terms infection and intoxication are all-sufficient to designate the fundamental features of most morbid processes. Infection may be local or general, while intoxication is necessarily constitutional. Just as local infection, so also general infection can occur only under certain favoring conditions which we designate comprehensively as susceptibility. The development of infection, local or general, is not dependent upon qualities of the invading or of the invaded organism alone, but upon certain mutual and reciprocal affinities of each. In the present state of knowledge, it seems safe to assume that infections are necessarily specific.

We are still of the opinion that the term bacteræmia is the preferable designation for general infection, rather than sepsis or septicæmia, as the former is distinctive and unambiguous, while the latter is precisely the reverse. Bacteræmia can mean only the presence of bacteria in the blood, with its consequences, while septicæmia means the presence of septic matters in the blood, and septic matters, etimologically, are putrid matters, and therefore essen-

tially toxic. The word, septicæmia, further, is used somewhat loosely to designate infection or intoxication, or even both. An insuperable objection to the use of the term septicæmia to designate the morbid results of the presence of bacteria in the circulation resides in the fact, therefore, that it is both unnecessary and confusing, as it does not imply the presence of bacteria in the blood (as does the term bacteræmia most clearly), and it does imply the existence of a toxic state (for which, as we have said, the term intoxication would seem sufficient).

ALLEGED BRUTAL TREATMENT OF THE INSANE.

A CORONER'S jury, in this city, recently censured, in the strongest terms, a physician and two of the nurses in the Manhattan State Hospital, on Ward's Island, the first for neglect of duty and the latter for inflicting bodily injuries which accelerated, if they did not actually cause, the death of an inmate of that institution. The patient had chronic nephritis and acute mania, but the coroner's physician also found several broken ribs and extensive bruises on the head and chest. The same physician recently found evidences of brutal violence on the body of a patient who had died in the insane ward at Bellevue Hospital. The hospital authorities said the police had clubbed the man before bringing him to the hospital, and this the police very naturally denied, throwing the charge of maltreatment back upon the hospital attendants. In order to prevent such disputes in the future, and incidentally perhaps to save the lives of helpless lunatics, a rule has been made that every patient taken to a city hospital by the police must be submitted to a careful physical examination in the presence of police and hospital authorities, before passing from the former's custody. It is shuddersome to think that such an order should be necessary, but that it is necessary no one at all conversant with the present disorder of things in many branches of the city government, can deny. The only possible thing to be said in mitigation of these horrors is that the bones and other tissues of the insane are often abnormally vulnerable, and therefore broken bones and extensive ecchymoses in these unfortunates are not evidence of such extreme degrees of violence as they would be in the mentally and physically sane.

News of the Week.

Pathological Society of Philadelphia.—At a stated meeting held June 27th, Drs. J. Chalmers DaCosta and R. C. Rosenberger reported "A Case of Trichinosis," and exhibited specimens from the gastrocnemius muscle. The patient was a young man, who had been apparently well until struck upon the calf of the leg by the pedal of a bicycle, following which the part was found to be enlarged and tender. Examination of a portion of excised muscle disclosed the presence of trichinæ. Eosinophilia was not marked, the number of eosinophile leucocytes in the blood at no examination exceeding four per cent. It was thought that the infection was an old one, which had been roused into activity by the traumatism. Dr. W. E. Robertson exhibited a specimen of "Polypoid and Ulcerative Colitis Due to Mercury." The patient had been an attendant upon a case of locomotor ataxia, and, it was believed, was intoxicated as a result of the absorption of mercurial ointment employed in administering inunctions. Dr. Robertson exhibited also "The Heart and Great Vessels from a so-called Blue Baby." The infant survived but two days, and upon postmortem examination the foramen ovale, as well as the ductus arteriosus, was found patulous. There was also a horseshoe kidney. Drs. H. D. Jump and J. D. Steele exhibited a specimen of "Polypoid Colitis with Adenoma of the Cæcum." The patient exhibited during life symptoms of the inflammation of the colon, with diarrhœa, the stools containing mucus and blood, but no tumor was palpable. Dr. W. W. Babcock exhibited a specimen of "Malignant Disease of the Adrenal Body with Secondary Invasion of the Kidney."

State Board of Medical Examiners of New Jersey.—At the annual meeting of the State Board of Medical Examiners, held at Newark, N. J., July 5, 1901, the following officers were elected: *President*, Dr. Charles A. Groves, East Orange; *Treasurer*, Dr. A. Uebelacker, Morristown; *Secretary*, Dr. E. L. B. Godfrey, Camden. Of the candidates examined, 29.4 per cent. were rejected.

Smallpox.—The records of the Board of Health show a slight decrease in the number of recognized cases of smallpox in the city during June, in which month there were 339 cases. In May there were 457, that being the largest number for any month this year. The total number of cases since the outbreak of the epidemic in November, 1900, is 1,521, and there have been 220 deaths from the disease in that period—a showing of which the New York City Health Commissioners can hardly be proud. During June one or more cases of the disease were reported from each of twenty-seven cities and towns in various parts of the State.

Investigating the Causes of Suicide in Chicago.—The number of suicides in Chicago has increased greatly during the past few years and the efficient Health Commissioner of that city has undertaken an investigation to determine the causes leading to this increase. He thinks that the mental depression so often accompanying and following an attack of influenza may be one of the factors present, and he has requested the Coroner to make special inquiry into the circumstances attending suicides, with reference to attacks of this disease.

Illegal Commitment of the Insane.—The daily press of Indianapolis has had much to say recently of an alleged "insanity trust," said to have been formed for the purpose of dividing the fees given for lunacy inquiries. Several young physicians are accused of having declared persons insane without any proper examination and even in the absence of the persons whose mental state was in question. A despatch from Indianapolis states that the County Medical Society recently held a largely attended special meeting at which resolutions were adopted censuring the physicians and others who have been identified with the alleged insanity trust, and calling upon the City Health Department to institute a rigid investigation of the charges of illegal commitments of the sane or insane.

Sanitary Matters under Civil Rule in the Philippines.—A despatch to *The Sun* from Manila announces that the Philippine Commission has passed bills establishing a Government biological and chemical laboratory there. Stations for the supply of vaccine virus will be established wherever necessary in the provinces. The laboratory and stations will be under a general superintendent,

who will receive a salary of $4,000 a year. The commission has also established a Health Board, composed of a commissioner, at a salary of $6,000 a year, a sanitary engineer, a chief inspector, secretary, and laboratory superintendent. The chief army and navy surgeons and the dean of the Medical and Pharmaceutical Association are honorary members without the right of voting.

Gift of a Hospital Ship to the British Government.—The hospital ship *Maine* has been presented by her owner, Mr. Bernard M. Baker, of Baltimore, President of the Atlantic Transport Company, and by the committee of American women, who fitted her out for service in South Africa, to the British Government and formally accepted with thanks by the Admiralty. The vessel made two trips between Southampton and Cape Town and Durban, in charge of American surgeons and nurses, returning each time with several hundred wounded and invalided British soldiers. She was then sent to Taku to receive the sick and wounded of all the countries having troops in China. She returned to Southampton last January and has since been out commission.

The Deaths in New York State during May numbered 10,327, nearly 500 above the average for that month during the past five years.

Death of a Centenarian from the Heat.—Barney Martin, a park laborer in Brooklyn, who celebrated his 109th birthday on June 10th, succumbed to heat prostration during the hot wave last week. He was born in County Cavan, Ireland, and came to this country seventy-nine years ago. His occupation, until about ten years ago, was that of a cab driver. His claim to have lived in three centuries is said to have been authenticated.

St. John's Guild.—The two floating hospitals of this beneficent society began their daily trips to the Seaside Hospital on Staten Island on July 5th. Physicians and others may obtain tickets for free distribution to poor children at the offices of the Guild, 501 Fifth avenue. On account of the number of beds on the hospital boats being limited no well children over six years old can be received. All tickets must be signed by a physician.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the Navy for the week ending July 6, 1901: June 29.—Surgeon T. A. Berryhill, detached from the Naval Laboratory, Brooklyn, N. Y., and granted sick leave for three months. July 3.—Asst. Surgeon J. H. Iden, detached from the Naval Hospital, Chelsea, Mass., and ordered to the Lancaster, July 8. Asst. Surgeon G. L. Angeny, detached from the Lancaster and ordered to the Naval Laboratory at Brooklyn, N. Y., July 8.

The Journal of Mental Pathology.—We have received the first number (June, 1901), of this journal, the aim of which is sufficiently expressed by the title. It is edited by Dr. Louise G. Robinovitch, and published by the State Publishing Company of New York. It will be published in ten parts, each year, appearing monthly except in August and September. The first number contains articles on "Psycho-motor Hallucinations in General Paralysis," by A. Marie; "Clinical Researches in Circular Insanity," by G. C. Ferrari; "Idiot and Imbecile Children," by Louise G. Robinovitch; "A Contribution to the Fissural Integrality of the Paroccipital: Observations upon One Hundred Brains," by E. A. Spitzka; "Suggestion during Natural Sleep," by P. Farez; "A Case of Verbal Blindness and Deafness and an Autopsy on the Body," by P. Serieux and F. Farnarier. There are also editorials, news notes, abstracts and reviews. The journal is neatly printed and shows signs of most careful editing.

Dr. S. Weir Mitchell was entertained on May 9 by the medical profession of Tokio and Yokohama, at a reception given in his honor at the Maple Club, Shiba Park. Addresses were made by Drs. S. Suzuki, M. Ogata, Kitasato, K. Miura, K. Takaki, and Stuart Eldridge. Baron Saneyshi, Surgeon-General of the Imperial Japanese Navy, proposed the toast in honor of Dr. and Mrs. Mitchell and Col. and Mrs. Schuyler, to which Dr. Mitchell responded.

The Plague shows no signs of diminishing in the several parts of the world where it has domiciled itself, but is rather increasing in many. The annual increase at Amoy and Hong Kong has appeared two weeks earlier than usual this year. It is impossible to collect satisfactory statistics of the disease, but U. S. Consul Johnson estimates that during the first half of May there were one hundred deaths a day in and around Amoy. At Marseilles a ship arrived on July 8 having had fifteen cases of plague among her crew of firemen. The passengers were removed from the ship, but will be quarantined in a house provided for the purpose by the Board of Health for ten days. The Bulgarian and Roumanian governments have etablished a quarantine of eleven days against pasengers from Constantinople, owing to the existence of the disease in that capital, and in consequence the Orient express service between that city and Western Europe has been abandoned.

The Army Medical Service at the Pan-American.—The United States Hospital Corps' camp, near the Government Building, is paved with broken stone, and is an exceedingly interesting exhibit. Dr. Edward L. Munson, captain and assistant surgeon U. S. Army, is in command, and there are 100 men under him. The camp consists of 22 tents. The hospital wards are composed of twelve "A" tents, set up in the form of a Geneva cross. There is a tropical ward, a winter ward, a summer ward. If the rest of the United States Army was represented in proportion to the hospital corps there would be over 5,000 United States troops on the grounds. The Hospital Corps and equipment station at the exposition are such as is usually assigned to an army brigade which contains 5,380 men.—*Buffalo Medical Journal.*

A New City Hospital.—Justice Truax of the Supreme Court has appointed commissioners of appraisal in the proceedings to be taken by the city to acquire land situated on Lenox Avenue, between One Hundred and Thirty-sixth and One Hundred and Thirty-seventh Streets, for the purpose of erecting the new Harlem Hospital. The value of the property to be acquired is in the neighborhood of $400,000.

The Heated Term.—One of the most severe and fatal "hot waves" of which there is any record in this part of the country occurred during the five days ending July 3. During that period the number of deaths from all causes in the city was 729, nearly 200 more than in the corresponding period in 1900. The number of deaths reported to the Health Department due primarily and solely to heat was 158, the greatest number in any one day being 61 on July 2. On that day there were 660 ambulance calls at nine hospitals, most of them for cases of heat-stroke, but the total number of prostrations was undoubtedly very much greater, for many were overcome in their own homes, and

others were taken away from where they fell in private conveyances. Horses suffered greatly, and the streets were literally encumbered with the bodies of the dead or prostrated brutes lying at intervals of two or three blocks. Many of the animals were already weak from the effects of the epizootic. In Philadelphia, for the week ending July 6, there were reported to the Bureau of Health, 857 deaths, 429 more than during the preceding week and 313 more than during the corresponding week of the previous year, and a larger number than has ever before been reported. Of this number 228 were of children below the age of 5 years, and 208 were attributed directly to sunstroke. The number of deaths in Baltimore for the week ending July 6 was 451, the highest number for a week of which the Health Department has any record. Of these deaths 236 were of children under five years of age. At least 50 per cent. of the mortality was said by the Health Department officials to be due, either directly or indirectly, to the intense heat.

Pink Eye in Newark.—A New York daily paper publishes a despatch from Newark, N. J., stating that the small boys who bathe in the more or less dirty waters of the river, canal, and bay, are suffering from sore eyes. The paper says that "physicians call the disease 'cayri neticite,' and they say it is caused by a germ in the water. It is contagious." The compositor must have had conjunctivitis himself who twisted the word into such awful shape.

An Epidemic of Anthrax Among Horses.—Planters in Bolivar and adjoining counties in Mississippi are alarmed by an epidemic of anthrax which is destroying their draught animals. The ravages of the disease are reported as being extraordinary, 90 per cent. of the work animals having perished in parts of the infected district. Numbers of planters have lost from 30 to 100 mules and horses and others have lost all they had. The disease has prevailed only a few weeks, and is rapidly spreading throughout the northern part of the State. The Pasteur serum is being extensively employed as a prophylactic in places threatened by the pest.

Alleged Discovery of the Bacillus of Syphilis.—In a paper by Drs. Louis Julien and Justin Delisle, read before the Paris Academy of Medicine on July 3, the writers claim that they have discovered the true bacillus of syphilis.

Infectious Diseases in Philadelphia.—During the two weeks ending July 6 there were reported to the Philadelphia Bureau of Health 225 cases of typhoid fever, 121 of scarlatina, and 98 of diphtheria.

Failure of the Skene Hospital Project in Brooklyn.—An order of the Supreme Court has been granted calling upon the creditors of the Skene Hospital for Self Supporting Women to show cause on October 9 why the corporation should not be dissolved. The corporation was organized on July 12, 1899, and the directors were Dr. A. J. C. Skene, John Claflin, Hugo Hirsh, Charles A. Moore, Alexander E. Orr, George F. Peabody, Royal F. Peabody, William H. Snyder and Spencer Trask. The object was to erect a hospital and dispensary for women, and was one in which Dr. Skene took a very special interest. Upon his death it was determined to establish the hospital as a memorial to him. It was estimated that the new building would cost about $300,000, but only $23,000 was subscribed, and of this amount only $3,261 was paid in.

Dr. Niels Finsen, of Copenhagen, the originator of the system of phototherapy which bears his name, is a young man of slender build, rather shy in his deportment, but full of enthusiasm and confident of the great value of his discovery. He believes that much more can be accomplished by his application of sunlight than by the x-rays in the treatment of lupus, ulcers, and many other affections.

Governor General Leonard Wood is suffering in Havana from an attack of typhoid fever. His illness was at first thought to be influenza, though some of the newspapers had it that the disease was yellow fever. It is gratifying to learn that the attack is mild, and that there is every reason to hope for a prompt and uncomplicated recovery.

The Pope Honors His Physicians.—A despatch from Rome states that Pope Leo XIII. entertained eight guests at luncheon in the Vatican on July 4th, in honor of his physicians, Drs. Lapponi and Nazzoni. Although the Pontiff has occupied the chair of St. Peter for twenty-three years, it is said that he had never before entertained any one at his table. In accordance with Vatican etiquette, the Pope's guests sat at a table in the center of the dining room, the Pope sitting alone at the table in an alcove window.

The Marion County (Ind.) Medical Society has received from Dr. J. Ewing Mears, of Philadelphia, some property in the city of Indianapolis on which to erect a building for a permanent home for the Society. The gift is intended as a memorial to Dr. Mear's father, who was one of the early physicians in that city.

The Cost of Patriotism.—The irrational method in which our national holiday is celebrated is shown by the great loss of life and property resulting from the recent observance of the Fourth of July. From such incomplete statistics as have been collected, it appears that nineteen persons were killed and 1,611 injured on that day by explosion of fireworks and the like. In addition, further deaths may be expected from tetanus. The loss of property by fire is estimated at about $60,000.

Obituary Notes.—Dr. Henry C. Wagoner, county physician of Somerset County, N. J., died at his home in Somerville, from the effects of the heat, on July 1st. He was born seventy years ago and was graduated from the Medical Department of the University of Pennsylvania in 1853. He was one of the medical staff of the Somerset Hospital.

Dr. James T. Young, of Washington, D. C., died on July 3d. He had been ill about a year, having suffered an attack of apoplexy last summer. He was a graduate of the Bellevue Hospital Medical College in the class of 1864.

Dr. Tabor B. Reynolds died suddenly at Saratoga Springs, N. Y., on July 3d, at the age of eighty-one years. He was graduated in medicine from the Albany Medical College in 1842. He had been during his life more or less prominent in public affairs. He was an ex-member of the State Assembly, an ex-sheriff, and had filled other offices

Dr. Aaron N. Braman, of Rochester, N. Y., died on July 6th. He was a graduate of the Medical Department of the University of Buffalo in the class of 1851.

Dr. Frank A. Jellecker, of New York, died from heat prostration on July 3d. Dr. Jellecker was graduated from Bellevue Hospital Medical College

in 1892 and served as house surgeon to St. Mary's Hospital of Jersey City, and as district physician to Lying-in-Hospital of New York. He was an active and zealous practitioner, and leaves many warm friends in the profession in this city to mourn him.

Dr. Henry C. C. Maisch died at Philadelphia on July 1, at the age of thirty-eight years. He was a son of the late Prof. John M. Maisch, for many years a member of the Faculty of the Philadelphia College of Pharmacy, and one of the editors of the National Dispensatory. After graduation from the College of Pharmacy in 1885, Dr. Maisch continued his studies in the University of Goettingen, receiving the degree of Ph.D. in 1889. On returning to this country he became assistant professor at Clark University, Worcester, Mass., subsequently professor in the Illinois College of Pharmacy in Chicago, and later Professor of Materia Medica and Botany in the Medico-Chirurgical College of Philadelphia.

Dr. Martin H. Williams died at Philadelphia on June 30, at the age of thirty-nine years. He was graduated from Jefferson Medical College in 1887, and was subsequently connected in various capacities with the college and hospital. He was also consulting pathologist to the Philadelphia Lying-in Charity, physician to the Franklin Reformatory Home, and assistant physician to the Philadelphia Sanitarium. He was for two terms a member of the Board of Public Education.

Dr. John K. Curwen died at Harrisburg, Pa., on July 2, of heart-disease at the age of eighty years. He was one of the oldest graduates of Yale College (in the class of 1841) and of the medical department of the University of Pennsylvania (in the class of 1844). He was resident physician for seven years in the Pennsylvania Hospital. He was instrumental in building the State Hospital for the Insane at Harrisburg and was its first superintendent. Subsequently, in 1890, he became superintendent of the State Hospital for the Insane at Warren and continued in that institution until 1900.

Dr. Morris Fussell died at his home near Chester Springs, Pa., on June 29, at the age of seventy-five years. He was the oldest medical practitioner in Chester county, where he had been engaged in practice for more than half a century.

Obituary.

SAMUEL HAYNES, M.D.,

SARANAC, N. Y.

Dr. Samuel Haynes died at his residence, Saranac, New York, June 26, aged seventy-three years and seven months. Dr. Haynes was graduated in 1852 from the Medical Department of the University of New York. He served as Acting Assistant Surgeon in the Carver and the Lincoln Hospitals, Washington, in 1864-65. Besides doing a general practice he made the affections of the eye, ear, nose, and throat a special study, and secured wide recognition for his skill in those lines.

He was a member of the Clinton County Medical Society, and belonged to the G. A. R. and the Masonic Order. He was always a hard student, and kept fully abreast of the times by reading numerous medical journals and by frequent visits to the hospitals of Philadelphia, New York, and Boston. His life and character need no eulogy other than the voluntary testimony of friends and neighbors of the towns in which he lived and for over forty-five years practised his profession with the single purpose of faithfully discharging all the responsibilities of a large and varied country practice.

Progress of Medical Science.

Journal of the American Medical Association, June 29 and July 6, 1901.

The Relation of Nervous and Mental Diseases to General Medicine.—H. A. Tomlinson speaks of the mode of death in certain cases of chronic sickness. He notes that, no matter what the somatic disease, all the patients presented marked symptoms of uræmic poisoning, and the condition of the kidneys was confirmed by uranalysis. Death came in one of four ways: 1. suddenly, from apparent cerebral hæmorrhage; 2. in apparent collapse with syncope; 3. more slowly with dilatation of the right heart, pulmonary œdema, vasomotor paresis and asphyxia; 4. with apparent asthenic bulbar palsy, sometimes rapidly fatal, again accompanied by a mono- or diplegia, a hemi- or paraplegia, of varying degree of completeness, death resulting from progressive asthenia. Autopsy failed to reveal any evidence of gross lesion or degenerative change to account for the symptoms and conditions observed during life. This experience led to the systematic study of the urine in chronic cases, to determine if possible how far the nervous manifestations of uræmia might be anticipated. The author found that marked changes might be present in the structure of the kidney without the presence of albumin or casts, and in the absence of the ordinary clinical signs of nephritis. Also that in proportion, as the nervous symptoms of uræmia were present, were the ordinary somatic manifestations absent. Furthermore, he found that uræmic poisoning, fatal in result, might be present as the result of auto-intoxication from imperfect metabolism, acting through the vasomotor apparatus and bringing about the abeyance of the function of the kidney, as the result of vasomotor spasm producing ischæmia, and in the absence of any marked degenerative change in the kidney itself. That is, the function of the kidney as a filter was not interfered with, but the excretion of the solid constituents of the urine was diminished and the chlorides were often entirely absent, while, for obvious reasons, urea would not be diminished in amount. In cases of parenchymatous nephritis and of the diffuse form in which the medullary substance of the kidney was most involved, the diminution of the excretion of urea was the rule and albumin and casts were more common. This experience led him to study more carefully similar conditions among recent cases, and he found that practically all cases admitted to the hospital gave evidence of some degree of renal inadequacy. In the cases of so-called delirious mania and in delirium associated with other forms of insanity the evidence of imperfect elimination was marked; and furthermore success in relieving these conditions was always in proportion and in sequence to the re-establishment of the function of the kidneys. In those cases which proved fatal and had been accompanied by high temperature with vasomotor paresis before death, the change in the kidneys was found to be parenchymatous; while in those without elevation of temperature but exhibiting progressive asthenia the change in the kidney was interstitial. By following the same method in the study of the other vital functions, the intimate association between irritability, exacerbations of excitement, disturbance of the special senses, recrudescence of delusion, and impairment of digestion with constipation was determined.

Actinotherapy in Cutaneous Medicine; a Preliminary Communication.—W. S. Gottheil describes and figures an instrument called an actinolyte, which consists essentially of an arc light, with the necessary arrangements for automatic action, inclosed in an iron hood. In front of the arc is a double, convex condenser, adjustable for focusing purposes by means of a rack and pinion. On rods that project in front from each side of the hood is a double convex focusing lens, also adjustable. By means of these condensers a circle of light of any size can be readily obtained; of course the smaller it is the more intense is the illumination. The hood is swung in such a way that it can be raised or lowered, and moved laterally and vertically, thus making it possible to project the light spot with exactitude upon the area that is to be treated. On the front bars and between the hood and focusing lens is a cell for the purpose of containing the fluid to cut off the heat rays. This can be filled with distilled water, or methylene-blue or alum solution, or it may be connected with the two water-bags for which arrangement is made, so that a continuous stream of heat-absorbing fluid may flow through the cell. The base of the instrument contains a suitable rheostat, with a selector on top. Either the continuous or alternating current may be employed. Several cases have been treated by Gottheil, one of lupus vulgaris, in which the results promise to be bril-

liant, and the other a case of tertiary ulceration of the leg. The advantages of this therapeutic method are: 1. It is eminently conservative. It causes no radiodermatitis, ulceration, or loss of hair, such as too often, though sometimes necessarily, occurs under the Roentgen treatment. 2. It is entirely painless. This is a great desideratum, more especially in dealing with women and children. 3. It is effective. New as the method is, there is already concurrent testimony from a sufficient number of competent observers to its utility.

Cæsarean Section Three Times in the Same Person in Six and One-half Years.—J. W. Coakley describes this unusual case, the nature of which is sufficiently indicated in the title. After each operation the patient made a good recovery.

New York Medical Journal, June 29 and July 6, 1901.

Notes on Ringworm.—A. Ravogli discusses first the nature of the malady and then passes to the important topic of treatment, saying that any substance capable of causing a shedding of the epidermis is efficient because the parasite goes off with the necrosed epidermic scales. Tincture of iodine, chrysarobin, resorcin, and pyrogallic acid are all commended, as is also mercuric chloride solution. When the disease has affected the hair and the hair follicles, the fungus becomes protected as it were, and here we must resort to epilation. The old Wilkinson ointment as modified by Hebra is recommended in these cases. Remedies producing pustulation of the scalp insure a thorough destruction of the parasite. Another plan commended is the application of the continuous current to the scalp, the positive (sponge) pole being impregnated with an antiseptic, such as a one per cent. solution of bichloride, and applied to the diseased patch, while the negative pole is applied at some distance. The current may be allowed to pass once daily for thirty minutes. Strong emphasis is laid on the contagiousness of the malady and thorough hygienic measures are advocated as the best means of prophylaxis.

The Mental Diseases of Childhood.—W. B. Noyes enumerates as genuine acute psychoses occurring at puberty the following: 1. Melancholia either simple, passive, or active, with excitement or stupor. 2. Mania, which may be simple, irritable, or of the nature of catatonia. 3. Mental confusion. 4. Hallucinatory madness, hallucinations being possible even in a young child, because sensory impressions become fixed early. The following progressive psychoses occur: 1. Dementia of puberty (dementia hebephrenica). 2. Simple precocious dementia. 3. Very rarely, general paresis. Of psychoses resulting from mental degeneration, there are: 1. Paranoia, which is very rare because delusions cannot appear in a child until systematized concepts or logical thought begins. 2. Periodic insanity, intermittent or circular, which is more common. 3. Phobias, obsessions, and *folie de doute*, which are not uncommon. 4. Kleptomania and dipsomania. 5. Sexual aberration. 6. Impulsive insanity; imperative conceptions, suicidal or homicidal. 7. Moral insanity. There are also the following combined psychoses or neuropsychoses: 1. Neurasthenia, more especially cerebral neurasthenia. 2. Hypochondria, most commonly of a sexual nature. 3. Hysterical insanity. 4. Choreiform insanity (the mental equivalent of chorea). 5. Epilepsy appearing as a chronic psychosis or a spasmodic dementia, or an acute psychosis as the psychical equivalent of epilepsy. Lastly, there may be psychoses by intoxication, of the nature of (1) auto-intoxication, (2) intoxication following infectious disease or (3) alcoholic intoxication.

Chronic Fluorine Poisoning.—F. Schwyzer reports the case of a journalist who was a large consumer of bottled beer, through the medium of which beverage the poisoning took place. The general symptoms referable to chronic fluorine poisoning are thus grouped by the author: uninuclear leucocytosis, greatly increased excretion of lime in the fæces and great increase of its excretion in the urine, general pains in the bones as in osteomalakia and increased coagulability of the blood with a tendency to thrombosis. In addition fluorine can be detected in the urine by means of certain chemical manipulations described in the paper. Fluorine preparations have been regarded as non-poisonous and have been advocated for use in preserving foods and as therapeutic agents. The case of the author shows that the salts of this element should be used with caution.

Remarks on Appendicular Abscess.—R. Guiteras says that one of the most important questions in the appendicular surgery of to-day is whether we should remove the appendix in abscess cases or not. It may be said definitely, he thinks, that in all large abscesses no effort should be made to remove it, but in the case of small, recent abscesses, or multiple abscesses of short duration, it might be well to do so, provided the condition of the patient is good. In regard to counter openings he thinks that the smaller the incision and the fewer the number, the better. In almost every case one incision is enough. In some cases, however, when the abscess is under the cæcum or ascending colon, and we have to drain around a curve, a counter-incision in the loin may be of assistance. As the fascia is often dense, a cross incision may be made in order to drain with ease. It can easily be seen how much more directly the drain can be inserted from below into the bottom of the abscess cavity, in the class of cases mentioned, than from above. When the abscess cavity has filled to the outer side of the gut it is no longer necessary to use double drainage, and we can drain from above or below, as we prefer.

An Improved Form of Ambulance would Increase the Value of the Treatment of Heat Prostrations.—F. Griffith advocates the use of a lining of asbestos or any of the various refrigerator materials on the side walls, ceiling, and floor of the ambulances. An electric fan might easily be attached and a supply of ice-bags could be carried for immediate use.

Philadelphia Medical Journal, June 29, 1901.

A Preliminary Report upon a Case of Uncinariosis (Ankylostomiasis).—Thomas A. Claytor declares that this disease has been diagnosed but rarely in the United States. The case reported was that of a boy of nineteen years whose development had been tardy both in mind and body. After examination of the blood there was strong inclination to the diagnosis of idiopathic pernicious anæmia. The red corpuscles numbered 1,577,000 (thirty-one per cent. of normal), the whites 4,400. The evacuations were then examined for the ova of the uncinaria duodenalis which were found. On this discovery thymol gr. xxx was administered, and repeated in two hours. Two hours after this castor oil was given, followed the next morning by magnesium sulphate. The patient began to improve at once after this treatment. There had been marked anæmia, swelling of the face, abdomen, and feet, great weakness, and dyspnœa on slight exertion. There seemed to be no gastro-intestinal disturbance. After the above treatment, the administration of iron and arsenic was at once begun with a full nourishing diet.

The Rôle of Infection and Intoxications in Diseases of the Spinal Cord.—Alfred Gordon believes that intoxications produce more deleterious effects on the spinal cord than on any other organ. An acute infectious intoxication of the spinal cord is characterized by a primitive alteration of the nervous tissue, consisting of congestion, but with a toxic vascular exudation, the contact with which is sufficient to produce foci of necrosis and hemorrhages; sclerosis follows almost inevitably. The difference between a new and an old inflammation is that in the first case there is an immediate and rapid reaction, whereas in toxic lesions, due to an old inflammation, we find no general reaction and less rapid involvement—but the result will always be the same. Various observations tend to prove that micro-organisms with their chemical products are apt to produce a disseminated sclerosis. Cases of multiple sclerosis have been reported as a result of intoxication with carbonic acid gas. Multiple sclerosis, with symptoms of progressive muscular atrophy, has followed influenza. In Landry's paralysis we always find a history of infection. The whole clinical picture of anterior poliomyelitis points to the presence of an infectious element. In muscular atrophies of spinal type, we often find a history of some acute infection or chronic intoxication. Cases of ataxia of spinal character have been reported after various infectious diseases. The infectious origin of myelitis seems to be an established fact. Transverse lesions of the spinal cord have been reported after infections. Amyotrophic lateral sclerosis due to lead intoxication has been reported. The nervous system in general and the spinal cord in particular can be attacked by infections secondarily and primarily. The writer believes that infections and intoxications of various character constitute the most frequent and the most active causative element in diseases of the cord. The day is not far distant when orrhotherapy will be used extensively in diseases of the nervous system.

American Medicine, July 6, 1901.

Experimental Yellow Fever.—Walter Reed, James Carroll and A. Agramonte call attention to two important points in connection with the possible importation and propagation of yellow fever. They believe that the results of their experiments indicate that the period of incubation of yellow fever occasionally exceeds the quarantine period of five days, and that although exceptional

this must not be left out of consideration. They also believe that their observations emphasize anew the importance of the recognition by the profession of mild and very mild cases of yellow fever. Guiteras says: "I cannot insist too much upon the importance of the diagnosis of the first case of yellow fever in a locality. Undoubtedly the cause of the epidemic of yellow fever is to be found in the introduction into a community of cases that are not suspected to be yellow fever." In the light of their investigations, the writers believe that the failure to detect cases of mild yellow fever has been the most important factor in the development of the theory of the propagation of this disease by fomites.

Medical News, July 6, 1901.

Practical Notes Relative to Rabies.—N. G. Keirle declares that if there is a suspicion of rabies, the patient should be treated without delay. Delay is not only dangerous, but may be deadly. The length of time of treatment should not be less than 23 days. If the bite was severe, and there is persistent induration about the wounds, it is advisable to continue treatment off and on until the induration subsides. Unless it is certain that rabies is absent, those exposed should not be held pending investigation. If the animal can be securely kept, it is a mistake to kill it. Treat the patient and observe the animal. If after a few days the latter is evidently in sound health, the treatment may be stopped. There is no serum antitoxine analogous to that of diphtheria. The material used is a part of the spinal cord of a rabbit that has died of rabies. This is rubbed up in sterile cool water. The method of treatment is by means of hypodermic injections, generally in the abdominal region.

The Boston Medical and Surgical Journal, July 4, 1901.

Report of a Case of Porro-Cæsarian Section for Placenta Prævia Centralis.—N. J. Gillette reports a case in which none of the old methods could be used with success, as the os was dilated but little larger than a ten-cent piece, and every attempt at forcible dilation was accompanied by hemorrhage, and tampons could not be packed tight enough to prevent blood escaping. The patient's condition was such that another hemorrhage would be likely to prove fatal. Cæsarian section was performed and a child delivered and resuscitated. The placenta was removed, but the uterus would not contract, and hemorrhage was again threatened; consequently the uterus was amputated. The patient made a good recovery and returned home at the end of four weeks, well except for pallor and anæmie headaches. The child is now, at four months, a big, healthy baby.

The American Journal of the Medical Sciences, July, 1901.

Primary Tuberculosis of the Pericardium.—David Reisman concludes that tuberculosis of the pericardium is comparatively common. It may be primary in the clinical, rarely in the pathological sense, or it may be secondary. The primary form is either a hæmatogenous infection or is the result of extension by contiguity from some trivial focus. The most frequent source of infection is a tuberculous mediastinal or bronchial lymph gland. The primary form is usually chronic, and appears as an obliterative pericarditis. In a large number of cases there is an associated mediastinitis, with adhesions to the pleura, sternum, and ribs. The symptoms are those of adherent pericarditis or mediastino-pericarditis. In every case of obliterative pericarditis of obscure etiology, tuberculosis should be suspected, particularly if there are no endocardial murmurs. The diagnosis of this affection can usually be made only by excluding other causes, except in rare instances of successful animal inoculation with fluid obtained by tapping a pleural cavity. There may be no characteristic features at the autopsy, so microscopical examinations should be made in every case of adherent pericardium before tuberculosis is excluded. In rare cases a clinically primary case is acute, the exudate being serofibrous, hemorrhagic, or purulent.

Gonorrhœal Myositis.—Martin W. Ware reports the case of a man thirty-five years old who in the fourth week of an attack of gonorrhœa had a chill and fever, with pain in the left knee-joint. There was no evidence of joint trouble. Later there developed severe pain about the shoulder joint, and a mass the size of a walnut was felt in the muscles. The overlying skin was movable. The daily elevation of temperature was to about 100° F. In a few days, although iodine was applied locally, the mass grew, and the pain became so severe that incision was resorted to in the expectation of giving an opening to pus under tension. The muscles were sodden, of a grayish color, and further in depth very friable. Although no pus appeared, there was a free oozing of turbid serum. Relief from pain followed, but the induration extended. The cover-glass smears showed diplococci, but no other micro-organisms. The section of the muscle showed interstitial inflammation. There was cloudy swelling. There was some shrinkage from the perimysium and the nuclei in places showed a tendency to multiply which may be a sign of regeneration. The connective tissue proliferation largely increased the interval between the individual muscle fibres and also compressed them. Sections stained for gonococci showed nothing of the muscle structure, but a liberal scattering of diplococci grouped about the nuclei and in the interstices of the muscle fibres. This location of the gonococcus is explained either as a metastasis in the muscle or as an extension of inflammation from neighbouring joints or bones.

The Lancet, June 22 and 29, 1901.

Sugar-Free Milk as a Food for Diabetics.—R. Hutchison has devised a milk preparation which contains all the original casein and salts along with a certain additional proportion of fats. It is practically sugar-free, and appears like an unusually rich ordinary milk. The following diet-schedule is suggested:

BREAKFAST.—Bacon; eggs scrambled with butter; fish with butter sauce, or some form of cold meat; toasted protene bread with plenty of butter; and café-au-lait made with sugar-free milk and sweetened with saccharin if desired.

DINNER.—Soup (without vegetables or other carbohydrate-containing matter); fish (preferably one of the fatter sorts); meat with green vegetables and melted butter; custard of eggs and sugar-free milk; and cheese with protene bread and watercress. Beverage: whiskey and water or any dry natural wine.

SUPPER.—A cup of well-made beef-tea; eggs in some form—e.g., as an omelette with as much butter as possible; fish or cold meat; and cheese with protene bread and butter and a salad with plenty of salad oil. Beverage: a glass of sugar-free milk.

The rest of the milk, sufficient to make the total daily allowance up to three pints, should be taken as a beverage between the chief meals.

Meat Preparations; the Possibility of Myosin Albumin.—F. W. Forbes Ross says that many of the meat preparations now on the market are faulty, from a physiological point of view, because they contain one solitary constituent property from meat and in some cases from blood, and often this particular constituent is by no means the most nourishing. The nutritive, formative, and reparative principles are discarded for those which are at the best merely stimulating. He advises the use of mixed albumins from meat, using to designate the compound the comprehensive term "myosin-albumin." This is especially serviceable, not only by reason of its own inherent nutritive values, but also because it can be prepared in so many different ways. It forms the ideal ration for the soldier and is also useful in disease.

Acute Cardiac Failure.—Richard Douglas Powell, in the Cavendish Lecture, mentions among the causes of this accident direct injury, as when a healthy man ruptures, during a violent exertion, one of his aortic cusps, the displacement of a clot from a systemic vein, and cardiac failure from over-taxation. There are always two factors at work, direct fatigue of the nervo-muscular tissue and a poisoning of the blood from an auto-metabolic source. Among the concomitants of heart distress or failure during violent exercise, as running, vomiting is one of the most common. One of the most constant after effects is anæmia. Gastro-intestinal attacks, vomiting, and diarrhœa are not uncommon occurrences in those who, habitually leading a sedentary life, suddenly take to exhausting exercise. The heart of a child between six and twelve is, according to the author, relatively hypertrophied, which is to be ascribed to the ceaseless activity at this age. A point often forgotton in the case of young children is their special aptitude for short spells of active exercise, but their complete unfitness for prolonged monotonous exertion. The treatment of acute cardiac failure from overstrain involves a few weeks of rest and many months of careful supervision. In many there is a feeble lung capacity, and for such cases well-ordered respiratory exercises are of great utility.

The following are the special factors in acute cardiac impairment in acute disease: (1) maloxygenated and otherwise contaminated blood-supply to heart muscle and nerve; (2) excessive weight of blood burdening the heart; (3) exhausted innervation from sleeplessness and physical cardiac fatigue, (4) positive obstruction to the flow of blood through the lungs; and (5) changes in the texture of the heart muscle incidental to the disease and especially to the pyrexia. Now the first two indications are undoubtedly met by depleting the blood volume from the venous side by attention to secretions, the occasional

use of mercurials, careful limitation of the food taken in place of the over-feeding often to be observed, and in some cases a small blood-letting.

Oxygen inhalations are also of service. For the third and fourth indications in the foregoing list, we possess no better remedy than strychnine, which is best given by syringe in case there is much abdominal distention. The fever should be kept within bounds by any well-approved method.

Practical Points in the Treatment of Threatened Asphyxia.—For the purpose of restoring respiration R. L. Bowles believes that the best method is that of Marshall Hall, modified to embrace the corrections of experience. (1) It is truly a very "ready method" and requires no apparatus; (2) the instructions are easy to be understood by ordinary unprofessional people; (3) on account of the immediate adoption and continued use of the prono-lateral positions this method is more to be trusted than any other for keeping the pharynx clear of obstruction; (4) it empties the stomach and gradually clears the lungs of the watery and frothy fluids, and will surely and gently introduce sufficient air at each inspiration to take the place of the fluid which has been expressed; (5) the pressure applied to the back when the patient is prone exerts an influence on the heart, the blood is moved onwards towards the lungs which are, by the next movement, opened up to receive it, and thus the right side of the heart and the cerebral vessels are relieved of the engorgement which we know to exist; (6) the safety of the patient is more perfectly secured by keeping him on one side during the whole treatment, one lung being thus kept quite free; and (7) in apnœa, or, after a time, in drowning, when the upper lung is believed to be freed from water and frothy mucus, if more air is required, it can be introduced by elevating the upper arm above the head each time the patient is turned on his side, an addition, in part, of the Silvester to the Marshall Hall treatment.

Asparagus and Hæmaturia.—By J. S. Mackintosh. The patient, a man of 73, passed considerable blood in the urine and the kidney was detected as its source. The only cause that could be assigned for the occurrence was the fact that the patient had eaten heartily of asparagus. This vegetable, says the author, is a stimulant diuretic causing dilatation of the afferent and contraction of the efferent blood-vessels of the kidney. The patient, then, with the kidneys engorged with blood exposed himself to a thorough cooling of the surface of the body. The mode of production of the hæmaturia seems plain enough. What is not so clear was its transient character. Apparently, a train had been well laid to lead to an explosion of an acute nephritis, but ended, happily, in a mere fizzle. The patient himself was, for his years, remarkably active, both in mind and body. Of spare habit and small stature, he enjoyed, as a rule, excellent health, beyond occasional slight "uricacidity" manifestations. He exhibited a degree of arteriosclerosis not uncommon at his age, but of chronic interstitial nephritis no symptoms at all.

The Early Operative Treatment of Acute Mastoid Inflammation.—Edward B. Dench, describing the symptoms of mastoid involvement, says that the pain is apt to be severe; there are headache and sleeplessness and in children a considerable rise in temperature. Temperature is of but little value in determining the presence or absence of any inflammatory process within the mastoid. Remembering the possible fatal issue, it seems advisable to urge early operative interference in all cases of acute middle-ear inflammation, and especially in cases following influenza or, in fact, any acute infectious disease. The writer states that attempts to abort inflammation of the mastoid have proven most unsatisfactory in his hands. The first step in the relief of acute middle-ear inflammation is the early and free incision of the membrana tympani, the incision being extended well out and upon the upper and posterior wall of the canal, so as to relieve any tension in the mastoid process. If after this all tenderness does not subside within a few days, he is in favor of opening the mastoid process. In no instance has he ever opened the mastoid process without finding considerable destruction of osseous tissue. He has never found the mastoid in such a condition that he would have been warranted in delaying the operation. As to the symptoms which warrant operative interference upon the mastoid, local tenderness is the most constant and the one most to be depended upon. It is usually found over the region of the antrum. The dangers of operative interference under proper antiseptic precautions are practically *nil*.

A Case of Lobar Pneumonia with Hyperpyrexia; Recovery.—Wm. R. Williams reports this case. The patient was a man 25 years old. There was severe pain in the left chest upon breathing and coughing; the sputum was rusty and very tenacious. The heart action was much accelerated. Delirium was pretty constant at night, and present to a moderate degree during the day. The temperature was highest on the second day, when it reached 107.4° F. The urine on admission contained 20 per cent. by volume of albumin. Many casts were found for some weeks. On the twenty-eighth day the urine was normal and remained so. The physical signs were the typical signs of consolidation and of fibrinous pleurisy over the whole of the left lower lobe. The treatment consisted in the administration of whiskey and strychnine, nervous sedatives, and bathing. The temperature fell on the ninth day and the delirium ceased.

Forced Flexion and Adduction in Cases of Extreme Sensitiveness of the Hip-Joint.—E. H. Bradford describes a case in which all methods of treatment failed to fix the hip-joint absolutely, and to counteract the resulting spasm of the muscles about it. Under ether a plaster-of-Paris bandage was applied to the limb, which was forcibly flexed and slightly adducted. The result was a complete cessation of night cries. A month later the limb was again fixed in a straight position with traction, and a recurrence of the night cries took place. These were again checked by fixation in a position of forced flexion and adduction without traction. The procedure seems applicable to such cases of an extreme type when other measures have failed. It is, of course, a temporary measure, and is successful only when applied with care. The child is secured upon a bed-frame lying on the back, to prevent rolling, and the flexed and adducted thigh, secured in a plaster spica, is slung so that the weight may not be an inconvenience.

Double Ureter of the Right Kidney.—Charles L. Scudder reports this case occurring in a child twenty months old. Without previous warning, the child became ill. She first was restless and vomited, later complaining of stomach-ache. She appeared dull and feverish. The bowels moved naturally after a dose of castor oil. The next day the child was very ill and looked pinched and distressed. The pulse and respiration were both accelerated and the temperature was 100° F. A soft, elastic, movable, slightly tender, sausage-shaped tumor was palpable in the right side of the abdomen. On the third day an enema caused a normal fecal dejection. The child was restless and crying out as if in pain. She appeared septic. There was an indefinite soft and elastic mass extending from the middle of the iliac crest nearly to the symphysis pubis. The temperature was fairly constant at 103° F. The pulse was about 140. Laparotomy was performed and the tumor was found to be retroperitoneal. The child's condition precluded further operation. She recovered from the anæsthetic and died the next morning. The anatomical diagnosis made at the autopsy was as follows: Duplication of the right ureter and renal pelvis. Agenesis of the orifice of one ureter and extensive dilatation, elongation, and tortuosity of the same, with a hydronephrosis and pyelonephritis of the corresponding portion of the kidney. Slight hydronephrosis and dilatation of the ureter of the remaining portion of this same kidney.

Bronchial Concretions.—L. W. Atlee presents an interesting account of a man aged twenty-nine years who was admitted to the hospital with the diagnosis of "bronchitis." Physical examination of the thoracic organs revealed some dry, hard, small, harsh râles on the anterior part of the left chest at the second interspace, on the parasternal line. The temperature was 101°; pulse, 84; respirations, 24. There was sharp pain, increased by cough, referred to this spot, and also a frequent teasing cough. The sputum became slightly purulent. By the twelfth day the temperature began to show a septic character, and the sputum was very profuse and intensely fetid. On the fourteenth day, during a violent fit of coughing, the patient expectorated a concretion about ¾ of an inch long, conical in shape, the largest diameter being about ¼ of an inch. It gave the reactions for lime and phosphorus. It is supposed that this concretion had been latent in the bronchus for a long time, and that in some way it was disturbed and caused to act as an irritant. This led to infection of the part, hence the bronchitis, the pneumonia, the tissue necrosis, and the freeing and expelling of the body.

The Malaria of the Tropics.—Barton Lisle Wright states that the predisposing causes of malaria are tropical climates, summer seasons, low marsh lands, dampness, decaying vegetable matter, and the prevalence of a certain species of mosquito, the Anopheles claviger. The exciting cause is the plasmodium of Laveran, which gains admission into the blood by the bite of the mosquito. The tendency in all malarial infection is for the feve-

to intermit, and it is only through accident that we meet with cases which remit. The manner in which this occurs is as follows: Instead of the quartan, tertian, or quotidian parasites in a selected case maturing simultaneously, numbers of them mature and sporulate before their brothers, thus giving rise to various typical cases of a remittent character. Clinically, there are the benign, the malignant, and the pernicious types. The malignant cases differ clinically from the benign, in that they are usually of longer duration and relapses are frequent at intervals of from ten to fifteen days. The patients tend to develop cachectic symptoms, and besides the more pronounced headache, anorexia, loss of flesh and energy, there are neuralgic pains in different parts of the body, great mental depression, pigmented skin and scleræ, and hemorrhages from the mucous membranes and beneath the skin. The prognosis is very unfavorable if change of climate cannot be secured, and even then many patients remain permanent invalids. Pernicious attacks may occur during any case of malarial infection but are more frequent in the malignant cases. They may be divided into cerebral and algid. Hæmoglobinuric fever (blackwater fever) is an exceedingly fatal variety of infection. The bilious remittent type is met with in malarious localities, the fever being associated with marked gastric symptoms. Malarial cachexia is a chronic condition resulting from severe or repeated malarial infection, characterized by pronounced anæmia with its associated symptoms, and usually by an intense yellow color of the skin. A change of climate is advisable, with warm clothing and nutritious diet.

British Medical Journal, June 22 and 29, 1901.

Transplantation of the Ureters into the Rectum by an Extraperitoneal Method for Exstrophy of the Bladder, and a New Operation for Procidentia Recti in the Same Patient.—George A. Peters carefully describes this operation, which he performed on a male child. He states that eighteen months after operation there was no evidence whatever of reabsorption of urine from the rectum. The mucous lining of the rectum may have the same disposition towards the urine that is observed in the bladder and kidney epithelium, since they have a common embryonic origin. The cloaca in this case seemed to act habitually as a bladder, and only performed the function of a rectum at such times as a movement of the bowel would take place under normal conditions, namely, once or twice a day. For this extraperitoneal operation the following advantages are claimed. There is absolutely no danger of peritonitis. A prominent natural papilla is secured. This is the natural manner of debouchement of a duct upon a mucous surface, and affords the best possible protection against spread of infection up the ureters. The ureters are further protected against infection or sloughing by lying undisturbed in their natural environment almost to the point of implantation. The operation is easy of performance, and practically free from shock and exhaustion.

A Note on the Surgical Treatment of Spina Bifida.—Lewis Marshall describes his method as practised on a baby a few months old. The tumor was about the size of a tangerine orange. An incision, at first small to admit of the slow escape of the fluid, was made in the middle line. The child lay with the head low and the buttocks raised. When the sac was empty the inner lining was dissected up on either side as far as the spine. Then this was turned inwards and a Lambert suture was applied as in suture of the bowel. Then sufficient external skin was placed over the inner pad and secured by interrupted sutures of silkworm gut. The dressing used was collodion and cyanide gauze, applied in thick successive layers. In the after-treatment, the raised position of the buttocks should be maintained for the first week in most cases. Of course there may develop contraindications to this.

The Use of Oils for the Production of Surface Films on Water.—Charles A. Kohn has discovered from his work on this subject that both crude petroleum and crude creosote oil produce very perfect and coherent films on water. These films are formed immediately, a drop of oil is placed on the surface of the water, and they remain complete for days. They lose little by exposure even in a hot climate. In all these respects the crude oils are superior to the kerosene usually advised for the destruction of mosquito larvæ.

Nicotine Poisoning from a Self-Administered Tobacco Suppository.—Frank A. Gill reports the case of a convict who inserted, with intent to smuggle, one ounce of cut cavendish wrapped in paper into his rectum. He was not able to remove it when he desired, and after two or three hours he began to present all the symptoms of nicotine poisoning in aggravated form. An enema and stimulants effected a cure.

Clinical and Experimental Observations upon General Paralysis.—Lewis C. Bruce concludes that general paralysis is a disease directly due to poisoning by the toxins of bacteria whose point of attack is through the gastric and intestinal mucous membrane. The poisoning is probably a mixed poisoning, but the bacillus coli is apparently one of the noxious organisms. The result of the treatment with serum, taken from a case of general paralysis in a condition of remission, and injected subcutaneously into an early progressive case points strongly to the fact that some form of serum treatment is the proper treatment for this as yet incurable disease.

Observations Bearing upon the Question of the Pathogenesis of General Paralysis of the Insane.—W. Ford Robertson presents the following summary of his article: General paralysis is dependent upon the occurrence of a chronic toxæmia of gastro-intestinal origin; the toxins are mainly bacterial and are formed in consequence of a partial breakdown of those forces by which the harmful development of the micro-organisms that constitute the ordinary flora of the alimentary tract is normally prevented; the toxins are absorbed and tend specially to produce proliferative and degenerative changes in the vessels of the central nervous system; these vascular changes tend to set in earliest in those parts of the brain that are relatively best supplied with blood, because their walls are brought in contact with the largest quantity of toxins. tabes dorsalis is dependent upon the same form of toxæmia; the part played by syphilis in the pathogenesis of general paralysis and tabes dorsalis is essentially that of altering the natural immunity, there is some evidence in favor of the hypothesis that this alteration in the natural immunity is dependent upon commencing exhaustion of the leucoplastic function of the bone marrow; the treatment of general paralysis and tabes dorsalis should be directed primarily to the correction of the disorder of the alimentary tract; probably the only means by which it will be found possible to check the excessive growth of the gastro-intestinal bacteria is the employment of specific antitoxins; to arrest the disease by such means may be more practicable than would at first sight appear, because it is probable that the specially injurious toxins are the products of only a few bacterial forms.

Faradization of the Head in the Treatment of Chronic Insomnia and Associated Neuroses.—Samuel Sloan states that all drugs, even tonics, are to be stopped during the treatment here recommended. For a few hours after the treatment, no mental or physical exertion should be allowed. Patients should not talk while the current is in action, and must sit quietly for a few moments after the electrodes are removed from the head in order to avoid untoward symptoms. The more pronounced the coexisting conditions, such as pain, the less satisfactory has been the result. No "shock" is felt by the patient, only a soothing feeling being experienced. In the purely psychic cases, every patient to whom the treatment was applied one was either cured or much improved. The writer believes that the real influence of this treatment arises from the restful action induced in each molecule of the brain substance by the gentle rythmic impulses of the current. An essential to this treatment is an instrument for measuring the amount of the current employed. Dosage of current alone, is not sufficient for success or even for safety. There must be a special kind of secondary coil, and a means of completely controlling the current in series with the patient is essential. The coil used in the writer's cases has eight to nine thousand windings. The greater the number of windings, the greater the sedative effect. The maximum amount of current given is one milliampère. The dose at the first sitting should not exceed one-third of a milliampère. Both the secondary current and the battery current to the primary must be controlled by rheostats. The electrodes are soft, and are applied to the brow and to the nape of the neck. The vibrations of the rheotome should be the fastest obtainable. The current should be applied for fifteen minutes each time, three times a week for two weeks or twice a week for three weeks, six applications in ordinary cases generally proving sufficient.

Observations on Sea-Sickness.—James R. Wortabet believes that in severe retching and persistent sickness, nothing is so trustworthy as a hypodermic injection of morphine. With this exception he never depends alone on one method of treatment, for even sea-sick patients have their idiosyncrasies. Those suffering especially from gastric phenomena should provide themselves with a good flannel roller bandage twelve feet in length and six inches in breadth, and wind it round the trunk over the whole width of the abdominal region; this will often afford great comfort by preventing the contents of the

viscera from undue movement. A few turns of a surgical bandage round the head also appear to allay a good deal of the accompanying headache.

Berliner Klinische Wochenschrift, June 17, 1901.

The Enterogenous Nature of Severe Anæmias.—E. Grawitz says that every case of severe pernicious anæmia is to be regarded as secondary either to known diseases like cancer or malaria, or to the presence of known or unknown poisons such as carbonic oxide, possibly lead, the poisons of intestinal parasites and of albuminous decomposition, to chronic minute hemorrhages or to change in the bone marrow, and that in almost every instance it is now possible by careful and patient investigation to find the cause of the blood changes. Keeping this in mind it is evident that the proper way to look at such diseases is to consider the blood lesion simply as a very prominent symptom and to group the cases according to the underlying causative factor. Hunter's theory of absorption of the products of oral sepsis does not cover the whole field, while the importance that has been ascribed to atrophy of the gastric tubules, the disturbances of nitrogen metabolism, the presence of intestinal parasites, etc., is exaggerated, for all of these conditions may and do exist without the production of serious blood changes. The conclusion is that something more, probably an individual predisposition is required. The results obtained in treating the disease may sometimes prove valuable in deciding the etiology: for example, the author has permanently cured a number of cases by intestinal antisepsis and the use of a very carefully selected easily digestible diet, proving the enterogenous nature of these cases.

A Case of Pulsation of a Cicatrix of the Tympanic Membrane.—F. Grossman describes a case which is interesting because the detection of an anomaly in the ear gave a clue which resulted in the discovery of serious systemic disease. The drum membrane of a middle-aged woman who was troubled with tinnitus and deafness showed, in addition to the normal cone of light, a second bright streak which pulsated synchronously with the radial artery. As the pulsation was not rythmical a cardiac lesion was suspected, and a thorough physical examination showed the presence of a parenchymatous goitre, the size of a hen's egg, compressing the right carotid, with secondary dilation and hypertrophy of the left ventricle and relative mitral incompetence.

Münchener Medicinische Wochenschrift, June 18, 1901.

Pathological Alterations in the Bile.—L. Brauer publishes a number of experiments on artificially produced changes in the bile, and among the more important results noted is the fact that certain poisons, notably ethyl and methyl alcohol, appear in this secretion soon after their administration. A further significant observation is that these same agents are capable of producing an easily recognizable albuminocholia which persists up to the third day and that amyl alcohol seems to be more intense in its action than ethyl alcohol. Microscopical examination of the bile sediment also revealed the presence of distinct cylindrical epithelial casts which were sometimes branched, and after the addition of potassium iodide fine, frequently spiral cylindroids were found. In addition some large polygonal cells, with large central nucleus and granular protoplasm, resembling liver cells were seen. Since the liver is the first organ to receive the blood from the portal circulation, which is charged with the products obtained from the intestine, it is especially susceptible to pathological alterations as the result of intoxications, and the demonstration of the presence of appreciable amounts of alcohol in the bile throws an added light on the theory of the causation of the alcoholic cirrhoses.

Gonorrhœal Exanthemata in Infants.—J. Paulsen reports a number of cases which lead him to conclude that skin lesions in infected infants are much commoner than in adults suffering from gonorrhœa. The eruption consists of vesicles containing pus which on microscopical examination is found to contain the gonococcus in abundance, and this is the only way in which the diagnosis from other innocent eruptions can with certainty be made. Either an ophthalmia or primary infection through the skin may give rise to this cutaneous metastasis which in severe cases may go on to the development of furunculosis and glandular suppuration. The treatment consists in cleanliness and in opening the larger vesicles, after which the gonococci rapidly disappear and are replaced by other micro-organisms, and then recovery promptly follows.

Typhoid Infection from the Cadaver.—W. Fürnrohr says that two cases of typhoid fever contracted during the performance of post-mortem examinations have already been reported, and adds a third in which he himself was the victim. There is no doubt that his sickness was a true typhoid, and all possibilities of the usual modes of infection could be excluded, since the locality at the time was entirely free from endemic disease and the only source possible lay in the body of a typhoid patient autopsied three weeks before the first symptoms appeared.

Deutsche Medicinische Wochenschrift, June 20, 1901.

The Tuberculin Treatment of Pulmonary Tuberculosis.—Goetsch ascribes the failures of the tuberculin treatment, and the consequent discredit into which it has fallen, to the fact that when the substance was first introduced it was recklessly used in too large doses and in wholly unsuitable cases. He himself has continued its use for ten years and has obtained gratifying results by giving it in very small doses till tolerance was established and by adhering strictly to certain precautions. Out of 175 patients treated in this way 125 are to be regarded as cured, the average length of treatment being 198 days. The first principle consists in never injecting tuberculin into a febrile patient. The temperature must always first be reduced by rest in bed and packs, and the general condition must be sufficiently good not to preclude all hope of success. The injections are made twice a week starting with a dose of 0.0001 g. of the old tuberculin. If this is followed by too strong a reaction the dose must be diminished to 0.00001 g. and in some cases it may be necessary to have recourse to the new preparation (Tuberculin R), which is weaker, before tolerance can be established. By gradual increase it is possible to raise the dose to 1.0 g. of old tuberculin, the precaution being taken never to increase the amount until the preceding injection has failed to cause any reaction and also to keep the patient in bed on the day of and the day after the injection. Carried out in this way the treatment is safe and cures, as manifested by the recession of physical signs and disappearance of tubercle bacilli, are regularly observed.

The Treatment of Laryngeal Tuberculosis.—G. Besold is an advocate of active local treatment which may advantageously be carried out by the use of lactic acid, the curette, and the galvano-cautery. As an astringent lactic acid does good service in a strength of twenty to thirty per cent. but as a disinfectant fifty to sixty per cent. should be used, and for cauterization seventy-five per cent. or even the concentrated acid is required. In solution of medium strength it acts well in producing a covering for fresh wounds, but it should always be carefully localized in its application and not be blindly painted on. Curettage should always be vigorous and if possible the whole thickness of the mucous membrane should be removed, leaving the submucosa exposed. Small lesions are often best treated by touching with the galvano-cautery, which should be kept at a white heat and not allowed to scorch the adjoining areas, which is the result of using too low temperature and causes disagreeable secondary inflammations. In severe cases heroic surgical treatment offers the only chance; even the entire epiglottis may be removed without impairing the power of deglutition.

French Journals.

Is Leprosy Contagious?—Dom Santon states that the careful and impartial study of this subject shows that leprosy is contagious; this power of contagion is not often exercised; hygiene and cleanliness render it almost *nil;* occlusive dressings, asepsis, antisepsis, and disinfection are sure means of protection. The question of danger of contagion is much more simple than one would think. According to Hansen, "in order that leprosy be communicated, there must without doubt be much uncleanliness." However, the observance of the conditions mentioned above will effectively prevent the contagion.—*La Presse Médicale.* June 15, 1901.

Umbilical Hernia Containing all the Abdominal Organs.—Alain reports the case of a woman of twenty-six years, who menstruated at fifteen years, and had suffered from gonorrhœa, but not from syphilis. She was pregnant at the ninth month when she entered the hospital. The fœtus remained immovable and had to be delivered by forceps. All of the abdominal organs were imprisoned in an enormous umbilical hernia. The child had only one eye, and lived a quarter of an hour. The cord was voluminous, and the three vessels were separate.—*Journal de Médecine de Bordeaux.* June 16, 1901.

Therapeutic Monthly, June, 1901.

Principles of Cardiac Therapeutics in Recent Valvular Disease.—Eli H. Long divides the cases of actual cardiac disability into (1) valvular, (2) myocardial, and (3) nervous. From the first indication of endocarditis the important element in treatment is absolute rest—rest in the recumbent posture, mental rest, and the avoidance of any strain upon the heart. This should continue beyond the acute stage until the heart is fully able to do its work while the body is at rest, and the return to activity must be so graduated, that the compensatory process will keep pace with the demands upon the heart up to the full requirement. Before the patient is allowed to get out of bed, he should have a series of exercises which will very gradually increase the work of the heart. They should first be passive. The pulse should be carefully watched. Anæmia and other general conditions must be appropriately treated and elimination be constantly attended to. Frequent sponge baths are valuable. Capillary exercise, such as daily cold bathing, frictions, and gymnastics are most advantageous after the stage of recumbency. Cardiac stimulants, as a rule, are not necessary. The use of strychnine, without greatly stimulating the heart, will maintain a proper nervous tone of the whole circulatory apparatus. Digitalis would be indicated as an emergency drug. When the point of perfect compensation is reached, the patient is dismissed with directions as to the future manner of life.

The Use of the Aqueous Extract of the Suprarenal Capsule in Disease of the Ear.—W. H. Bates concludes that the aqueous extract of the suprarenal capsule improves the hearing of otitis media temporarily. Permanent benefit follows after the use of other treatment according to the indications. The extract is, he says, the most valuable known remedy for deafness.

OUR LONDON LETTER.

(From our Special Correspondent.)

HOSPITAL SUNDAY—A MEDICAL BILL—WAR DEPARTMENT—NATIONAL HOSPITAL—ANTI-MALARIAL EXPEDITION—CROONIAN LECTURES—ROYAL MEDICO-CHIRURGICAL SOCIETY—ALCOHOLIC ASCITES—CRAMMING IN PHTHISIS.

LONDON, June 21, 1901.

LAST Sunday was Hospital Sunday, and there was the usual collection at the various places of worship. Many donations were sent in advance to the Lord Mayor, some of them very munificent. Mr. George Herring sent his cheque for £10,000, with a sympathetic letter. This is his third donation of that sum. Sir Fred. Cook, Bart., sent £4,000. St. Michael's, Chester Square, again heads the church collections. Altogether, up to yesterday, the Lord Mayor had to acknowledge £25,000, which is about £1,000 more than at the same period last year; so we may expect the total to equal and perhaps exceed that of 1900.

A Medical Acts Amendment Bill was introduced to the House of Commons on Monday by Sir R. Jebb, Member for the University of Cambridge. It is to enable the Medical Council to suspend, for limited periods, practitioners guilty of certain offenses; also to enable the corporations to forfeit the diplomas of persons struck off the register, and to make penalties under the medical acts payable to the Council. The bill is well backed, but the session is rapidly passing, and many measures will be sacrificed.

The Minister for War is exciting much discontent by his treatment of the medical service. I told you the Director General had retired, but his successor has not been notified, though it is believed he has been virtually appointed. The same thing is said about the committee of experts. We are going to give Surgeon General Jameson (retiring Director General) a complimentary dinner. All the most eminent men are expected to be present, and it is to be hoped that some straight truths will be spoken for the Minister's warning.

The report of the Committee on the National Hospital for Paralysis and Epilepsy is a strong condemnation of the board of management and a complete vindication of the staff.

The fifth expedition to West Africa, organized by the Liverpool Tropical School, is now on the water, having set sail on Saturday. Major Ronald Ross and his colleagues were entertained at a dinner by a most distinguished company, including the Bishop, the Lord Mayor, the Principal of University College, and the Director General, I. M. S. Major Ross, who has been elected F.R.S., and has retired from the Indian Service, spoke in enthusiastic terms. They were not going to prove the mosquito theory, he said, as that had been conclusively proved three years ago; it was a matter of absolute certainty, only doubted by some amateur pathologists who were ready to deny confidently what is now accepted by every scientific man in Europe. They were going to prove the applicability of the theory to the prevention of malaria. They might not be able to exterminate the mosquito, but he was satisfied they could reduce its numbers to one-tenth or even to one-twentieth. They would begin with Freetown, and try to clear it of mosquitos

I am reminded by this remark about reducing the numbers, that even in England we can scarcely say that mosquitos are exterminated. Indeed, in some districts they have in recent summers proved rather troublesome. The varieties have not been determined as a rule. But during the last year competent authorities have shown that some specimens of anopheles hibernate in this country.

At the meeting of the Royal Medical and Chirurgical Society, on the 11th inst., a letter was read signifying that the King accorded his patronage to the Society, and the President (Dr. Pavy) reported that His Majesty had since signed the roll, which had previously been signed by Queen Victoria and by William IV. The President also reported the reception by the King of the deputation for presenting an address of condolence on the death of the late Queen.

Dr. Campbell Thomson then read a paper on the prognosis and treatment of ascites in the course of alcoholic cirrhosis of the liver, in which he referred specially to the treatment by laparotomy, which has recently been advocated. From a consideration of published cases, he did not think there was sufficient evidence that this was superior to the simpler plan of tapping. Patients with ascites due to some associated condition might survive repeated tappings and even apparently recover; but when ascites was directly due to the cirrhosis, they rarely lived long after the first tapping. Cirrhosis might, in fact, go on for years, and even without definite symptoms, but all the while ascites was liable to occur from complications, the most common being peritonitis and perihepatitis. This ascites was often relieved and occasionally disappeared, the former state of latent cirrhosis remaining. Later, this cirrhosis might itself bring on ascites. Then tapping was of no avail.

Dr. P. Weber and Dr. H. White agreed with Dr. Thomson. The first mentioned that the specific gravity of the fluid drawn off should always be taken; if high, say 1,020, or nearly so, inflammation was present. Dr. White had found but about half the cases of cirrhosis met with in the post-mortem room had presented no symptoms of it during life, and the same was the case with granular kidney.

The attention of the Society was next occupied with an elaborate research into the metabolism in phthisis, carried out in Prof. Vaughan Harley's laboratory by Drs. Goodbody, Bardswell, and J. E. Chapman, in respect to cases selected by Dr. Fowler at the Brompton Consumption Hospital. Experiments were made first of all to determine the normal metabolism of some healthy persons. Then these persons were placed on excessive diets, which were always badly supported. In tuberculous patients over-feeding was much better tolerated, but even in these excessive cramming brought on anorexia, dyspepsia, and intestinal putrefaction. Moderately large diets gave the best results, and could probably be continued indefinitely. These moderately large diets were best borne by patients who had lost much weight Those whose weight was normal, or nearly so, gave much less favorable results, as also did those whose disease was arrested. On the whole, absorption of nitrogen was good, even in pyrexia; of fats, still better, even when large quantities were taken.

The best results were obtained when the least discomfort was produced and dyspeptic symptoms were a sure indication of deterioration. When cases are becoming quiescent, or the patient is approaching his normal weight, the food must be diminished, but should still be more substantial than in health.

It seems that over-feeding has a rational basis, and, combined with open air, as in a sanatorium, may be of great value. On the other hand, this research appears to show that "cramming" may easily be pushed too far. Moderation gives the best results. Dr Bardswell thought the diet should be fixed according to the loss of weight and degree of pyrexia in each case, and if a patient put on an increase of a pound per week, his lungs would do better than with more rapid increase. Dr H White had come to a similar conclusion from observations of cases under the Weir-Mitchell treatment. The fat was nearly all absorbed. He had never obtained nitrogenous equilibrium, and suggested that the deficit of nitrogen might

possibly be stored up in the tissues in some other form of proteid.

Dr. Goodbody said they had attained nitrogenous equilibrium in three instances during four weeks observations on six patients, giving twenty-two different periods for investigation. But there was no easy way of obtaining exact information. The best plan was to estimate the total nitrogen in the urine and fæces.

The nervous system has again been selected as the subject of the Croonian lectures. Professor Halliburton is this year's lecturer, and he devoted his discourses to the chemical side of the system which has been perhaps more neglected than the anatomical or clinical. He remarked at the outset that the scalpel and microscope have not been successful in discovering the mind, and no one would expect to find it in the test tubes of the chemist. Nevertheless, he said there are a large number of interesting chemical facts in connection with the nervous system which are not devoid of pathological importance which he proposed to lay before the college. He would dwell especially on the researches made by himself and workers in his laboratory, that being in accordance with the Croonian trust, and not because the work of other laboratories was less important. Much of what he said he considered would supplement Dr. Mott's course last year, and to him and Dr. Brodie he expressed special thanks.

The Medical Council was not able to be as expeditious as was hoped, and so had to sit on Tuesday. If the members could but realize the absurdity of debating the method of procedure on every occasion, there would be more rapid progress. It is strange that gentlemen in their position are not more anxious to get away to their pressing occupations. The abbreviation of speeches has often been urged upon them, but of equal importance is a less frequent return to futile discussions on indifferent matters. This has an important bearing on the finances, which are in a parlous condition. The accountant called in to advise on them furnished his report, showing a deficit on the year's working of more than £1,000. He suggests that the fees for attendance be reduced, that those for traveling days be abolished and payment of actual expenses substituted, and that steps be taken to shorten the sessions. He would thus effect a saving estimated at £1,400. I suppose no one would consider the fees for attendance excessive for any individual. But the Council is too numerous, and its discussions are too often tedious and prosy. It is obvious that some drastic change is imperative to ensure a satisfactory balance sheet.

It is further proposed that the financial independence of the Branch Councils should cease, and the income be all received by the General Council, which should administer the branches as such.

A further suggestion, often made before but never commending itself to the constituency, is to obtain power to levy an annual fee on registered practitioners. It is thought this would bring them more into touch with the Council. But that body is so much discredited that the profession has no desire to be in touch with it. First let the Council become representative of the practitioners and not of the corporations. Then it may argue that taxation and representation go together. Its present state is illustrated in the fact that the discussion on the finances was carried on *in camera*—the propriety of this being debated at considerable length and consequent expenditure.

The debate on the revolt of the London colleges was resumed on Saturday and continued again on Monday. The time thus occupied can scarcely be grudged, for the issue of the dispute is of the highest importance to the profession, and the subject is strictly within the duties of the Council. No one, I imagine, would wish the Council to act rashly on such a momentous issue. But it was well known that the colleges would repudiate registration of students, and I indicated to you in advance the arguments which were actually brought forward in defense of their action. It was hoped, however, that the Council would not climb down again, but would assert its authority and if necessary appeal to the Privy Council. Alas for the hope! Alas for its dignity! After all this discussion, occupying so large a proportion of the session, the whole matter is referred to the education committee, and so shelved until next session, apparently in the hope of finding a *modus vivendi*. Vain hope! These two colleges have always put their own corporate interests before those of the profession. A chance of grasping extra fees has always been to them irresistible. What care they, then, about registration or raising the standard, if they can only open a side door to attract candidates? For the truth is that the fifth year is in danger—it is in fact referred to the committee—and all because two colleges want to count as the first year of the curriculum, the last year at a grammar school. If this is to be tolerated, of course all the other licensing bodies will follow suit.

The Council should have taken up the gauntlet thrown down and said, if you admit to your diplomas any one who has not been registered here as a student, we will not register as practitioners the recipients of such diplomas. It is said the colleges would then appeal to the courts to compel the Council to register them. Let them. At the worst, the Council would have done its duty to the public and established a claim to an amendment of its Act which has so long been sought for. But the colleges could not afford to carry defiance so far. If the Council warned students that they would not be registered as practitioners unless they had registered at the office at the commencement of the curriculum, how many would be enticed to enter the back door of the recalcitrant colleges?

But procrastination has always been the weakness of the Council, and the colleges could reckon on its reluctance to take decisive action. The evil results of this weakness were seen in the case of Dr. Irvine. Had the Council not postponed to another session its decision, it would not have had to endure the snub of Mr. Chamberlain in the House of Commons.

There was a report from the Committee on Medical Aid Associations, in which the formation of a Conciliation Board was referred to. But is conciliation the business of the Council, which is entrusted with penal powers as to registered practitioners, and has gone a little way—a very little way—in the direction of preventing their degradation by these aid associations? Conciliation at the best will mean compromise, and how can the Council act judicially after it has encouraged compromise? This difficulty was recognized by some councillors, and the reappointment of this committee was agreed to only on the understanding that it is for one year only.

The British Medical Association, which is working the conciliation move, was anxious to get a deputation heard, but the Council wisely declined. There was another deputation, one from Scotland, about the question of sale of poisons. There was actually a case under consideration of the Council in its judicial capacity, which in hearing this deputation would undoubtedly be referred to. It was postponed until after the decision of the case, and then an attempt was made to introduce the deputation on the general question. But the motion was defeated, the majority seeing clearly that such a course would be improper. But a great deal of time was wasted over the question of receiving or declining to receive the deputation. The incident reflects the inaptitude of the Council.

OUR PARIS LETTER.

(From our Special Correspondent.)

POZZI INAUGURATES A GYNECOLOGICAL COURSE AT THE BROCA HOSPITAL—LAW REGARDING THE DECLARATION OF VENEREAL AFFECTIONS IN WESTPHALIA—CURIOUS CASE OF AORTIC INSUFFICIENCY—BABINSKI'S RESEARCHES ON CYTO-DIAGNOSIS IN NERVOUS AFFECTIONS—TUFFIER'S LATEST ARTICLE—VOISIN AND WIDAL ON DIPHTHERIA TREATMENT—WALDECK-ROUSSEAU'S CIRCULAR TO HEALTH OFFICERS CRITICIZED SEVERELY.

PARIS, June 29.

On the 31st of last month Professor Pozzi delivered his first lecture on gynecology at the Broca Hospital. He gave in his speech a description of the manner in which a course of gynecology had at last been officially opened in Paris, the university of which was the latest to have carried out this idea. It is thanks to the initiative and the liberality of the Municipal Council of Paris that a professorship in this branch of medical science has been created. Dr. Pozzi spoke of his trips abroad in 1883, 1886, and 1887. He visited Hegar's service at Freiburg in Breisgau, and was much impressed by the superiority the Germans had acquired. Professor Pozzi also went to America later on and saw several of the leading gynecologists there. He tried to have a special course inaugurated in Paris, but failed to obtain the official sanction so necessary in France to any undertaking of this sort. Dr. Pozzi spoke of his treatise on gynecology which he began writing in 1888. He devoted two years to writing it, and left Paris to retire into the country in order to give all his time to it. He ended his discourse by giving a definition of gynecology and of the principles that should be followed by a surgeon, who should never operate until he had a complete history of the patient, had examined her thoroughly, and made sure that operative methods were the only means of obtaining a satisfactory result.

It seems that in the province of Arsuberg in Germany the physicians have been called upon to declare all

cases of venereal disease. Though this decree has been promulgated with the best intentions, it has been very much criticized by the medical and political press in Germany. Professional secrecy is rendered an illusion, for how can one imagine that anybody would care to go to consult a physician about any such disease if he knew that he would be likely to have his name appear in a medical report to the police authorities!

At a recent meeting of the Medical Society of the Hospitals Dr. Launois showed a patient presenting a most curious form of aortic regurgitation. The patient, who had had syphilis, suffered for a long time from a pain in the region of the heart, when suddenly last October, after a violent emotion, he experienced a severe pain in the chest. He lost consciousness and fell down, and since then he has been able to hear distinctly a peculiar sound which can also be heard at a distance of twenty to twenty-five centimeters, and which seems to correspond to the second aortic sound. It is strident and throbbing.

Drs. Babinski and Nageotte made an interesting communication on the use of cytodiagnosis of the cephalo-rachidian liquid in nervous affections. They reported one hundred and twenty cases in which they had examined the number of lymph cells; and they found that there was lymphocytosis in all organic affections of the nervous system caused by syphilis, such as tabes and general paralysis. In all other forms, with the exception of tuberculous meningitis, no such symptom was to be observed. Cases of polyneuritis, cerebral tumors, hemiplegia, paraplegia, sciatica and myopathy were examined and no change found. In a recent case there was some hesitation between neurasthenia and general paralysis, and as the examination indicated lymphocytosis, Dr. Babinski imagined it would prove a case of general paralysis.

Dr. Troisier showed two calculi, which had been found in the stools of two patients who had shown symptoms of intestinal obstruction, without ever having had bilious colic.

The discussion on medullar cocainization is not over yet, and Dr. Tuffier has published another long article on this subject. He had already read it to the Society of Surgery, and it was in part directly addressed to Professor Reclus. It seems that the reason why Tuffier has been supposed to have had six cases of death is that he published the case each time he described his technique. Tuffier upholds Corning as being the initiator of the method, and speaks rather sarcastically of the letters exchanged by Bier and Reclus, in which Bier speaks of Reclus as being the master in cocaine injections. Reclus had said that Tuffier was after all only the third to try this method, and Tuffier remarks that it was hardly necessary to insist upon this. Dr. Tuffier said that he preferred the open needle, because when a puncture is made, one can tell when the needle is inside the intra-rachidian space on account of the escape of a few drops of liquid. If the liquid does not come on account of obstruction of the needle, the injection of a drop or two of the solution will free it. Tuffier could not understand why the puncture should be considered a difficult operation by surgeons when physicians perform it so often. He examined the cases of death and did not find that a single one can be conclusively attributed to cocaine.

At a meeting held on the 7th of June by the Medical Society of the Hospitals, Dr. Voisin spoke of the excellent results they had obtained in an epidemic of diphtheria at the Salpêtrière by injecting antitoxic serum into all the patients exposed to it. There was only one fatal case, and nineteen patients were cured. The children over ten years old received twenty cubic centimeters and those under that age only ten. Dr. Widal, whose name is associated with orrho-diagnosis in typhoid fever, remarked that patients sometimes came into his service the fifth and even the seventh day of their illness without having been injected. In such cases sixty, eighty, and sometimes, one hundred grams of serum were injected.

It would seem that M. Waldeck-Rousseau's circular to health officers does not suit the taste of all medical men, and a recent article published in one of the French medical papers shows that it is looked upon by some as being an attempt on the part of the civil authorities to dictate to physicians the treatment they should employ. This circular was an appeal to the health inspectors to recommend to the medical men of their district the early use of antidiphtheritic serum. The author of the article speaks of the law concerning autopsies which requires physicians to furnish their aid when called upon to do so, and sees in this recent circular the first attempt towards obliging physicians to adopt a uniform method of treating various ailments. In such a case all the freedom that a physician has had in establishing his own principles of treatment would disappear

Book Reviews.

POINTS OF PRACTICAL INTEREST IN GYNECOLOGY. By H. MACNAUGHTON-JONES, M. D., M. CH., Q. U. I. Master of Obstetrics (honoris causa), Royal University of Ireland. New York: William Wood & Company, 1901.

THIS is an interesting work, composed of a number of chapters which are reprints of communications appearing serially in the *Edinburgh Medical Journal*. The chapters are ten in number and make interesting reading from the standpoint of the practical physician. The various divisions of the book are as follows: 1. Some points in gynecological asepsis; 2. Some pitfalls in gynecological diagnosis; 3. The therapeutics of disorders of menstruation; 4. Conservatism and its influence on operative technique; 5. Affections of the female genitalia as causal factors in the etiology of neuroses and insanity, and their special bearing on the operative treatment of the insane; 6. The indications for the operations of hysterectomy and myo-hysterectomy in myoma. In the appendix, the author deals of various minor subjects, the most important of which is Noble's method of closing cœliotomy wounds.

THE JOHNS HOPKINS HOSPITAL REPORTS, Vol VIII, Nos. 3–9. Baltimore, 1900.

THIS volume contains a number of interesting papers on typhoid fever.

In the domain of bacteriology and pathology the contributions are by Simon Flexner, "On Unusual Forms of Infection with the Typhoid Bacillus," by C. N. B. Camac on "The Gall-Bladder Complications of Typhoid Fever," by Wm. Osler "On the Hepatic Complications of Typhoid," by G. W. Dobbins on "Puerperal Infection with the Bacillus Typhosus," by J. F. Mitchell on "The Œsophageal Complications of Typhoid," and by N. B. Gwyn on "A Study of the Widal Reactions in 265 Cases of Typhoid Fever, with remarks on the disinfection of typhoid urines."

Typhoidal septicæmia, without the characteristic intestinal lesions, forms the basis of Flexner's article. Two new cases are added by the author to those already reported.

Camac says that the liver receives the typhoid bacilli from the alimentary tract in the beginning of the infection. This organ failing to dispose of the infection either because of an overwhelming force of bacilli or of their products or because of a previously diseased condition of the organ, throws its excess of work upon the spleen. In the event of still further infection the bacilli escape with the bile into the gall bladder during the intervals when that fluid is not being discharged into the duodenum. Once the liver and spleen are taxed to their utmost the escape of bacilli and their poisonous products into the system is inevitable, and the case is ripe for complications.

Under hepatic complications of typhoid, Osler considers the focal necroses, jaundice, and abscess.

That a positive Widal reaction can be taken as conclusive of the presence of typhoid fever would seem to follow from Gwyn's studies. He obtained a positive reaction in 265 cases that clinically were diagnosed as typhoid

The frequency of œsophageal ulcerations in typhoid fever, their etiological relation to the typhoid bacilli and the relation of such lesions to subsequent stricture of the œsophagus have been considered by J. F. Mitchell.

Contributions to phases of the symptomatology of the disease have been made by J. P. Lyon, "On Coincident Typhoid and Malarial Infections;" by Osler, "On Hemiplegia in Typhoid;" by Hamburger, "On Hemorrhagic Typhoid;" by Emerson, "On a Case of Early Oculo-motor Paresis of the Left Eye occurring in a Case of Typhoid;" by Young, on "Chronic Cystitis due to the Typhoid Bacillus," and lastly an able contribution by Thayer "On the Blood of Typhoid Patients."

The articles of surgical interest have been prepared by Finney and Cushing and deal with the surgical treatment of perforating typhoidal ulceration.

The successful treatment of typhoidal perforaton of the intestine is of but comparatively recent date. It would appear, however, that the performance of abdominal section at the Johns Hopkins Hospital in typhoid patients is carried far beyond the limits of rationalism. The propriety of early surgical interference for the repair of ruptured ulcer with intestinal extravasation is no longer a matter for discussion; all are convinced of this, but the propriety of operative interference for a condition that does not exist and that may never occur in "the so-called preperforative stage" will hardly be accepted by the profession and much less by an intelligent laity. Likewise is promiscuous exploration of the abdominal cavity in typhoid patients to be decried. Merely because no fatal

result has followed in the few cases in which such exploration has been made, there is no reason for urging such practices as routine procedures. The exploratory operation should be reserved for those cases in which there are reasonable grounds for supposing the existence of a ruptured ulcer, and not used to establish a diagnosis, as Finney would have it. If employed as indicated above, neither will the surgeon be mortified if no perforation is found, nor will the laity complain that "needless operations" are performed. And further it is well to remember that the operation is not without its risks, for two to three per cent. of healthy individuals succumb to the simplest abdominal section.

In other respects the papers of Finney and Cushing afford us valuable information.

Human Placentation: An Account of the Changes in the Uterine Mucosa and in the Attached Fetal Structures during Pregnancy. By J. Clarence Webster, B.A., M. D. (Edin.), F. R. C. P. E., F. R. S. E. Chicago: W. T. Keener & Co., 1901.

The original and well-known researches in the department of embryology as worked out by Webster, formerly of Edinburgh, now of Chicago, are too well recognized to make this splendid volume as a continuation of the subject a stranger to those who are interested in the matter. The subject-matter in hand is taken up in divisions consisting of ten chapters, and in each we have both macro- and microscopical studies of all the material and embryonic structures as clearly and carefully exposed as modern scientific investigations allow. The book is a credit to both author and publishers, and it is a satisfaction to know that such work is being done in this country. The best chapter in the book is the tenth or last one, which treats of Phylogeny or the comparative study of the placenta.

Uterine Fibromyomata: Their Pathology, Diagnosis, and Treatment. By E. Stanmore Bishop, F.R.C.S. Eng. President of the Manchester Clinical Society; Fellow of the British Gynecological Society; Honorary Surgeon of the Ancoats Hospital, Manchester, etc. Philadelphia: P. Blakiston's Son & Co., 1901.

The volume before us is written by a well-known author on a subject with which he is fitted in many ways to deal. His subject partakes of the character of a specialty within a specialty, and the finer points of the question must of necessity be brought out in the fullest possible detail, and in this respect the book is everything that can be desired, and will certainly fill a long-felt want. Excellent as is the first part of the book, including the theoretical branches, what interests us most is the section on treatment. Under surgical treatment, our attention is directed to preparation for operation, the technique, and the post-operative treatment. The methods of the various operations, and there are many mainly differing in minor details, are given in tabulated form. Thus there are discussed vaginal, abdominal, and the combined hysterectomies. The inclination of the author appears to be to the abdominal method entirely or in modified form. But this is simply a matter of choice, of experience and habit in very many cases, for the man who is skilled in vaginal work will attack from this end and he who is an expert from above will almost always do the operation from the abdominal side. An interesting chapter as well as a rather disappointing one, is that on the electrical treatment of fibroids. The last chapter, one on final results, is one not usually found in text-books, and makes very interesting, though rather uncertain reading, since it is mainly based on statistical evidence. Yet we know that all patients who are operated upon, no matter how brilliant the immediate result, are not always cured from the standpoint of the clinician.

Pulmonary Consumption, Pneumonia, and Allied Diseases of the Lungs: Their Etiology, Pathology, and Treatment, with a Chapter on Physical Diagnosis. By Thomas J. Mays, A. M., M. D. Professor of Diseases of the Chest in the Philadelphia Polyclinic; Visiting Physician to Rush Hospital for Consumption. New York: E. B. Treat & Co., 1901.

The predominating influence of the nervous system in the etiology of pulmonary disease here finds an ardent advocate. Many statistics and histories are cited by the author in support of his claims and the patient research and wide reading which he has brought to bear as proof merit the highest praise. He claims that in a majority of cases consumption is primarily a neurosis, that the integrity of the nervous system is essential to preserve pulmonary health, and that the only remedial measures worthy of trial in pulmonary tuberculosis, act through the nervous system. He especially advocates injections of nitrate of silver over the vagi.

Besides these rather heterodox teachings, the book contains many valuable hints in treatment and diagnosis together with some startling proofs of the efficacy of the author's methods of benefiting this stubborn disease.

The latter part of the work treats of Pneumonia—again related to disorder in the nervous system—acute and chronic bronchitis, asthma, and pleurisy.

Health and Hygiene for the Household. By John Joseph Nutt, B. L., M D. Member of the American Medical Association, The New York State Medical Association, and the County Association. New York: The Abbey Press, 1901.

This book purports to instruct the laity concerning hygiene and the preservation of health. The instructions are good enough as far as they go, but the book is too small and too elementary to be of much service to any but the writer. Its utility in this regard may possibly be enhanced by a curious biographical note of the author signed by the publishers. In this we are told that the author's uncle founded a town near Chicago, and that the author himself organized a chapter of a Greek-letter society in college and is rapidly attaining prominence in his profession. The chapter on the choice of a family physician harmonizes with the biography.

The Practice of Charity, Individual, Associated, and Organized. By Edward Thomas Devine, Ph. D., General Secretary of the Charity Organization Society of the City of New York. New York. Lentilhon & Company, 1901.

This little guide for the charitable is from the pen of an expert in this most important sociological specialty, and is replete with instruction and valuable suggestions for those whose humane impulse is to relieve the needy and suffering as well as for those, who as public officials or executive officers of church and other organizations, are brought face to face with the judicial and weighty problems of charitable relief

Diseases of the Anus and Rectum. By D. H Goodsall, F. R. C. S. (Eng)., Senior Surgeon to St. Mark's Hospital for Fistula and other Diseases of the Rectum, &c., and W. Ernest Miles, F. R. C. S. (Eng)., Surgeon (out-patients) to the Gordon Hospital for Diseases of the Rectum, &c. In Two Parts, Illustrated. Part I. London, New York and Bombay: Longmans, Green & Co, 1900.

The authors of this work are offering us the results of their extended experience in the surgery of a limited region which is the seat of many pathological processes. This is the first section and if the second is as satisfactory we shall be in the possession of an excellent work of reference in this field of surgery. Anatomy, methods of examination, fissure, fistula, and all the varieties of hemorrhoids are discussed in the most modern and progressive way, and there are numerous illustrations which add very much to the value of the text. The authors take the ground that the radical procedures are really conservative in such conditions as fistula and hemorrhoids, and we think that most American surgeons will agree with these conclusions. They also believe that pulmonary tuberculosis is not a contraindication to operation in cases of ischio-rectal tuberculosis. All the various operative plans are described and clearly illustrated in many cases by unusually good photographic reproductions. We are glad to note the appearance of so useful a work.

Introduction to the Differential Diagnosis of the Separate Forms of Gallstone Disease, based upon 433 Laparotomies for Gallstones. By Professor Hans Kehr, Halberstadt. Authorized Translation by William W. Seymour, A. B., M. D., &c. With an Introduction by Professor Kehr. Philadelphia: P. Blakiston's Son & Co., 1901.

This translation gives to English readers the benefits of an intimate knowledge of a very extensive series of cases of gall-bladder disease. Any one who has cared for more than four hundred cases of the same class may speak with authority, and consequently Prof. Kehr's opinions are worth recording. The present work goes extensively into the etiology, pathology, symptomatology, and treatment of the various conditions brought about by cholelithiasis and, barring the inevitable Teutonic prolixity, its author has been successful in giving us a comprehensive sketch of the subject. The translator has not been very successful in transferring the German idiom to good English and he would have done well to have suppressed most of the description of post-operative detail. However, there is much of value and interest in the work, and its subject is of great importance.

Deutsche Medicin im Neunzehnten Jahrhundert.

This is a series of interesting reprints from the *Berliner Klinische Wochenschrift*. Most of the papers are by well-known men upon subjects of general interest relating to the history of medicine.

Society Reports.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

TWENTY-THIRD ANNUAL MEETING,

Held at New Haven, Conn., May 27, 28, and 29, 1901.

HENRY L. SWAIN, M.D., OF NEW HAVEN, PRESIDENT.

First Day—Monday, May 27.

THE meeting was held in Dwight Hall, Yale University, and President Arthur T. Hadley, of Yale, delivered the address of welcome.

Laryngology and its Place in Medical Education.—DR. HENRY L. SWAIN began his address by speaking of the radical changes that had taken place in medical education since the establishment of the Association in 1878, and dwelt upon the question of how much time should be devoted to the study of special branches. The suggestion was made that more latitude should be given to the individual, that a minimum time only should be prescribed, and that the student should be given to understand that he must pass a severe examination before graduation, and that if he fails on the first attempt the second examination will be harder. It seemed to the speaker unwise to compel a student, who had chosen a certain special field, to spend many months in the exhaustive study of other special branches. The faculty should act as an advisory body in such matters, and should demand a certain knowledge of the essential and fundamental branches. In this way, the student who had not made any choice of a specialty would still find that he must receive ample instruction and training before being allowed to graduate. While it might be debatable at the present time whether or not the didactic lecture had outlived its usefulness, it should be remembered that the very plethora of our knowledge makes it almost necessary for the teacher to make a suitable selection of the pabulum to be served out to the student. The rapid changes in our knowledge emphasize the need of such instruction, and make it incumbent upon these teachers to make their lectures bright, crisp, interesting, and thoroughly up to date.

A Leaf from the Ancient History of the Anatomy of Nasal Catarrh.—DR. JONATHAN WRIGHT, of Brooklyn, N. Y., read a paper with this title. He said that the records of the existence of catarrh are coeval with the human race. Nasal anatomy had certainly been very crude in ancient times, for, in a book supposed to have been published about 1500 B. C., the statement is made that there are four vessels in the nose, two for blood and two for mucus. Herodotus described a practice of burning the veins of the brow at the age of four years with the object of preventing in after life "a flow of rheum," yet he would be surprised, if alive to-day, to know that some practitioners have transferred this practice to the tissues within, and are claiming wonderful curative results from such treatment. Hippocrates must have had some knowledge of the relation of nasal catarrh to stomach disorders, for, in a book attributed to him, the statement appears that "the bellies are subject to frequent disorders owing to the phlegm running down from the nose." It was a common belief in olden times that the nose was the cloaca of the brain. Galen says that each nostril is divided into two portions, one leading to the mouth and the other to the brain. He taught that the thicker discharges escape through the "sieve-like bones," while the more vaporous ones escape upward through the sutures. Theophilus, in the seventh century, recognized the olfactory nerves as such. Nine hundred years later, the professor of anatomy at Bologna, who did a thriving business curing the clergy of syphilis by means of his new-fangled mercurial treatment, denied that fluids pass through the ethmoidal plate. Willis and his contemporaries elaborated the error that the nerves are hollow and convey fluids. Schneider taught that the catarrhal discharges come from the nasal mucous membrane itself, and not from the brain, but he did not mention the mucous glands by name at all.

Asymmetry of the Nasal Cavities.—DR. A. COOLIDGE, Jr., of Boston, read this paper. He said that the greatest development of hypertrophy was on that side which is most open. He had not been able to find satisfactory proofs of the relation of the turbinates to deflections of the septum. In many of the reported cases the turbinates in the obstructed cavities were normal. In his own case the deflection had been towards the unobstructed side. It had been suggested that deviation of the septum was secondary to hypertrophy of the turbinates, but there were many reasons for rejecting this view. Others claimed that neither condition is the result of the other, but that both are the result of a condition of general asymmetry. There seemed to be no doubt that Nature has some method by which the air-carrying capacity of the two sides may be kept approximately equal. As one function of the nose was to transmit air, it seemed reasonable to expect the bones to adapt themselves to this function; hence, if asymmetry were present in one structure, asymmetry in neighboring structures should be looked upon as physiological rather than pathological. A turbinate body should be judged by the distance between it and the septum, and not by its absolute size. The ethmoid and turbinate bones are especially adapted for effecting a readjustment and maintaining the physiological balance.

DR. ARTHUR A. BLISS, of Philadelphia, called attention to the part played by the development of the palatal processes of the superior maxilla in the production of asymmetry of the nasal chambers. The upward thrust of these processes during development must press upon the nasal septum, causing it to be pressed upward against the base of the skull.

DR. EMIL MAYER, of New York, said that nearly all children having deviations of the cartilaginous septa develop sooner or later obstruction of the posterior nares, and the absence of a sufficient current of air seemed to him sufficient to explain the redundancy of the turbinated body on the deflected side. If one made it a rule to pay no attention to the size of the turbinates until after deviations of the cartilaginous septum had been corrected, it would rarely be found necessary to do anything for these turbinates.

DR. E. L. SHURLEY, of Detroit, divided these cases of nasal asymmetry into two classes, viz.: (1) Those which the asymmetry is post-natal and accidental, due to pathological changes, and (2) those in which it is evolutionary. An important factor, though one often overlooked, was the frequency of difficult labor among the higher classes, and the modern tendency to use the obstetric forceps with but slight justification.

DR. D. BRYSON DELAVAN, of New York, was of the opinion that deficient air supply was the fundamental cause of nasal asymmetry, and that if these persons could be subjected early enough in life to treatment directed to securing the proper admission of air the abnormalities so commonly observed would be prevented.

DR. H. L. SWAIN, of New Haven, remarked that it would not do to ignore wholly the forces at work outside of the nose; the tremendous differences in nasal cavaties and heads were suggestive.

The Supralabial Operation (Dr. Harrison Allen's) for Deflection of the Nasal Septum.—DR. ARTHUR AMES BLISS was the author of this paper. He said that where no overhang exists, and the extreme point of deflection extends above the anterior nasal spine, the anterior part of the vomer was often also deflected, usually

in both a vertical and horizontal plane. The large free area of the triangular cartilage lay just above the anterior nasal spine. Any force acting from without which tended to twist this cartilage in the vertical plane would produce a twisting of the anterior nasal spine, and, to a much less extent, of the anterior part of the vomer. Dr. Harrison Allen's operation, the result of exhaustive clinical and anatomical research, consists in the division through, or immediately over, the maxillary crest, thus making the anterior part of the septum freely movable. A small sharp bistoury should be used to divide the frænum of the upper lip. A small strong chisel is then passed through this wound, and carefully pushed upward in the median line until the maxillary crest is reached. Its shank is then raised so that the cutting surface points directly against this crest, facing inward and very slightly downward or upward, according to the height of the vestibular floor in its relation to the floor of the nose. A few light blows of a hammer drive the chisel through the anterior nasal spine as far as the nasopalatine foramen. If the operator has been careful to direct the chisel so as to completely divide the maxillary crest, a finger introduced into the occluded nostril will at once force the septum over as far as desired. A rubber tube splint should now be placed in what had been the occluded nostril, and should be retained about as long as in the Asch operation. A cold water dressing should be kept on the lip and across the bridge of the nose for a day or two, the patient being in bed, and the parts should be cleansed with an alkaline spray. The operation should be done under light etherization. Hemorrhage is slight, and if the cold water dressing is used there will be only moderate swelling. Any ridges existing along the line of attachment between the vomer and triangular cartilage can be removed at the time of the septal replacement, or subsequently under cocain anæsthesia. This operation, though applicable to a large number of cases, and one which had given him uniformly satisfactory results, was almost unknown to the profession.

A Radiographic Study.—Dr. Henry L. Wagner, of San Francisco, exhibited a radiograph which had served him well in the removal of a metallic disk which had been impacted in the œsophagus of a child of five years. The interesting point was that this radiograph had not exaggerated, as had been supposed, the size of the body.

Dr. J. Edwin Rhodes, of Chicago, reported a case in which, although the œsophageal forceps did not seem to reach a penny that had lodged in the œsophagus of a little child, the object had been seized with the forceps under the guidance of the X-rays combined with the use of the fluoroscope.

Dr. D. Bryson Delavan reported a case in which a radiograph had enabled Dr. W. T. Bull and himself to locate and extract a five-cent piece from the throat of a little baby.

Dr. Jonathan Wright, of Brooklyn, called attention to a case in which a Brooklyn surgeon, in operating for the removal of a foreign body had followed with the point of the forceps the image of the foreign body, as shown in the fluoroscope at the time of operation.

Dr. A. W. de Roaldes, of New Orleans, urged the more general use of the œsophagoscope, an instrument often of great value, because it enables the surgeon to remove a foreign body under the guidance of the eye.

Dr. Wagner, in closing the discussion, remarked that it was important to know the measurements of the œsophagus in order to determine the possibility of the foreign body having passed through.

Epipharyngeal Lymphosarcoma.—Dr. Wagner also reported a case in which such a tumor had occurred in a boy.

Chancre of the Tonsil.—Dr. J. Edwin Rhodes, of Chicago, presented a communication on this subject. He said that, in collecting statistics upon this subject, he had been impressed with the frequency of the innocent origin of this form of syphilis. Tongue spatulas, dental instruments, and various household utensils were common media of contagion. The patch on the tonsil consists of a dirty, superficial ulcer, usually oval or circular. The submaxillary gland is always enlarged, and pain and general malaise may be associated with the development of this lesion. As a result of the mixed infection the process may assume a general phagadenic character; The chancre usually disappears in from four to six weeks. Several illustrative cases were reported, together with a table of thirty-one cases of chancre of the tonsil hitherto unreported. Most of these had been furnished him by members of this Association. His conclusions were as follows: (1) Chancre of the tonsil is often unrecognized; (2) an enlarged and indurated tonsil with a superficial ulcer upon its surface, accompanied by enlargement and induration of the contigouus submaxillary gland, and unchanged by a prolonged course of treatment, renders the diagnosis of chancre probable; (3) the character of the chancre depends upon the original condition of the tonsil and the coincidence of mixed infection; (4) a certain diagnosis cannot usually be made until the development of the general eruption; (5) the disease is no more severe than with chancre elsewhere; (6) it is produced by direct contact of the virus; (7) it should serve as a warning to use the greatest care in the sterilization of instruments, particularly in the case of dental instruments which are usually cleansed only by washing, and (8) the patient should be most carefully instructed as to the attendant dangers.

Drs. J. H. Bryan and J. W. Farlow reported cases to emphasize the author's statement regarding the difficulty experienced in recognizing the nature of this lesion of the tonsil.

Dr. W. K. Simpson expressed surprise that the author had succeeeded in collecting so many cases, when it was almost unknown in the large clinics of New York.

Dr. E. Mayer said that certain experiments had shown that the virus withstands ordinary sterilization by heat, some other method of sterilizing instruments would seem desirable.

Dr. D. Bryson Delavan said that he had seen several cases of chancre of the tonsil, and in all of them the onset of the disease had been unusually severe. He hoped the profession would use its best efforts to teach the laity that syphilis is an infectious disease.

Dr. George A. Leland, of Boston, said that although the statement had been made in the paper that chancre of the tonsil has a pearly color, in a case occuring in his own practice the tonsil had been of a bright red. The opalescent appearance he had only observed in secondary infections of the tonsil.

Serous Disease of the Maxillary Antrum, with a Report of Two Cases.—Dr. William E. Casselberry, of Chicago, read this paper. He said that chronic catarrhal sinusitis might result in polyps, cysts, osteophytes, and serous collections. The first three might also exist in conjunction with suppurative sinusitis. The term mucocele, while sometimes applied to serous collections, was more particularly applied when the contained material is mucoid or semi-solid. Several modern authors were disposed to retain the term hydrops as a recognition of a non-cystic serous exudation. After a review of the literature, the author reported two cases, one of acute sinusitis with retained muco-serous secretion, and one of the chronic serous disease. In the first case a few months after some recurrent polypi had been removed, the patient had returned with an acute cold, and on aspiration serous fluid had been withdrawn which was devoid of cholesterin crystals but contained lymph corpuscles and a large quantity of albumin. This had been evacuated and the cavity curetted. Recovery thereafter had been uneventful and permanent. Puncture had been made under aseptic precautions,

and apparently it had nothing to do with the subsequent pus formation, particularly as no such result followed numerous punctures in the second case. The second case was that of a woman of sixty-two, who had had polyps removed from time to time. Resection of the middle turbinate had been done by the author's method after serous fluid had been withdrawn by aspiration of the right antrum. Six aspirations in all had been made from the right antrum, and serous fluid withdrawn each time, but there had only been a few drops the last time. Natural drainage of the maxillary sinus had been restored by the removal of obstruction from the nasal surfaces. Chemical tests showed the presence in the fluid of serum albumin, but not over one-eighth per cent., and apparently there was also a trace of mucin. The first bacteriological examintation showed only large colonies of colon bacilli; the second a few micro-organisms but no specific bacteria. Inoculation experiments on animals were negative. Dr. Casselberry said that there were no signs about the gums pointing to dentigerous cysts, and if there had been a cyst on the left side it must have ceased to refill after one respiration. The fluid resembled a cystic fluid except that it did not contain cholesterin crystals. In these cases the transillumination test had not been decisive, there being on the affected side no shadow, but only an impairment of translucency. The appropriate treatment of such cases was indicated by the results achieved in his second case.

Empyema of the Antrum of Highmore in Young Infants.—Dr. Emil Mayer, of New York, was the author of this paper. He said that the apparent rarity of this affection, judging from the few cases on record, due, in all probabilty to the difficulties in the way of diagnosis, the remarkable unanimity of the symptoms in the cases diagnosed as such, the original methods employed for their cure and the all too brief mention or complete omission in most text-books, should make the study of empyema of the antrum of Highmore in young infants of increasing interest to the rhinologist. Not more than a dozen cases were to be found in literature. The writer presented a case of his own which occurred in a child aged two and one-half years, in whom the general symptoms noted had been eversion of the right lower lid, fistulous opening in the cheek on the right side, from which pus exuded, and a most penetrating odor from the same side of the nose. The child had been well until six weeks before having been seen, when an attack of scarlet fever and pneumonia had occurred. Two weeks later there had been a very severe nasal diphtheria, and subsequently an abscess had formed on the cheek. This had been incised and had resulted in a fistulous opening. At the time of the examination a small probe entered the fistulous opening and revealed the presence of a large cavity in a downward direction and gave the sensation of necrotic bone. Examination of the pus showed streptococci and staphylococci in abundance; but no Klebs-Loeffler or tubercle bacilli were found. The diagnosis of an abscess of the antrum of Highmore, with diphtheritic infection, had been made; this had been operated upon and cured. Another case was presented by the writer, the main facts of which had been communicated to him by Dr. W. B. Platt, of Baltimore. Six other cases were to be found in literature, all of them due to infection. The interesting question had been raised regarding these cases as to whether they are simply carious conditions, *i. e.*, tuberculous, or an osteomyelitis. Reports of bacteriological examinations had been made by various observers, notably by Moritz Wolff, of Germany, and Richard Mills Pierce, of this country. The writer's conclusion was that it had been established beyond doubt that empyema of the antrum of Highmore in young children is not merely caries, or tuberculosis, or possibly an osteomyelitis, but as distinct an affection as in later life. That so few cases had been noted in the living was in all probability due to the fact that the mortality is greatest when this complication occurs, and also because in the very young the presence of localized pain is so difficult to establish. In all the reported cases the symptoms had been the same, viz., fistula under the eye, usually discharging pus, ectropion, one-sided purulent discharge from the nose, with foul odor, and eroded bone. Careful observation, especially in nasal diphtheria when the bacilli are present, might enable one to discover these cases and by prompt attention, bring about recovery. Incision, curettage and thorough drainage would be followed by complete cure in the vast majority of cases.

Abscess of the Frontal, Ethmoidal, and both Sphenoidal Sinuses, with extensive Necrosis of these Bones, Complicated by Adenoma of the Posterior Ethmoidal and Sphenoidal Regions.—Dr. J. H. Bryan, of Washington, D. C., reported this case. An external incision had been made, a flap consisting of the soft parts and the periosteum raised, and a button of bone removed just above the supraorbital ridge. The sinus was found filled with pus and granulation tissue, and the probe detected disease of the bony walls. A free communication between the sinus and the nose was left. The parts were cleansed by irrigation, and the wound united and sealed with collodion. At the end of a month the patient had sufficiently recovered to go to her country home and she no longer suffered from headaches. That summer she had contracted a severe cold in the head, and this had been attended by redness and swelling, owing to interference with drainage through the nose. Her family physician had made an incision into this swelling, and evacuated pus. This had given some relief, but pus continued to be discharged when he had next seen her in the autumn. Daily antiseptic irrigations of the sinus and wick drainage were followed for several months without benefit, and then it became necessary to open the sinus again as before. The sinus was found filled with granulation tissue with an accumulation of pus in the most dependent part. There also was extensive disease of the ethmoid. As much as possible of the diseased tissue was removed. One month later she was suddenly seized with violent frontal headache, which was partially relieved by the evacuation of some retained secretion from the ethmoid cells Iodide of potassium was given to the point of tolerance, but without result. A third operation was required for threatening orbital abscess, and after this she suffered to some some from vertigo and diplopia. Four months later there appeared a rather firm growth proceeding from the posterior ethmoidal and sphenoidal regions. When the sphenoidal sinus was opened some foul pus was evacuated. At present, both sphenoidal sinuses are still the seat of suppuration. The rapid development of this growth made it impossible to maintain free drainage. Bacteriological examination of the discharge had been made on two occasions, but only a few staphylococci were found. An unfavorable termination of the case seemed almost certain.

Second Day—Tuesday, May 28.

Reflex Epilepsy from Nasal Disease Successfully Treated by the Removal of the Latter.—Dr. John O. Roe, of Rochester, was the author of this paper. He said that Brown-Sequard had shown that epilepsy could be produced by artificial irritation of the peripheral nerves in almost any part of the body. The pathology of epilepsy was as yet an unwritten chapter in the history of the disease. Several cases were then narrated, of which the following may be taken as a fair illustration: A girl of eleven years had had prolonged nasal obstruction, and had suffered from severe epileptic seizures since the age of six years. She had been born asphyxiated after a difficult labor. At times she had had

as many as ten to twenty-four seizures a day. Each summer she had had a long attack of hay fever, and had long suffered from gastro-intestinal catarrh. The attacks had been steadily increasing in both frequency and severity up to the time of her coming under his observation in December, 1900. Both nasal cavities were almost completely occluded and the pharynx was filled with adenoids. The latter were extirpated and the nasal obstruction relieved, and during the past three months it was evident to every one that her general condition was greatly improved. According to the record kept by the family this child had had about one thousand convulsions a year for a period of five years.

Dr. Arthur A. Bliss, of Philadelphia, said that while the general practitioner and even the neurologist might perhaps hesitate to receive the statement that epilepsy may have such reflex origin it was not so inconceivable when one recalled the intimate relations between the nose, the cervical sympathetic, and the circulation.

Dr. J. N. Mackenzie, of Baltimore, spoke of the subject from a historical point of view, and Drs. A. W. Watson and A. W. Roaldes cited illustrative cases.

General Anæsthesia in Operations upon the Nose and Throat.—This was the subject for special discussion.

A.-C.-E. Mixture and Ethyl Bromide for Adenoid Operations.—Dr. R. W. Gleitsmann, of New York, opened the discussion with a purely clinical contribution to this special part of the subject. He said that for several years he had used the A.-C.-E. mixture and had been fortunate enough to have no ill results from it. It had been his habit to administer the mixture to a child lying on a couch, and then to slowly raise the little one in a chair to the upright position, in which position he operated. This had been his practice for years, and it was his rule to operate on adenoid cases in his office. He had used the ethyl bromide since 1894. Dr. E. Mayer had reported his experience in 250 cases, claiming that it was harmless in quantities of ten to fifteen grammes, that anæsthesia was quickly induced, that the anæsthesia lasted from a minute and a half to two minutes and a half, and that it produced no unpleasant after effects. The drug should be perfectly pure. It was not suitable for maintaining a prolonged anæsthesia. The majority of operators begin by pouring 10 grm. upon a mask, and use altogether 30 or 40 grm. He had used ethyl bromide in at least 500 cases, and in only two instances had it been necessary to interrupt the anæsthetic because of unpleasant symptoms. His mode of operating was as follows: one assistant held the child and the other gave the ethyl bromide and later held the head. It was better to operate in a darkened room with artificial illumination. He used a mask which almost completely excluded the air from the nose and mouth. He used a forceps first and afterwards a curette in removing the adenoids. He passed the instrument into the pharynx four or five times and the patient's head was quickly lowered during the operation to favor the outflow of blood. He had never witnessed the inflow of blood into the larynx.

Nitrous Oxide, Chloroform, and Ether.—Dr. F. E. Hopkins, of Springfield, Mass., discussed this topic in the absence of Dr. T. R. French, who had been expected to take up this subject. Ether, he said, was eminently safe, and nitrous oxide was agreeable to the patient. By beginning with nitrous oxide and following this with ether one obtains a most happy combination. The more common use of nitrous oxide in England might be due to a reaction from chloroform. The time of unconsciousness would seem to be too short with nitrous oxide gas for a thorough clearing of the pharynx in some cases. This duration of the anæsthesia was especially short in children, and was always uncertain: moreover if hemorrhage were going on in the larynx it was dangerous to reapply the anæsthetic. Deaths from chloroform often occur without warning, and at the beginning of anæsthesia. For about one year, chloroform had been used in his operations, the anæsthetic being given by an exceptionally careful and competent anæsthetizer experienced in the use of chloroform. At the end of about a year, a child had suddenly died on the table, and since then chloroform had not been used in his practice. Where chloroform was used it should be replaced by ether during the operation. Ether was the only anæsthetic with which he had had any considerable experience, and while there had occasionally been untoward symptoms these cases, unlike those occurring with chloroform, did not seem to be so utterly hopeless from the very onset of the dangerous symptoms. In spite of the element of safety associated with ether there were the drawbacks of the patient's resistance at the beginning and the distressing nausea afterward. The administration of ether by the rectum had been used as far back as 1847, and by some writers had been considered very useful. Severe meteorism, diarrhœa, and even melæna had been reported after rectal etherization. The use of nitrous oxide gas preliminary to ether had been found an exceedingly pleasant and effective way of producing anæsthesia.

Dr. J. N. Mackenzie, of Baltimore, said that he had been using ethyl bromide in private and hospital practice since 1887, having been led to do so by the writings of his friend, Dr. J. Chisholm, of Baltimore, who deserved great credit for having called renewed attention to this anæsthetic. He had never had an accident, but did not think it was free from danger unless given without any air and after the use of a stimulant.

Dr. W. E. Casselberry, of Chicago, said that for the last fifteen years his usual method of operating on adenoids alone, or on adenoids and hypertrophied tonsils, had been to administer first a few drops of A.-C.-E. mixture, to avoid the unpleasant stage of ether, and to follow this by ether, and use the latter throughout the period of anæsthesia. He had used bromide of ethyl quite largely in office and dispensary practice, especially in those cases in which only adenoids or hypertrophied tonsils were to be removed. It was, however, somewhat unreliable, sometimes failing to anæsthetize an excitable child. On this account, he had not cared to use it in private practice. Nitrous oxide gas is the safest of anæthetics for brief operations. Recently he had followed this gas by the use of ether to prolong the anæsthesia. He had not been satisfied with the closed inhaler ordinarily used in conjunction with this method, and preferred, when the anæsthesia was nearly complete to substitute for it the open cone, made with towel and paper, and having one end loosely closed with cotton. At the time of the change to the open cone there was apt to be a momentary lull in the respiration, but this had no significance. After this change of the inhaler, ether is given in the ordinary way to the conclusion of the operation. In his own cases it had usually required five or ten minutes for the combined operation on both tonsils and adenoids.

Dr. E. Mayer, of New York, said that when gas and ether were properly given in combination, cyanosis never appeared. He preferred this method of anæsthesia for all cases in his private practice, as the operation could be done without undue haste and yet the patient would regain consciousness very quickly. Attention had been recently directed to the value of adrenal preparations as a means of securing resuscitation in cases of collapse occurring in connection with the use of anæsthetics.

Dr. A. W. de Roaldes said that the enthusiasm that he had evinced ten years ago when reporting two hundred cases anæsthetized by the use of bromide of ethyl remained almost unabated, for he could say that, in over five thousand cases, he had met with unpleasant effects only two or three times. If bromide of ethyl were used

properly the child would awaken just exactly at the moment when its co-operation was desired for the removal of blood. This anæsthetic was not an irritant to the nasal mucous membrane and did not depress the heart after the manner of choloroform. Its action was a little less fugitive than that of nitrous oxide. It was not inflammable, and hence could be used with perfect safety near a flame. It was most important to use a pure preparation and one that had been preserved in a sealed glass tube. For adenoid or tonsil operations there was no necessity for producing deep anæsthesia.

Dr. W. K. Simpson, of New York, said that the number of cases in which he found it unnecessary to use an anæsthetic for these operations was steadily increasing. He saw no reason for ever using an anæsthetic for the removal of the tonsils. He was confident that the tonsils could be removed better without an anæsthetic than with one.

Dr. D. B. Delavan deplored the position taken by the last speaker. It was too late, he said, to speak against the use of anæsthetics in these operations, for there was too much testimony in their favor.

Dr. Henry L. Wagner, of San Francisco, said that a pure preparation of bromide of ethyl has an ethereal or strawberry odor, whereas an impure article usually had an odor somewhat resembling that of an onion. He had had a large experience with the rectal administration of ether, and had found it a most admirable method, and one well adapted for operations about the face, nose and throat.

The Tonsils from a Purely Clinical Point of View.—Dr. F. H. Bosworth, of New York, was the author of this paper. He said that he knew of no work in anatomy or physiology which describes the masses at the root of the tongue in the same way as the faucial tonsils are described, probably because the latter assume such prominence in disease of this region. The trend of modern opinion seemed to be distinctly in favor of considering the faucial tonsils as organs whose function is to guard the system against the entrance of noxious germs. It was difficult to understand why nature should place these sponge-like bodies in the throat, for their structure was such as to make them admirable traps for germs. He thought a more tenable view was that the faucial tonsils do not exist in a perfectly normal throat. He had made this statement in the course of a discussion in London twenty years ago, and it had been received with jeering skepticism, yet after all these years of further experience he felt still inclined to make this statement, although not with perfect positiveness. He thought it was a matter of general clinical observation that partial extirpation of the tonsil leaves the throat often in a worse state than before. During the past thirty years he had insisted upon the use of an anæsthetic in the tonsil operation, and his preference had been for chloroform. This anæsthetic should be administered on a handkerchief, with the child in a sitting posture until complete removal of all sensation of pain, and then one tonsil should be removed. In his very large clinical experience of twenty-five years he had not seen a single dangerous complication or anything which seemed to indicate the alleged dangerous tendencies of chloroform. For the past ten years he had not cut tonsils with the tonsillotome, finding that the cold wire snare adapts itself so thoroughly to the tonsil as to leave, in his opinion, nothing to be desired. If the whole mass were not removed at the first operation it was a simple matter to repeat it until the pillars fall into their natural position. Troublesome hemorrhage was not often met with in children when the knife was used, but severe hemorrhage should always be anticipated in operating with the knife upon adults. The cold wire snare avoids this complication.

The Histology of the Retrograde Changes in the Faucial Tonsils of the Adult—Dr. J. L. Goodale, of Boston, read this paper. He had undertaken the study upon a series of tonsils removed at autopsy along with some of the surrounding tissue. The mucous membrane covering the tonsil appeared intact, and unusually thick. The mucous membrane of the crypts sometimes resembled that of the young tonsil, while in other cases it was more like that of the free surface of the tonsil in its structure. The amount of lymphoid tissue in proportion to the connective tissue was always relatively less than in early life. This subject of the structure of the tonsil was illustrated by the presentation of colored drawings and numerous photomicrographs. The first retrograde change observed in the process of sclerosis was a shrinkage of the endothelial reticulum. In an atrophied tonsil the follicles near the crypts maintain a greater activity than those more remote. The retrograde changes begin in the trabeculæ.

Dr. J. O. Roe said that he fully agreed with Dr. Bosworth regarding the tonsil being an accompaniment of some abnormal state of the throat. He believed there was no diseased structure in the upper air passages which caused more disturbance, particularly in children, than the tonsils. They simply invite the lodgment of disease germs and infection of the system.

Dr. A. A. Bliss did not think that the tonsils should be entirely eradicated in every case. If all of the tonsil were to be removed, the snare was probably the best instrument, but for the partial removal of the tonsil there was a choice of instruments. In total excision there was some risk from cutting of the tonsillar artery, though ordinarily the bleeding comes from the ascending branch of the palatine artery.

Dr. Robert C. Myles, of New York, thought Dr Bosworth's position was being more and more generally accepted as correct. For operating on the tonsil with the cold wire snare, general anæsthesia was required. Where the tonsils were pedunculated the guillotine could be easily used under cocain anæsthesia, but a very strong solution of cocain must be used and must be kept in contact with the parts for a long time before the operation.

Dr. Clarence C. Rice, of New York, said that it was quite sufficient to excise the non-inflammatory tonsils of the child to the level of the pillars of the fauces, using the tonsillotome. The large inflammatory tonsils of adults should be extirpated with the galvano-cautery.

Dr. Price Brown, of Toronto, Canada, said that in a practice of thirty years he had never seen a fatal case from chloroform anaesthesia, and hence he doubted the propriety of his changing to another anæsthetic. It was his practice to have his patient recumbent, and to turn him quickly on the side to favor the escape of blood.

Third Day—Wednesday, May 20.

Vocal Nodules.—Dr. C. H. Knight, of New York, was the author of this communication. He said that the term "singers' nodules" was by no means altogether appropriate. In the opinion of Chiari mucous glands are seldom concerned in the constitution of these nodules. They are more common in women than in men, and are not rare in children. The relation of vocal nodules to tuberculosis was still undetermined. In his own experience this relation had been purely accidental. The author then narrated a case which had recently come under his observation. The patient was a lady who rarely sings, but who is a good deal of a talker. There was a good deal of chronic laryngitis with hyperplasia of the lymphoid tissue at the base of the tongue. Simple local treatment produced improvement, but some months later, after having caught cold, this lady sang in church under circumstances which excited her emotions. An examination at this time showed the larynx to be very irritable. The treatment consisted in the use of daily sprays and of a solution of alumnol, twenty grains to the ounce. After a time, on his advice, she had taken a course of vocal gymnastics under a professional voice trainer. The

treatment consisted, in the first place, in teaching a correct method of breathing, but was, in the main a "rest cure" hence the common expression "vocal massage" was evidently a misnomer as regards this treatment. In consideration of the fact that in cases of malignant disease of the larynx so much benefit sometimes follows ligation of the arteries supplying the part, he had been led to endeavor to produce an ischæmia of the larynx in this case by the use of suprarenal extract. Accordingly daily instillations of a 1:5,000 solution of an adrenal preparation had been made for three weeks. This treatment, together with the vocal training had effected considerable improvement, and the nodule was evidently shrinking. In his opinion, misuse of the voice was a much more probable etiological factor than overuse of the voice, but it was evident that a throaty voice could not be the only element otherwise these cases would be far more common. One would naturally expect vocal nodules to be developed in those using the speaking voice a good deal rather than in connection with the singing voice because of the comparatively short range of the former. The author suggested the possibility of these nodules arising from overuse of certain muscle bundles, thereby causing hyperæmia and hyperplasia, or there might occur under these conditions a minute localized hemorrhage. A theory that these nodules result from attrition of the vocal cords seemed to him untenable because a space must always exist in order to permit the blast of air to escape. Moreover these nodules, as in his own case, do not always appear upon the margin of the cord.

Dr. C. C. Rice said that the cases of vocal nodules that he had seen had been uniformly in professional singers, had almost invariably in "light opera" singers as distinguished from the "grand opera" singers. This might be explained by the fact that the grand opera singers use their voices much less frequently and also more skilfully. He believed these nodules were rather the result of overuse than misuse of, the singing voice. He was inclined to think that insisting upon proper vocalization was a better means of reducing these nodules than total rest. He had lately had a few cases do well under the topical use of chromic acid, and it had been reassuring to note how perfect had been the repair of the vocal cord.

Dr. W. K. Simpson was inclined to think that the term "vocal nodule" was applied to a number of lesions in the larynx, some of them quite fugitive ones. Hypertrophies at the base of the tongue certainly led to overuse of the voice; indeed, when there was much lymphoid tissue in this situation, he hardly knew of anything which would so improve a singer's voice as its removal. Such an operation not only improves the quality of the voice, but enables the singer to use it with much less effort. These nodules were apt to appear in those whose general health was below the standard.

Dr. H. L. Wagner said that his experience showed plainly that these nodules undoubtedly occur in others than singers, and often in those who are anæmic. He was satisfied that overuse of the voice meant misuse, because, when the voice is overused, certain muscles are used which would not otherwise be brought into play.

Dr. J. W. Farlow, of Boston, said that he had seen these nodules more commonly in non-singers than in singers, and even had observed them in a child of nine years. Anything which tends to make a throaty voice, or to make the throat expel some resisting mass, is apt to lead to the development of these nodes.

A Study of the Proper Application of Intubation in Chronic Stenosis of the Larynx.—Dr. W. K. Simpson, of New York, read a paper on this subject, in which he considered only chronic laryngeal stenosis arising independently of syphilis. He divided the cases into three groups, viz.: (1) Cases of gradually developed stenosis, and not necessarily demanding operation; (2) cases of acute stenosis demanding prompt operative intervention, and (3) cases in which it is desirable to interfere in order to do away with the use of the tracheal canula. An accurate diagnosis was a prerequisite to the treatment, and under this head was included a knowledge of the location of the swelling, the density of the tissue, whether or not ulceration is present, and whether the condition of the patient will allow of the necessary laryngoscopic examination. If such an examination could not be made prior to intubation, then this operation should give way to tracheotomy, with the idea of perhaps subsequently doing intubation. It was in the third group of cases that intubation showed its superiority. An intubation tube had the advantage of being worn for an indefinite time, thus producing constant and prolonged pressure; moreover, the size and shape of the tube can be easily changed so as to make it best conform to the needs of the individual case. Sometimes the intubation was secondary to tracheotomy, in which case it was better to do the tracheotomy as high up as possible. The longer a tracheotomy tube remains in an adult trachea, the more difficult does it become to introduce the intubation tube. To prevent the coughing out of the intubation tube, Dr. John Rogers, of New York, had fitted a retention arm at right angle to the tube. This comes out through the tracheal wound. In order to determine the exact point at which this arm should be attached a hard rubber intubation tube is inserted, and is then touched with a hot wire through the tracheal wound. The small spot thus burned on the tube indicates the proper place for the retention arm.

Dr. E. Mayer showed a similar intubation tube with retention arm, together with a large, hollow introducing instrument that he had devised. This instrument was very valuable in adult cases of chronic stenosis, because it allowed of the introduction of the intubation tube without interfering with the patient's breathing.

Dr. W. E. Casselberry spoke of the many difficulties encountered in performing intubation in these cases, particularly if the patient's condition were so bad as to preclude laryngoscopic examination. Under such conditions, he would favor tracheotomy. He then described the well-known feeding position for intubated patients, which goes by his name, and insisted that it would succeed in every case, if properly employed.

Some Cases of Paralysis of the Right Vocal Cord.—Dr. J. W. Farlow, of Boston, reported four of these cases.

Drs. Delavan, Casselberry, Swain, and Price Brown also reported their experience in this field.

A Report of a Method of Local Treatment Employed to Eradicate the Susceptibility of the Nasal Mucous Membrane to Hay Fever.—Dr. Clarence C. Rice, of New York, read a paper with this title. He expressed his belief in the theory that an abnormal sensitiveness of the nasal mucous membrane is a very important element in the production of summer coryza. He had accordingly tried to reduce this sensitiveness, in cases of false summer coryza, by frequently repeated frictional rubbings, carried on for several weeks before the expected attack. At first this rubbing with the cotton applicator was painful, and caused much coryza and discomfort. Each spot was rubbed ten or twelve times, with the applicator moistened with a solution of alumnol, fifteen or twenty grains to the ounce of a vehicle fifty per cent. of which is some one of the popular disinfectant solutions, and containing one-half per cent. of eucaine.

Dr. F. H. Bosworth said that the essential pathology of hay fever, in his opinion, was a vasomotor paresis arising from some irritation, such as pollen in the atmosphere, and occurring in persons of a neurotic temperament. The latter must be reckoned with in addition to diminishing the sensitiveness of the nasal mucous membrane.

Dr. Shurley, of Detroit, said that one should constantly

keep in mind the fact that this disorder is a neurosis, and the vasomotor paresis only incidental. The rational cure of these cases depends upon the successful general treatment of the individual.

Dr. J. O. Roe, of Rochester, said that, unlike the author, he had never met with a case of hay fever occurring in a person having anatomically normal nostrils. According to his own experience, the middle and superior turbinates had more to do with the local irritation than had the inferior turbinate.

The Cleft Palate and its Relation to Speech.—Dr. G. Hudson Makuen, of Philadelphia, was the author of this paper. He said that both the tongue and the palate were important in the function of speech, but the palate was the more important. The purely vocal elements of speech, such as the vowel signs, may be articulated when the palate is defective, but their resonance is so impaired that they are scarcely recognizable. Of the twenty-three consonant sounds only two, "m" and "n," can be articulated intelligibly when the palate is not intact, because in the pronunciation of the other consonants the palate is necessary to prevent the passage of the column of air upward. Perforation of the palate affects speech to a greater or less degree, dependent upon its position. Surgical measures for the relief of cleft palate should be undertaken as early as possible in the formative speech period, and these should be supplemented by instruction and practice in the normal production of speech. However skilful the surgeon may be in uniting the lateral halves of the palate, there would be inevitably a certain tension of the palate; hence, even though the operation may appear to be thoroughly successful, the result would not be a perfect substitute for a normal palate. There always remains some space between the velum palati and the posterior pharyngeal wall, and the muscles of the velum, because of the tension of this part, are almost wholly inactive. He had advocated, some years ago, minor surgical measures for increasing the size of the velum in these cases. They consisted in separating adhesions, forcible and repeated stretching of the velum with the finger after division of certain fibres of the palato-glossal and palato-pharyngeal muscles, training and development of the velum palati muscles by both direct and indirect voluntary procedures. The result had been marked improvement in speech in cases following the operation for cleft palate.

Note on the Use of the Electromagnet for the Extraction of Foreign Bodies from the Air Passages.—Dr. A. W. de Roaldes, of New Orleans, described some experiments that he had made with the Hobbs giant electromagnet on the cadaver, with the object of demonstrating the practicability of the method in removing metallic foreign bodies from the air passages. A roofing nail, weighing seventeen grains, and one inch in length, a steel button weighing fifteen grains, and five-eighths of an inch in diameter, were among the foreign bodies experimented with. The zone of attraction of these bodies was experimentally determined, with the result that the nail was attracted at a distance of nine inches, and the button at a distance of eight inches, when placed in a glass tube lined with leather. These bodies were then introduced into the trachea and bronchi through a tracheotomy wound, and were easily extracted by the magnet held at the level of the wound. In one experiment, the button was moved along from the bronchus upward, and again from the subglottic space downward to the tracheal wound, by the application of the magnet to the skin. For future use, he had had made several vertebrated metallic probes or bougies, which are to be attached to the giant magnet, and thus serve practically as extensions of its core. By an improvement in the construction of the magnet, a traction force of between two and three pounds can be utilized. A commutator is provided so that the current can be applied intermittently, and the foreign body to be extracted thus coaxed along by a series of magnetic pulsations, rather than by steady traction.

The Surgery of Nasopharyngeal Tumors.—Dr. D. Bryson Delavan, of New York, read this paper, and in it called attention to the work that had been done in this field by a recently deceased fellow member, Dr. R. P Lincoln. The author expressed regret that the method advocated by that observer had been largely forgotten. He said that he had been able to find comparatively few reports on this method in the last ten years—the method devised by Voltalini. He had collected forty-five cases of preliminary operation done in this period, and of these in twenty-five, or fifty-three per cent., the results had not been stated. In five cases, or eleven per cent., failure had been reported, and in thirty-three per cent. there had been cures. Of seventy-two cases treated by the method advocated by Lincoln, twenty-six had resulted in a cure, two had failed, and in forty-four the result had not been stated. Unsatisfactory indeed were such statistics. Dr. Delavan said that he had had the same disappointing experience in collecting statistics on laryngeal cancer. In the method under discussion, the cautery snare and not the snare was recommended, because it was the heat that divided the tissues and prevented the hemorrhage.

Pedunculated Fibroma of the Œsophagus Obstructing the Larynx.—Dr. F. C. Cobb, of Boston, reported this interesting case.

Officers Elected.—*President*, Dr. J. W. Farlow, of Boston; *First Vice-President*, Dr. J. W. Gleitsmann, of New York; *Second Vice-President*, Dr. D. Braden Kyle, of Philadelphia; *Secretary and Treasurer*, Dr. J. E. Newcomb, of New York; *Librarian*, Dr. J. H. Bryan, of Washington, D. C. The next annual meeting will be held at Boston, Mass.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 6, 1901:

	Cases.	Deaths.
Measles	275	18
Diphtheria } Laryngeal Diphtheria (Croup)	153	34
Scarlet fever	220	33
Smallpox	91	25
Chickenpox	44	
Tuberculosis	166	150
Typhoid fever	24	14
Cerebro-spinal meningitis		5

Malaria and Typhoid Fever.—The record of cases in which malaria and typhoid fever have coexisted is not yet an extensive one, or rather the cases in which a thoroughly reliable diagnosis has been made are not numerous. At a recent meeting of the Lancisian Society of Rome, Fiocca, who is known for his accurate investigations in connection with Widal's reaction, reported an indubitable instance of this combination. The patient, who had never previously been ill, paid a visit on October 4th to Leprignano. On the 15th, he was attacked with malarial fever, and was admitted to the hospital of St. Giacomo, where he remained until apparently cured, the 30th of the same month. He then returned to Leprignano, but was again taken ill, and had to be re-admitted to the hospital on November 25th, suffering from a fever which continued till December 28th, with symptoms of typhoid fever, the blood giving a positive Widal reaction, but showing no malarial parasites. After the latter date, followed six days of complete apyrexia, and then on January 4th, another attack of malaria, with the presence of estivo-autumnal parasites in the blood, which

soon yielded to quinine. On the 10th, the temperature again rose, ushering in a relapse of typhoid fever, which continued until January 22d, when another period of apyrexia followed, lasting nine days. On January 31st came another relapse, this time of malaria. Again quinine was employed with good effect, since which time the patient has kept quite well. Here, then, were present simultaneously the infections of both malaria and typhoid fever, the former detected by the parasites found in the blood, the latter by the agglutination reaction of Widal which was obtained at different periods, and varied in intensity from a dilution of 1 in 50 to one as high as 1 in 500. It would appear that in this case there was a tendency for the two diseases to keep themselves distinct and independent; when one ceased, the other, after a short interval, began. This alternation could have been due only in part, if at all, to the action of the quinine, which was not administered in large doses until after January 15th.—*The Lancet.*

Sir Walter Besant.—The following generous appreciation of the late Sir Walter Besant appeared in *The Lancet* June 15th: "The late Sir Walter Besant was a philanthropist in the most literal sense of the word. He loved his fellow-men, and spared no pains in their behalf. Of the most genial temperament, and delighting in the happiness of others, the gray, depressing lives of the poor of London moved him to deep pity. A tireless worker, his heart bled for the seamstress whose day of labor was longer even than his own. A successful man, from the opening of his literary career, his sympathy went out to all of his craft, whose labors met with no return. His vision of a People's Palace to bring light into gloomy Whitechapel became a reality; his scheme for organizing men and women of letters into a coherent body for the maintenance of their common rights resulted in that useful corporation, the Society of Authors. Of Sir Walter Besant, as a scholar, a humorist, a novelist, and an antiquary, much might be written and will be written. But from a medical point of view, it will suffice to say that the healthy recreation which his sane and beautiful stories brought to a vast circle of readers had its physical value, while his vivid and picturesque portrayal of eighteenth century manners served to make us understand the processes of social evolution in a way that no dry-as-dust treatises could aspire to do. The death of such a man, devoted to well-doing, whose sanguine energy insured a practical effect for the dreams of his well-dowered brain, is a loss to the world, and we desire to pay tribute to our sense of this loss."

The Inconsistency and the Bigotry of the Antivivisectionist are illustrated by the occupancy of the president's chair at the recent annual meeting of the National Antivivisection Society, in London, by a personage who expressed a sense of shame for the horrors that went on in English laboratories, but who exhibits no qualms for the destruction of, and the suffering inflicted upon, birds for the mere pleasure and delectation of himself and his friends.

Tetanus Treated with Antitoxin.—J. W. Humrichouse in relating the history of a case, concludes as follows: 1. While it can be proved that the case here related recovered through the use of antitoxin, it is probable, for the reason that improvement followed its use. 2. The difference in mortality is slight between cases treated with and cases treated without antitoxin. 3. The non-efficiency of the serum treatment is due to its administration after the onset of the disease, when the poison has been absorbed by the nerve-cells of the cord. 4. The efficiency of the serum lies in its neutralization of the toxins in the blood, and the prevention thereby of their effect upon the nerve-cells. 5. Antitoxin should be used immediately upon the reception of a suspicious wound, such as a penetrating wound of the foot by a nail, or a toy-pistol wound of the hand, and in other wounds as soon as slight symptoms of tetanus show themselves. 6. Antioxin will prevent the development of tetanus in animals and man when given prior to operations in hospitals and places where tetanus is prevalent or endemic.—*Maryland Medical Journal.*

Gout in Connection with Lead Impregnation.—Lead poisoning is a predisposing cause of gout. The evidence which is adduced in support of this belief is: 1. Among hospital patients who suffer from gout, a large proportion are found to be affected with, or to have previously suffered from, lead poisoning. 2. Patients who are subject to gout are usually susceptible to plumbism, while it is also found that gout may be induced by the administration of lead salts in those who are predisposed to it, and the relation of cause and effect is shown from the fact that the latter ceases on the discontinuance of the former, and recurs on its repetition. 3. Under the influence of lead salts the blood becomes abnormally charged with uric acid, while there is a corresponding deficiency of it in the urine.—Dr. Lorimer, *in the Quarterly Magazine.*

Intestinal Ulceration in Arteriosclerosis.—This condition is described by Mouisset in two cases. It was found to be most marked in the colon. There were superficial ulcers varying in size from a pin's head to that of a franc piece; in one case there were as many as a hundred ulcers. The ulceration is regarded as due to fibrosis of the wall of the bowel—arteriosclerosis of the intestine—combined with narrowing of the blood vessels. The first stage in the process was a hard, raised patch in the mucosa. Subsequently ulceration supervened. In young persons dying with uræmia from scarlatinal nephritis, ulceration is very rare, inasmuch as arterial changes have not had time to develop. The ulceration of the intestines was, it may be pointed out, described years ago by Dickinson in his Croonian lectures (*British Medical Journal*, 1876, vol. 1), under the title, "Albuminuric Ulceration of the Bowels." He regarded the primary lesion on which the ulceration was consequent as a hæmorrhage into the submucous coat of the bowel.—*The Practitioner.*

The Pulse in Peritonitis.—Again and again it has been pointed out that the pulse is the great guide when the peritoneum is involved, and that notwithstanding the favorable character of other symptoms, if the pulse remains quick, we have no right to be satisfied with the condition. The converse, however, may not hold true. A case recorded in *The Lancet* by Bowlby and Steedman serves well to show how careful we must be not to place reliance upon single symptoms; for here, although the abdominal cavity contained about a quart of dark, blood-stained fluid, and the greater part of the small intestine was so twisted as to form a large volvulus, the pulse remained below 100 in spite of the strangulation of so large a mass of intestine, and although the patient was evidently much collapsed and in intense pain. The case was a very remarkable one in other respects, this volvulus having come on after a previous operation for perforated gastric ulcer, in which rigors had occurred; but the authors draw special attention to this question of pulse rate, saying: "It is seldom that so serious a condition as was found in this case, on opening the abdomen, causes so little disturbance of the pulse rate; but this case, and others which we have seen, should serve as a warning not to place too much reliance on a quiet pulse, when the question of laparotomy is under consideration for the relief of such suspected conditions as perforated gastric ulcer and volvulus."—*The Hospital.*

Measles and Vaccination.—The favorable influence of vaccination on whooping cough has been frequently noticed, and, as has been already suggested in this journal, is probably an example of the principle expressed in the ancient Hippocratic aphorism that "spasmodic diseases are cured by fevers," which is sometimes strikingly exemplified in the case of chorea. According to Dr. Papalelios, of Athens, however, vaccination exerts a similarly favorable influence in cases of measles, and he quotes several instances in which children attacked by the disease, during the reaction to vaccination, had it in a much milder form than other members of the same family. If this be confirmed it will add another to the numerous instances of bacillary antagonisms.—*Medical Magazine.*

The Ventricle of the Larynx as a Harbor for Diphtheria Bacilli.—Jobson Horne relates two case of diphtheria, occurring in young children, characterized by croupy cough and threatening dyspnœa, requiring tracheotomy. Faucial evidences of diphtheria and glandular enlargement were both lacking. Mouth cultures at two different times were negative. After the trachea was opened, some membranous-looking material was coughed up and examined but showed only staphylococci. Antitoxin was used but the first patient died. At autopsy there was found no membrane in pharynx or larynx. The tracheal wound was healthy except that the edges were surrounded by a whitish adherent membrane. Serum-agar cultures made from the freshly exposed surfaces of the larynx and trachea showed no bacilli but cultures made on the same media from the interior of the laryngeal ventricles yielded a positive result. Horne believes that the facts explain those fatal cases of so-called membranous laryngitis which, owing to the bacilli not having been found, have been regarded as non-diphtheritic, but which are really cases of true diphtheria; the facts may also explain some of those recurrences of diphtheria in which external sources of infection can almost certainly be excluded in the second attack.—*Journal of Laryngology.*

Water as a Vehicle of the Typhoid Germ.—The *Sanitary Record* says that the reference in Sir Henry Colville's book to the causes of typhoid fever in Africa has given rise to considerable comment in the daily press, and has called forth one or two interesting letters from private individuals. One of these, giving the personal experience of the writer in the Australian gold fields, is worthy of note, not because of any striking originality, but because of the experience it records. Writing to the *Morning Post*, "Prospector" says: "I would point out that the experience of medical men on the West Australian gold fields—where typhoid fever was in earlier days terribly common—points to bad water as the chief source of infection. Fevers have practically disappeared from Kalgoorlie and Coolgardie, now that pure condensed water is obtainable, and Cue is quite a healthy town, though six years ago the normal death rate was one per cent. per diem among the pioneers—to all intents and purposes picked men, physically, in the prime of life. In those days drinking water came from surface pools, and was very dangerous stuff to tackle, but subsequently numerous wells were sunk, and good water is abundant. I have heard the dust theory advanced, but do not think there is much in it."

Freezing Point of Blood.—Koranyi, of Budapest, affirms that the freezing point of blood is a diagnostic sign of renal activity. The normal point lies within the narrow limits of 0.56° and 0.58°. When 0.59° is reached, there is a decided functional loss of the kidney, and when both are affected, respiration is seriously interfered with. He admits the cause may be either reflex or mechanical, or both.—*The Medical Press.*

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, United States Marine Hospital Service, during the week ended July 6, 1901.

		CASES.	DEATH.
SMALLPOX—UNITED STATES AND INSULAR.			
California, Los Angeles	June 1st to 22d	7	
Illinois, Chicago	June 22d to 29th		
Indiana, South Bend	June 22d to 29th	1	
Iowa, Clinton	June 15th to 22d	1	
Kansas, Lawrence	June 15th to 22d	1	
Wichita	June 15th to 30th	3	
Kentucky, Lexington	June 22d to 29th	1	
Louisiana, New Orleans	June 22d to 29th	2	
Shreveport	June 22d to 29th	3	
Massachusetts, Fall River	June 23d to 29th	3	
Waltham	June 22d to 29th	1	
Worcester	June 14th to 21st	1	
Minnesota, Minneapolis	June 15th to 29th	15	2
Winona	June 15th to 29th	3	
Nebraska, Omaha	June 22d to 29th	7	
South Omaha	June 24 to July 1	3	
New Jersey, Bayonne	June 23d to 30th	1	
New York, New York	June 22d to 29th	97	15
Ohio, Cincinnati	June 22d to 28th	1	
Cleveland	June 23d to 29th	8	1
Pennsylvania, Philadelphia	June 22d to 29th	3	
Pittsburg	June 22d to 29th	1	
Rhode Island, Providence	June 22d to 29th	2	
Tennessee, Memphis	June 22d to 29th	5	
Utah, Salt Lake City	June 22d to 29th	7	
Washington, Tacoma	June 17th to 30th	3	
West Virginia, Wheeling	June 22d to 29th	1	
Wisconsin, Green Bay	June 23d to 30th	5	
Hawaii, Libue	May 7	1	among
Waimea	May 5th to 15th	1	P. Ricans
Philippines, Manilla	May 11th to 25th	14	
SMALLPOX—FOREIGN.			
Argentine, Buenos Ayres	April 1st to 30th		140
Austria, Prague	June 1st to 15th	10	
Belgium, Antwerp	June 1st to 8th	5	2
Brazil, Rio de Janeiro	May 1st to 15th	35	12
Canada, Ontario, Hamilton	June 1st to 30th	1	
Quebec, Quebec Basin	June 22d to 29th	10	
Colombia, Panama	June 18th to 24th	6	
Egypt, Cairo	May 27th to June 3d		1
France, Paris	June 8th to 15th	20	
St. Etienne	May 15th to 30th	1	
Gibraltar	June 1st to 16th	2	
Great Britain, Cardiff	June 8th to 15th	2	
Glasgow	June 15th to 21st	13	
Liverpool	June 8th to 15th	2	
London	June 8th to 13th	1	
India, Bombay	May 28th to June 4th		3
Calcutta	May 24th to June 1st		14
Madras	May 18th to 24th		9
Italy, Messina	June 8th to 22d	36	6
Naples	June 8th to 16th	124	28
Mexico, Mexico	June 16th to 23d	2	1
Russia, Moscow	May 23d to June 15th	34	11
Odessa	June 1st to 8th	1	
St. Petersburg	June 8th to 15th	10	2
Warsaw	May 25th to June 1st		14
Spain, Madrid	May 4th to June 1st		11
Switzerland, Geneva	May 25th to June 1st	1	
Uruguay, Montevideo	May 11th to 25th	33	4
YELLOW FEVER.			
Colombia, Bocas del Toro	June 28th	1	
Brazil, Rio de Janeiro	May 1st to 15th		14
Mexico, Vera Cruz	June 22d to 29th		3
CHOLERA.			
India, Bombay	May 28th to June 4th		2
Calcutta	May 25th to June 1st		67
Madras	May 18th to 23d		3
PLAGUE—FOREIGN AND INSULAR.			
China, Amoy	Apr. 28th May 10th		325
Hongkong	May 11th to 18th	122	113
India, Bombay	May 28th to June 4th		141
Calcutta	May 24th to June 1st		50
Hawaii, Honolulu	May 31st to June 10th	4	4
Philippines, Manila	May 11th to 25th	55	48

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgement will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

PROGRESSIVE MEDICINE, Vol. II. By HOBART AMORY HARE, M. D. 8vo. 470 pages, illustrated. Lea Brothers & Co., Philadelphia Pa.

HOW TO COOK FOR THE SICK AND CONVALESCENT, by HELENA V. SACHSE. 12mo., 239 pages. J. B. Lippincott Company, Philadelphia, Pa.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS, Vol. XIII., 8vo., 337 pages, illustrated. Wm. J. Dornan, Philadelphia, Pa.

MOSQUITOS, by L. O. HOWARD. 8vo., 239 pages, illustrated. McClure, Philips & Co., New York.

STRICTURE OF THE URETHRA, by P. J. FREYER, M. D. 8vo., 115 pages, illustrated. William Wood & Company, New York

BOARD OF HEALTH OF THE STATE OF NEW JERSEY, 24th annual report, 8vo., 400 pages. The John L. Murphy Puplishing Co., Trenton, N. J.

DISEASES OF THE INTESTINES, by Dr. I. BOAS. 8vo. 562 pages, illustrated. D. Appleton & Co., New York.

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Original Articles.

THE SUTURE OF WOUNDS OF LARGE BLOOD VESSELS, WITH REPORT OF A CASE OF RECOVERY AFTER SUTURE OF A WOUND OF THE AXILLARY ARTERY.

BY A. E. HALSTEAD, M. D.;

CHICAGO,

PROFESSOR OF SURGERY, CHICAGO POLICLINIC; ATTENDING SURGEON TO THE COOK COUNTY HOSPITAL.

MRS. S., aged 43, was operated on by me in the latter part of May, 1900, for advanced mammary carcinoma. At this operation the whole mammary gland, with both pectoral muscles and their fascia and the axillary glands and fat, were removed in one mass by sharp dissection. The infraclavicular glands were slightly enlarged and were also removed. No change in the cervical glands was noted at this time. Four months later the glands along the posterior border of the sternocleidomastoid began to enlarge, and were removed. They were found to be carcinomatous. About the middle of October a small nodule began to grow at the outer end of the clavicle, which was somewhat deeply seated and painful. In two weeks the pain disappeared, and the nodule appeared to diminish in size. In the latter part of November the tumor again became painful, and rapidly increased in size. On December 14 the patient presented herself for examination, when a tumor about the size of a walnut could be felt, deeply seated, just below the coracoid process. She was advised to have this tumor removed, and accordingly was sent to the Polyclinic Hospital, where, on December 14, under ether anæsthesia, an incision was made parallel with the old line of incision, curving downward and outward from the middle of the clavicle to the floor of the axilla. The tumor was found to have originated in the short stump of the small pectoral muscle, which was left attached to the coracoid process. It had pushed up the inner fibres of the deltoid to which it had become adherent, and had involved the upper part of the coracobrachialis and the capsule of the shoulder joint. The coracobrachialis and the inner third of the deltoid were dissected from below upwards, and with the tumor, the part of capsule involved, and about two inches of the axillary vein, were removed.

Just before the dissection was completed, the axillary artery was found adherent by its fascia to the tumor at a point about on a level with the insertion of the pectoralis minor muscle. By means of sharp, curved scissors the artery was being freed from its attachment to the tumor, when the vessel was accidentally cut obliquely through about two-thirds of its circumference. Violent hemorrhage, of course, immediately followed, which was controlled by placing the index finger of the left hand under the artery and pressing it up against the clavicle. The operation field was then sponged dry and the wound of the vessel inspected. At the time of the first operation all the branches of the axillary artery excepting the circumflex had been cut, so that there was practically no chance for collateral circulation being established. Under the circumstances, the only chance of saving the arm was to suture the artery. Accordingly, while the circulation was controlled by pressure of the left index finger, four interrupted catgut sutures were passed through the two outer coats of the vessel and tied. This effectually closed the wound in the vessel, so that no hemorrhage followed removal of pressure from the artery. To support these sutures the perivascular connective tissue was sutured longitudinally with a fine catgut suture. The tumor was then dissected from the vessel, and the wound closed in the ordinary way. The radial pulse was immediately restored, and was as full as that of the opposite side. The patient made a good recovery from the immediate effects of the operation, and had at no time any disturbance of the circulation of the arm. She left the hospital at the end of two weeks. Two months after the operation there was still a radial pulse on the left side of a volume equal to that on the right.

It is only during the last twenty years that the conservative treatment of wounds of large blood vessels has received any attention, although Lambert, a surgeon of Newcastle, successfully sutured a wound of the carotid artery in 1762. No other attempt is recorded until Czerny, in 1881, sutured a wound of the internal jugular vein. The publication of two unsuccessful experiments on animals by Assmann in 1773, and the condemnation of the operation by Broca and other surgeons of his time, resulted in preventing further advances in this direction until the experimental work of Schede, Glück, and Von Horoch demonstrated not only that longitudinal wounds of large vessels could be successfully sutured, but that circular union of divided arteries was possible. The publication in 1891 of the results of the experiments made by Jassinowsky did more to revive the interest in suture of blood vessels than did any previous work on this subject. His experiments, twenty-six in number, were made on the carotids and abdominal aorta of dogs. The length of time the animal was permitted to live after the vessel was sutured varied from one hour to 105 days. The wounds sutured were of all kinds—longitudinal, oblique, and transverse.

The results of these experiments demonstrated that suture of a wound of a blood vessel with subsequent healing could be accomplished without a serious risk of aneurism or hemorrhage, providing aseptic wound conditions were maintained. It was also demonstrated that closure of the wound was accomplished principally by the proliferation of the endothelium of the intima and of connective tissue cells of the adventitia.

Following Jassinowsky's work, we have the publication of the experimental studies of Muscatello, Tichow, Orlow, Nitze, Bruci, Doerfler and others, whose results were on the whole similar to his. In 1894 Abbe experimented with end-to-end union of blood vessels, employing glass tubes, placed inside the

lumen of the vessel to support the approximated ends. In 1895 Israel sutured a wound of the common iliac, which was accidentally made during an operation for appendicitis. The same year Zoege von Manteuffel sutured successfully a wound of the femoral, and Heidenhain an oblique wound of the axillary artery, made while operating on a carcinoma of the breast. Murphy, in 1897, published a paper in which he detailed his results in a large number of experiments on animals, demonstrating the practicability of end-to-end union of arteries by suture. He also reported two cases; in one the femoral vein was sutured and in the other a portion of the femoral artery was resected and the ends were united by invagination and suture; both patients recovered. Among the others who have reported successful cases of arterial suture may be mentioned Lindner, who sutured the femoral, Zeigler the carotid, Kümmell the femoral, Garrie the brachial and common carotid and the popliteal. Of the large veins, the jugular, subclavian, and the femoral have been sutured a number of times. Manteuffel successfully closed a wound of the inferior vena cava, which had been made in the removal of a carcinoma of the kidney.

The indications for arterial suture are: First, in all cases of injury to a vessel or vessels, where a ligature might bring about serious nutritional changes to the part supplied by the injured vessels. This is especially apt to occur when the corresponding vein is injured at the same time. In such cases an effort should be made to repair both vessels, although if the arterial circulation is established the necessity of restoring the continuity of the vein is not so imperative. Second, in all wounds of large vessels produced by puncture, gun-shot, or laceration. Third, operation wounds of large vessels, accidental or intentional, as when, for any reason, a part of the vessel must be sacrificed.

In wounds involving no more than one-half of the circumference of the vessel, either oblique or transverse, simple suture only is required. When more than one-half of the circumference is involved, resection and end-to-end union by invagination will constitute the best method of treatment. In the case just reported an oblique wound of two-thirds of the circumference of the vessel was sutured without difficulty and without subsequent obliteration of the artery. It has been demonstrated by experiments on animals that after invagination, or when end-to-end union is accomplished by any method, the vessel in most cases ultimately becomes obliterated, as a result of endothelial proliferation. This, however, does not occur immediately, but usually after several weeks have elapsed. The fact that the artery may thus be obliterated cannot be used as an argument against the conservative treatment of wounds of these vessels. If the direct circulation through the artery is permitted to continue for even a few days as the result of the suture of a wound, and is not suddenly cut off, as it is when the vessel is ligated, a sufficient collateral circulation will have been established to prevent any serious nutritional disturbances of the tissues supplied.

In considering the indications for arterial suture it is evident that only in wounds of a few of the larger arteries is the operation indicated. In the medium sized and small vessels there is no danger of necrosis of the vessel is ligated. Again, suture of a small vessel would be impossible. Of the large vessels where suture is important we may mention the aorta, popliteal, common carotid, subclavian, axillary, femoral, and iliac. In subcutaneous rupture of the popliteal, or in gun-shot wounds, the vein is nearly always injured because of its relation to the artery, and in nearly all cases a necrosis of the leg and foot follows. Wounds of the aorta may be successfully sutured. If we consider the results of ligation of the common carotid, the value of suture of wounds of this vessel is readily apparent. According to Pilz, the mortality following ligation of the common carotid after injury is 54 per cent.; Klemm puts it at 41 per cent. Zimmerman collected all the cases published between the years 1885 and 1891 in which the common carotid had been ligated for any cause, and found the mortality to be 41 per cent. Pilz also found, in his review of published cases, that in 32 per cent. of all cases brain symptoms followed; of these 56 per cent. ended fatally, the cause of death being ischæmic necrosis or hemorrhagic softening. Of the cases of wounds of the carotid conservatively treated by suture, so far all have recovered without any untoward symptoms.

In dealing with the technique of suture of wounds of blood vessels we have to consider the means of securing temporary hemostasis, the suture material to employ, and the manner in which the sutures are to be introduced. It is scarcely necessary to state that there should be a perfect aseptic condition of the wound. The operation should never be performed in the presence of septic wound conditions. Of the methods of temporarily controlling the flow of blood through the vessels we have (1) elastic constriction, (2) digital compression, (3) temporary ligation, and (4) pressure by properly protected hemostatic forceps. In cases in which it is possible, as in wounds of the popliteal or femoral, the circulation can best be controlled by elastic constriction. In other parts of the body where this means cannot be employed, digital compression, preferably by pressing the vessel against a strip of gauze placed underneath it, as practiced by Murphy, is the most convenient and safest procedure. The use of hemostatic forceps having light, flexible blades, which have been covered by pieces of rubber drainage tube, has been found satisfactory where other methods were not available. There is, however, always great risk of permanently injuring the vessel when the forceps is used. Temporary ligation with an ordinary silk or catgut ligature is dangerous, and should not be employed.

Since operating on the case just reported, in doing experimental suture of arteries on dogs, I have secured temporary control of the circulation by passing a loop of tape around the vessel and twisting it until the lumen of the vessel is closed, and then holding the tape by means of an artery forceps, applied close to the vessel. With this method the wall of the vessel is not injured, and the ligature can be quickly removed after the suture is completed. This method also has an advantage over digital compression in that it excludes from the field of operation the hands of an assistant that are in the way and that may be a source of infection.

In the selection of suture material, some operators prefer catgut, others silk. The chief advantage claimed for the catgut is that when it becomes moistened, it swells and closes the needle punctures, thus controlling the hemorrhage which frequently occurs. Many prefer silk for suture because it supports the line of union longer than the catgut, and also because, being non-absorbable, it acts as a foreign body and stimulates the proliferation of the connective tissue and endothelial cells and thus adds strength to the cicatrix. The experiments of Tichow go to show that when silk is employed it never shows any tendency to pass into the lumen of the vessel but always in the opposite direction. Doerfler found in his experiments, that when the animals were killed in from one to four days the suture remained unchanged. After five to eight weeks, the sutures were no longer

visible in the lumen of the vessel, their position being marked only by a circumscribed thickening of the intima.

In introducing the suture, some include only the adventitia and media, while others penetrate all the coats of the vessel. Jassimowsky strongly advocates the former. He claims that in not penetrating the intima, the risk of thrombus and of hemorrhage from the needle punctures is lessened, and that secondary hemorrhage is not so apt to occur. On the other hand, Doerfler is equally positive that there is no good reason for not including the intima, and that technically the operation, when all the coats are penetrated, is not so difficult as when only the outer two are included. In the suture of longitudinal wounds of arteries, it is best to use a continuous catgut suture penetrating only the two outer coats of the vessel. After the wound has been closed an additional suture of the perivascular connective tissue over the wound in the vessel will add strength to the line of union. If the intima is penetrated the slight hemorrhage from the needle puncture, which always follows, can be controlled by pressure exerted for a few moments. The needle should always be a fine, round, curved intestinal needle. In complete and transverse wounds of arteries, or when more than one-half of the circumference has been divided, the best method of uniting the divided ends is the invagination method of Murphy, the proximal end being invaginated into the distal by means of two or three silk sutures which are first fastened to the proximal end and then passed through the walls of the distal end from within outwards. Tying these sutures draws the proximal end into the distal. After this, four or five interrupted sutures penetrating only as far as the intima of the invaginated vessel are used to bind the two together.

Other methods of securing end-to-end union of arteries have been attempted. Glück and Nitze devised ivory and rubber rings to secure the ends of the divided vessel. Recently Payr, after a long series of experiments and clinical study, suggested the use of a metal tube which is slipped over the distal end, leaving about one-half an inch of the vessel projecting through the ring. This is then turned cuff-like back over the ring, so that the intima is external. The proximal end is then turned over this cuff and fastened by a ligature which fits into a groove in the ring. He also experimented with a metallic coupler similar to the Murphy intestinal button, which he used for securing end-to-end union of arteries. These rings and couplers were made of metallic magnesium which was found to be rapidly absorbed when imbedded in living tissue. Experimentally, Payr's device was fairly satisfactory, but so far it has not been used on man.

In the treatment of wounds of arteries where there has been a loss of substance, it has been suggested by the same author that the opening be closed by a magnesium plate fastened between the adventitia and media. In a wound of the common carotid of this kind, when resection with end-to-end union could not be accomplished, Glück closed the defect in the artery by suturing over it a flap taken from the internal jugular vein.

After the suture of any large blood vessel the operation wound should be closed by buried sutures of catgut without drainage. The accurate coaptation of the edges of the wound will materially support the injured vessel and act as a safeguard against hemorrhage.

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CLINICAL OBSERVATIONS ON SYPHILIS.*

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Gangrene of the Initial Lesion.—I recently observed the occurrence of gangrene in an initial lesion which rapidly spread and in two days had involved half the glans penis. The patient presented no phimosis or paraphimosis; he was in good health and was not addicted to alcohol.

The induration which was previously present beneath and about the slight ulcer disappeared in the destructive process. The absence of secondary sores from auto-inoculation, the antecedent induration with characteristic inguinal adenopathies rendered a diagnosis of an initial sclerosis probable. This view was subsequently confirmed by the reappearance of induration after the cessation of the gangrenous process and later by the appearance on the trunk of scattered lenticular papules. The rash was carefully observed with a view to detecting any rapidly destructive change in the infiltration allied to that of the initial lesion, but its evolution has been fairly typical. Aside from conditions of the tissues which are due to a general cause such as diabetes, alcoholism, etc., we know little of the etiology of the condition in question. Secondary infection with other organisms than those of syphilis may be responsible for it, or we may reasonably infer that an increased virulency of the syphilitic poison itself may be sufficient to kill the tissues *en masse*. The luetic infiltration, at best, is characterized by a short life, necrosis of the granuloma sometimes taking place as soon as it appears or even before a definite type of lesion can become established. This tendency to rapid cell destruction, which is a marked feature of the disease, together with the changes in the blood vessels which lead to partial or complete obliteration of their calibre, may be contributing factors or wholly responsible for the spreading gangrene.

In treating this rather unusual complication of the initial lesion I have found that chlorinated soda solution, either in full strength or diluted according to the tolerance of the individual, has an exceedingly rapid and beneficial effect, its germicidal power being due in great measure to the free chlorine which penetrates the tissues more promptly

* Read before the fifteenth annual meeting of the American Association of Genito-Urinary Surgeons, May 1, 1901.

than the more commonly employed antiseptics. The cure was facilitated by the free use of iodoform, which finds its field of greatest usefulness in all local sloughing sores.

Secondary Syphilis.—While the differential diagnosis of the primary sore does not involve the consideration of many other conditions, the situation is quite otherwise when we consider the possibilities in the secondary stage of the disease.

The acute exanthemata, eruption from the administration of drugs, and a multitude of non-venereal eruptions may confuse the physician if all the concomitant symptoms are not given their proper consideration. It is not an unusual occurrence during epidemics of small-pox for the generalized pustular eruptions of syphilis to be confounded with the former disease. I recall distinctly, a few years ago, the admission to one of our large city hospitals of a patient having a generalized papulo-pustular eruption with the erroneous diagnosis of syphilis. The mistake was not discovered until the death of the patient and the outbreak of variola among a number of the exposed patients and hospital attendants.

Such generalized eruptions in syphilitic patients are sometimes preceded by a considerable rise of temperature.

The initial sore, too, may escape observation by reason of an out-of-the-way location, or an insignificant development, causing such errors in diagnosis to be readily made.

The eruption in measles is less apt to be confused with the macular syphilide, but such mistakes may and do occur. I saw at one time a young girl at my clinic with a pronounced macular eruption, a conjunctivitis and a catarrhal inflammation of the pharynx, a combination of symptoms which strongly suggested measles. A closer examination of the patient revealed a primary lesion on the genitals and other indications of syphilis.

After the disappearance of the chancre and nodular swelling, the character of the eruption alone is all that we have to guide us in making a diagnosis if the past history is obscure, or if the patient is of the usual dispensary class, lacking in power of observation and careless of the minor ailments of life.

Impetiginous eruptions from pus organisms may at times closely resemble the larger pustular lesions in syphilis, which occur later in the secondary stage. The latter are, however, apt to affect the deep layers of the skin and to heal with the producting of pigmented scars.

A disseminated sweat-gland inflammation, beginning as deep-seated papules and leading to local necrosis of the surrounding tissues, followed by a depressed pigmented scar, is almost identical in appearance with certain syphilitic eruptions. One is often unable to make a correct diagnosis until after mercury has been given a thorough trial.

Lichen Planus and Syphilis.—Diagnostic skill in recognizing unusual types of syphilis of the skin can only be obtained through prolonged clinical experience.

The observer of the widest experience, is, however, sometimes confronted with eruptions of a non-venereal nature, which simulate in the closest manner those of syphilis. It must be borne in mind that the vascular apparatus of the skin may react in a similar manner to irritants of a widely divergent nature, so that from the appearance of the rash alone errors in diagnosis may easily be made. Certain generalized forms of lichen planus, as in the case reported by me[1] may readily be mistaken for the papular or papulo-squamous syphilide. In this case there were grouped papules with circinate or gyrate outlines having pigmented centers and surrounding areas of pigmentation. The development and involution of the grouped lesions simulating in a striking manner a relapsing syphilide.

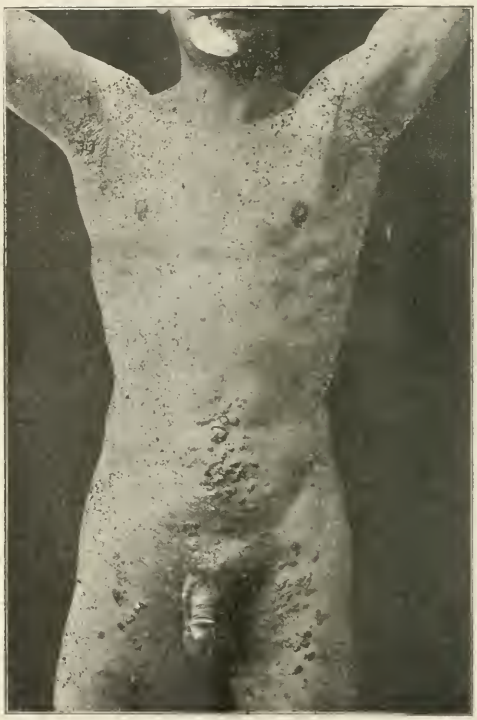

Figure 1.—Pemphigus Vegetans.

When mucous membrane lesions accompany the skin changes in lichen planus, the resemblance of the affection to syphilis is even more striking.

The marked pruritis which is such a constant symptom of lichen planus, is usually absent from syphilis and should suggest the former affection.

Syphilis and Pemphigus.—A patient was recently admitted to one of my wards in the City Hospital with the following history:

Twelve years before he had contracted a venereal sore which was followed by a secondary rash. Two years later he had a peculiar eruption on the hands, arms and legs and soon after an ulcerated mouth. He described the eruptions as beginning with pea-sized red spots on which pustules developed; after a week or two they would heal, leaving dark areas of pigmentation. In the last ten years he has had five such attacks, each one lasting about two months and always accompanied by sores in the mouth. When seen by me he had numerous pea-sized pigmented spots on his body, especially noticeable in the palms, a few pustules over the forearm and several opaline spots on the sides of the tongue and mucous surface of the lips. He had been admitted to the hospital several times previously and always with the diagnosis of syphilis. One of the members of the house staff who had had some previous training in skin diseases

[1] *Jour. Cutan. and Genito-Urin. Dis.*, 1899.

recognized the resemblance of the eruption to pemphigus and called my attention to it.

The patient for ten years had been having a relapsing pemphigus, which had been mistaken for syphilis, partly because of the venereal history and partly on account of the objective features of the eruption.

A venereal history, relapsing eruption with pigment changes in the skin even when combined with mucous membrane lesions, are not necessarily pathognomonic signs of syphilis.

Neumann in 1886 first called attention to a variety of pemphigus with papillomatous lesion, which he called pemphigus vegetans. The disease presents such striking resemblances to syphilis that it is not surprising it has often been confounded with the latter disease. A patient with the affection was recently referred to my clinic and gave the following history:

He was twenty-nine years old, a plumber by occupation, and had always been well until two years previously. At that time blisters appeared in his mouth, axillary regions and about the pubes, finally involving a considerable portion of the cutaneous surface. He was then an inmate of the Skin and Cancer Hospital, and was seriously ill for some weeks with fever and other general symptoms. He remained well after the first attack for over a year, then lesions appeared in the same localities as in the former attack. He now has bullæ, pustules and dime-sized abrasions about the nose, chin and lips; on the inner side of the lips and tongue numerous erosions from ruptured bullæ are present, which interfere with mastication. Both axillary regions, the central part of the skin of the abdomen, the groins, inner sides of the thighs, the penis and scrotum were the seat of numerous bullæ, pustules and papillomata with scattered pigmented spots marking the old lesions. (Fig. 1.) The evolution of the eruption can be traced from the clear bulla which first makes its appearance to the pustule and finally the warty outgrowth which springs up from the erosion left after the bulla or pustule ruptures.

His attack had lasted two weeks when he was first seen by me. He then had no fever, chills or other constitutional symptoms, but the development of a serious condition could not be long delayed. (The patient has since died.)

At first glance the case bore a striking resemblance to syphilis, but on closer inspection the presence of bullæ springing from the apparently sound skin, the history of a previous attack and the absence of concomitant signs of syphilis rendered that diagnosis improbable. Bullæ as a manifestation of syphilis in the adult is rarely met with and then only in cachectic subjects.

Figure 2.—Superficial scaling syphilide "en nappe" resembling psoriasis.

In pemphigus vegetans we have bullæ and papillomata with a rather definite distribution and clinical course.

It is a relapsing eruption which, as a rule, has a fatal termination.

Syphilis and Psoriasis.—A papulo-squamous syphilide is generally made up of rather small lesions which do not tend to run together in large scaling patches as in psoriasis of some weeks' duration. In the latter affection large areas of skin are often implicated by the enlargement of single lesions and the confluence of adjacent patches.

The eruption pictured in the illustration (Fig. 2), viewed on its merits, aside from the concomitant evidences of syphilis could readily be mistaken for psoriasis. The patient was admitted to my service with such a diagnosis and was treated with chrysarobin before the true nature of her eruption was recognized. The rash was very superficial, the scaling was profuse and at the margins circinate lesions were seen, which were evidently the primary manifestation of the eruption. The large patches on the upper extremity had evidently been formed by the confluence of the single spots, giving a clinical picture which was almost the exact counterpart of psoriasis.

A rather casual inspection of the patient's face and scalp revealed the true nature of the rash, for about her lips the syphilitic nature of the papules was at once apparent, as they involved the mucous as well as the cutaneous surface. The loss of hair, too, was typical and hypertrophic papules were found on the genital organs.

The patient stated that she had previously had a dry scaling eruption on the arms, which may have been a seborrhoic dermatitis and possibly modified the existing syphilide. Seborrhoic dermatitis, as

has been shown by Unna and others, undoubtedly has some tendency to modify the type of a syphilitic eruption on the regions which are the site of predilection of the former disease.

An antecedent morbid condition of the skin may serve as a *locus minoris resistentiæ* and tend to localize the specific rash without in any way modifying its type. The patient, whose back is depicted in Fig. 3, came under my care with an initial sclerosis and a coincident seborrhoic dermatitis of the scalp, back and chest. A careful observation of the evolution of the secondary eruption showed that it appeared first on the regions which were the seat of the seborrhoic dermatitis. It subsequently became generalized, but was more copious on those parts without showing any definite departure from the type on the normal skin.

Syphilis and Lepra. — The following case will illustrate the failure of the therapeutic test as an aid in diagnosing obscure eruptions:

A South American was under my care during the past winter with a generalized eruption consisting of large patches of a brownish red color. Some of the patches were three inches in diameter and several of them had assumed annular outlines from the disappearance of the central color. A few of the patches were slightly thickened. He gave a definite history of syphilis and carried a scar from an old initial lesion which he stated was contracted in 1891.

Figure 3.—Seborrhoic Dermatitis and Secondary Syphilis.

In 1899 he had an eruption over his body which disappeared under mixed treatment. In the latter part of 1900 a generalized eruption again appeared similar to the one the previous year. He said that before his admission the hospital the spots were elevated, hard, hypersensitive, but under the influence of mercury administered subcutaneously the infiltration rapidly subsided and the hyperæsthesia decreased. The patient as well as the physician were convinced of the syphilitic nature of the eruption because of its prompt response to mercury. A more careful examination of the patient showed a pronounced thickening and exquisite sensibility of both ulnar nerves and atrophy of the muscles of the ball of the left thumb. These conditions, together with an eruption which one would not expect to encounter in syphilis, pointed strongly to lepra, an opinion which was confirmed by the presence of lepra bacilli in a piece of tissue excised from one of the slightly infiltrated patches.

The eruption continued to fade while the patient remained in the hospital and after a few weeks had practically disappeared.

Crocker and others have noted the rapid subsidence of leprous nodules after intra-muscular injections of the soluble salts of mercury. Lichen planus, which has been shown to develope on the skin in much the same manner as syphilis, is at times favorably influenced by the internal use of mercury. The therapeutic test is, therefore, not an unfailing one in all cases where we look for help from it in diagnosis.

Exceptionally cases of syphilis are met with which refuse to heal or recur in spite of the most approved and carefully applied treatment.

Fournier[1] and other writers have noted instances of refractory syphilis in which all methods of treatment proved unavailing.

The writer has observed late hypertrophic nodular skin lesions about the face which did not yield to large doses of the iodides and mercurials until the new growths were freely curetted.

Syphilis and Lupus.—The late superficial serpiginous syphilides of the skin may at times closely simulate lupus vulgaris, and while the differential diagnosis is usually not difficult, an exceptional case may come under observation which taxes our diagnostic powers to the utmost.

In the photograph (Fig. 4) an extensive involvement of the skin by one of the doubtful cases is depicted in which vigorous treatment by large doses of iodide of potassium and mercurial plasters and ointments, was employed for a long time before the infiltration began to yield.

The scar tissue making up the center of the patch

[1] Traité de la Syphilis, 1889.

was not reinfected by lupous nodules, as we would expect to see in the tubercular trouble. The nose and cheek were involved at the same time with a granuloma which became fungating and was not favorably affected by anti-syphilitic treatment until the soft protruding tissue was freely curetted.

Tissue was excised for microscopic examination from both the thigh and face lesions.

Numerous giant cells were present in the sections which could not be distinguished from those met with in lupus.

The changes in the skin in the case in question differed, however, from those seen in lupous tissue. In syphilis the inflammatory foci are scattered here and there throughout the derma while in lupus the infiltration is continuous, looking more like a new growth than an inflammatory reaction. The connective tissue reticulum in lupus is more pronounced and is woven in and about the granulation tissue in a very characteristic manner.

In syphilis the exudation cells are grouped about certain vessels which early show obliterative changes.

66 Park Avenue.

Figure 4.—Superficial Serpiginous Syphilide resembling Lupus Vulgaris.

Dangers from Fresh Vegetables.—Dr. Ceresote has made a study of the importance of raw vegetables in the diffusion of parasitic diseases. He bought specimens of lettuce, endive, radish and celery in the market at Padua, such as would be used for eating after a rough washing. He then washed them in sterilized water and examined the sediment. A simple microscopical survey revealed a fauna of fifty-two species, comprising amœbæ and the eggs of tænia, oxyuris ascarides, and ankylostoma. Bacteriological investigations added a rich flora of varied microbes, including micrococci, staphylococci, streptococci, sacrinæ, and a wealth of bacilli. Among the last the author could isolate the bacilli coli communies and a bacillus analogous to that of typhoid, as well as the bacilli septicus and the bacillus tetani. The author advises all who are bold enough to eat raw market-bought vegetables after reading his article, to first wash and then soak them for half an hour in a three per cent. solution of tartaric acid, which is a cheap, agreeable and powerful antiseptic. A salad artificially impregnated with cholera spirilla was disinfected after five minutes' immersion in this solution.—*Medical Magazine.*

HEADACHES.*

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In former times, when such medical knowledge as was extant could be fairly well mastered by the individual, searchers after general principles were apt to choose that organ of the body which seemed best likely to serve the purpose in hand, and the structure and functions of the eye were often found to be available in this way. The organ of vision was the first to become the object of special study and practice, and to be accepted more and more as having laws peculiar to itself. Occasionally it was yet forced upon the profession at large, as when Leber by his masterly work proved his contention that the eye offered a superlative field for comparison of the effects of chemical irritation and bacterial infection upon cell action.

The subject of headache is one of widespread interest, and the intimate connection between pain in the head and strain of the eyes is a matter of common knowledge. While ocular headache seems usually to be regarded as a condition to be differentiated from other forms, the writer has come to believe that this may be accomplished with certainty only by demonstrating the co-existence of ocular strain and headache and proving that the former is primary and the latter its consequence. An attempt will now be made to explain the headaches of eye-strain by what might be called direct mechanical theories, and to glance at certain elements in the production of other headaches.

The two forms of eye-strain generally recognized as causing headache are the accommodative or ciliary-muscle strain, from lack of proper glasses, and the muscular, from incoördinate action of the extrinsic ocular muscles in binocular fixation.

The simplest form of the first sort of strain is that which can be properly corrected with convex glasses; the headache is mostly frontal, occurs principally with near work, and is almost invariably relieved by the correction.

Another form of ciliary strain needs vertical or horizontal astigmatic glasses; the headache is frontal or

*Read before the Society of the Alumni of Bellevue Hospital, March 6, 1901.

temporal, may extend further, or be accompanied by pain in the post-cervical region in susceptible individuals, and although more severe with near use of the eyes, may also occur with use for distant objects. Relief from the glass correction is marked or perfect, almost without exception.

When the eyes require astigmatic glasses with an oblique axis, headaches are more likely to be severe and general than in cases with the preceding errors, and accompanied by dizziness and nausea. The glasses cause temporary annoyance, but nearly always relieve the symptoms in a week or two in young patients who persist in using them, if the axes of the glasses for the two eyes are symmetrical. If the axes are parallel, relief is less likely to be obtained, and the results vary in accordance with optical effects in other combinations.

In the forms of astigmatism known as mixed and irregular there are special phenomena added to ciliary strain, caused by the intense effect of light upon the retina and sensory fibres within the optic nerve; glasses may relieve the strain, but do not properly remove the chemical irritation due to the light. In these cases glasses are usually partial or complete failures, so far as the relief of headache is concerned.

There are other points in connection with glass corrections too technical or too trivial to be introduced here. Improvements are going on, but it is safe to say that certain faulty focal conditions existing in eyes will never be met by art or science, and headaches caused by them never relieved.

Although ciliary strain is usually put ahead of the muscular in classifications, the action of the latter in producing headaches was known at as early an epoch as that of the former. Headaches are caused by a strain put upon muscles with tendencies to deviation, in order to obtain single vision. There is no reason to question this, the usual explanation for heterophorias, yet it should be supplemented by the observation that many persons with double vision from paralysis of ocular muscles have discomfort, dizziness, and nausea in consequence of the visual defects.

Among the most important abnormal tendencies of the muscles causing headache, are, first, a tendency to divergence; the pain may be frontal and severe, or, more often, general with dizziness and nausea. It is brought on or increased by near work, and disappears regularly after operation when the result as regards the muscular condition is a success.

Another of these muscle errors is a tendency to convergence. Headaches come on from prolonged use of the eyes for distant objects; they are severe, general, periodic, and accompanied with dizziness, nausea, and sometimes vomiting. When the muscular condition is secondary to errors requiring glasses, the latter, properly applied, relieve the headaches; prisms usually accomplish the same object in another class of cases. Operations may also be successful, but there are reasons why they not infrequently fail to produce a good result to the ocular muscles and the symptoms. These headaches may improve or disappear as age advances and convergence becomes weaker. A large number of tests show this; but, while divergence tendency and the consequent headaches increase with age, although after fifty years of age is reached arterial changes, chronic nephritis and the like impair the value of any deductions from the ocular standpoint.

The last muscular anomaly we shall consider at present is an upward tendency of one or the other eye. The headaches in these cases may take any of the forms previously mentioned, and systemic disturbances may be marked. There is a type of headache occurring in these cases, especially when oblique astigmatism is also present, which consists of general pain, with much greater severity on one side, as if from a superadded supra-orbital neuralgia—although there is no tenderness over the nerve. Treatment with prisms or tenotomies is very successful in relieving the symptoms when the ocular condition is properly corrected.

An infinite variety of actions of the ocular muscles exists in nature—using the word infinite in its mathematical sense. The three above mentioned are sufficient for our present purpose, and I find their consideration, with tests for distant and near vision, and others of the power of divergence, convergence, and sursumvergence, enough for my limited time and intelligence. The classification here presented for the purpose of studying headaches has been reduced to ultimate simplicity by leaving out errors of doubtful import, not considering the important but little understood phenomena peripheral to the line of vision, and translating, when possible, into English; yet the first two glasses mentioned must be combined in one form compound astigmatism, and although concave glasses were not considered, myopic astigmatism, simple and compound, surely causes strain. We have thus kept our single errors down to ten, the refractive and muscle errors combined number thirty-three, and there are two double muscular errors. The latter combine with the eleven errors of refraction mentioned*, making twenty-two triple errors, or sixty-seven in all, to correct, for which we apparently have ample means. If we stick to the test case in .25 Ds, which the .12 D men consider out of date, it is because we think we are able to correct fairly well most of our cases; for if we combine the sixty spherical and thirty-six astigmatic glasses therein contained we can get two thousand one hundred and sixty combinations, and most of us are content with 180° in the arc for the axis of any one of them, even for strong glasses, although we like to see a man get down to parts of a degree in his orders—it shows a commendable spirit. Of course we must have prisms, and the men who crudely divide these in .5 Ds may still have seven, from .5 to 3.50, to use in glass corrections. There are two hundred and fifty-two combinations of these with the cylinders, four hundred and fifty with the sphericals, and fifteen thousand one hundred and twenty with the sphero-cylinders. The prisms in each of these may be turned in, out, up, or down for the simple little muscle troubles lately mentioned, or in combinations of vertical and horizontal deviations put at the proper oblique axis expressed in degrees. If these eighteen thousand and fifty-five different glasses, with their various positions, are not appropriate, there remain to considered operations upon the muscles and drugs affecting the eyes; and yet some men are criticized for turning to these before increasing the more than seven millions (7,685,960) of possible variations presented by the one hundred and three glasses above mentioned, including their combinations and the various axes of the prisms and cylinders. And these are for the correction of one eye; the number must be squared to show possible pairs of glasses.

Yet the extensive armamentarium of the refractionist has grown up for a purpose, and in response to a demand. Less than half a century ago, when the old theory of absorption of intestinal products as a cause of headache had led to little, the nervous theory to less, and the nose and the uterus were recognized as having an occasional and incidental connection with headaches, wonderful advances

* Astigmatism, simple, compound, irregular, and mixed, counted separately instead of grouped as before.

were made in ophthalmology, including glass corrections for visual purposes. Then it was regularly found that, even when the sight was improved properly, the glasses might cause headache, while at other times chronic headaches, which had previously resisted treatment, disappeared.

To-day the relief of headaches from eye correction is one of the clinical wonders of the age, and a necessity of modern civilization. The most ignorant fakir, and the "graduate optician," with a few lessons from an ignoramus, relieve some pain in this way, while the best of the ophthalmologists sometimes fail—even when the case seems clear, the eye conditions favorable, and the patient is not one of those who will neither use atropine, wear glasses, submit to operation, nor take any medicine suggested by a physician.

An eye specialist has little experience who has not had an opportunity to see over ten thousand cases of eye strain and headache in twenty years or so of practice. During the first five years patients with eye strain and direct head pains therefrom come to him, and he is pleased to find how successful his treatment is, without any worry about mathematical and physiological problems. At a later time his respect for his own opinion decreases, for now patients come to him to be cured of all sorts of headache, and are sent for a decision as to the probable origin of their trouble.

In the classification given some time ago we notice the occurrence of three forms of pain from the eyes; the first is a pain about the eyes, in the forehead and temporal region; this is exactly the kind of pain which occurs in two inflammatory conditions affecting the ciliary body, iritis and glaucoma. The vascular structures of the eye are often congested, but the pain may readily be explained by extension along sensory nerves, leaving the vascular explanation for exceptional cases; for the pain over the eye is deep, often in the orbit, and if there is tenderness over the trunk of the supra-orbital nerve this is not easily removed by eye corrections. In the latter case there is a history of some toxæmia from malaria, gout, or syphilis, given in the order of frequency, as an indication for a more rational and successful course of treatment. Gastro-intestinal causes occupy almost as indefinite a position as eye errors in this neuritis.

We now have a direct explanation for the most uncomplicated form of ocular headache without assuming, with a recent writer, that the irritation of the motor nerves sets up central irritation, which is conveyed down the sensory nerves. The difference between sensory and motor nerves still rests mainly upon the knowledge of an exactly opposite function to this, and it seems a long way to travel for a pain already waiting at the starting point.

The next characteristic pain from ocular causes is about the post-cervical region. Since there are two ciliospinal centres for vasomotor action and dilatation of the pupil in this region, it seems reasonable to suppose that there is a sensory connection from the eye to these centres. Some not entirely pleasant experiences have convinced me that deep, persistent basilar pain is rather a sign of arteriosclerosis, chronic nephritis, hepatic or cardiac changes, pachymeningitis or other brain involvement, than of eye strain. The "neck pain" of eye strain, however, seems naturally to belong to its excitant.

The other form of ocular headache mentioned was described as general. General headache from ocular causes is properly sub-divided into two forms; the first occurs in anæmic patients with low arterial tension, usually suffering from malnutrition and neurasthenia. Intelligent and unemotional patients describe it as follows: If the eyes are used fatigue sets in, followed by a dull pain about the eyes and the cervical portion of the spine; this becomes more severe with further use of the eyes, and extends upward into the head. Although considered general, it will be noticed that patients when describing this headache put their right hand upon the brow or temple in illustrating the local pain, and the left hand over the region of the left occipital lobe of the brain when they speak of the ache within the cranium; and when asked the reason of this, after some consideration, reply that the pain is more severe in these situations. The functionally stronger eye, usually the right, is regularly the seat of the most pain, as, like the stronger right arm, it comes in for the greater use; the left brain suffers more than the right from headaches for the same reason, and also because more directly affected through the circulation. The second sub-form of general headache from eye strain occurs in individuals with a family history of gout or chronic rheumatism, hay asthma, or something else which has to do with sudden vascular changes, or in subjects who change color readily with emotion; the headache attacks are severe, with somewhat irregular intermissions or remissions, and are accompanied by pallor, although I have seen no marked changes in the retinal arteries during the attack.

The classification of forms of eye strain and headache from which we started was intended to show that a distinct difference existed in the eyes which caused general headache and those causing direct neuralgias with extension along sensory nerves. We see that ciliary strain causes the latter, and disturbed equilibrium the former; for oblique astigmatism causes disturbances of equilibrium. After this has been sifted out from a mass of material, by dint of hard labor, we find it necessary to divide the general headaches according to constitutional differences, in order to explain that anæmic and neurasthenic patients have general headaches sometimes from strain of the organs of vision, peripheral and central.

Next we must explain other headaches as due to low arterial tension or vascular spasm and must even consider influences through the emotions; for how else comes the relief sometimes obtained from inadequate or improper eye corrections, or the distress caused by evidently appropriate ones.

So we are compelled, in order to explain certain phenomena connected with ocular headaches, to fall back upon that state which, described as "neurotic," conveys to a medical man a definite idea of an indefinite condition. Patients with eye-strain and headache belong largely to the neurotic class, and in many of them the only reason that the pain comes from the eyes is because these organs include that portion of the brain most exposed to mechanical strain and chemical irritation, and because there are more possibilities for worry and terror about their functions than those of any other portion of the body.

Many patients with eye-strain and general headache have a family history of inherited syphilis, epilepsy, or other nerve degeneration, as well as evidences of vasomotor peculiarities, and for me there is little doubt that certain of the muscular deviation tendencies, especially the vertical ones, are of paretic origin.

Neither is this condition which predisposes to headache a limited affair of local origin. The restless, excitable members of the Aryan race moved westward leaving the calmer, less nervous ones with each successive migration; so by a course of selection

by emigration, the most neurotic of all arrived in America, where they are suffering from eye strain and headache to an extent unknown in the East. The same thing happened with the eastern movement of the yellow race; the neurotic Mongols migrated to Japan; the less progressive ones stayed in Asia, and the Japanese now suffer greatly from eye-strain and headache, while in China such troubles are uncommon. And now, without dwelling upon the wonderful advances being made in modern civilization and nerve degeneration, let us leave the cases of headache which are purely ocular, and those partly ocular, where degeneration, malnutrition and vascular conditions which cause decreased blood supply enter into our calculations in variable degree.

Among the headaches seen by the oculist occur some, small by percentage among functional headaches, but large enough in number withal, in which the eyes have absolutely nothing to do with the pain.

There are three forms, excluding neuralgias from general causes which can usually be recognized by their alternation with other neuralgias.

The first is a headache which appears primarily or solely at the vertex and may be a mere feeling of pressure across the top of the head, or a severe and more extensive pain. It is due to anæmia or toxæmia. Only in the more severe or intermittent types is there a history of gout added to the usually clear history of stomach and intestinal indigestion. This headache follows the course of the general condition.

The second kind is similar to some forms of general headache due to eye strain. It may be, like the last form, persistent for days or weeks, and the patient usually is indefinite about the seat of the pain, describing it as in one or another spot at one moment then, soon after, as general. There are complaints about the eyes, and relief is demanded through their correction, although the case seems like one of incipient brain disease, and in some of these cases such disease does eventually develop.

The third headache not traceable to eye strain is that form called migraine, when that term is confined to a periodic headache with vomiting, usually hemicrania, hereditary, and of unknown origin. Headaches of this general type occur frequently from ocular disturbances of equilibrium, even with transient amblyopia and subjective sensations of light and color, and a form of hemicrania of a somewhat similar type has long been known as one among others due to nasal catarrh and obstruction. What distinguishes migraine from other headaches? It would seem that the sudden onset and severity, the definite history of heredity, and the regular periodicity of occurrence after an interval of complete abeyance, are, when combined, the most available diagnostic points. Yet eye errors are hereditary, and there is a familiar regular weekly headache which has been variously ascribed to nervous exhaustion, toxæmia, or eye strain, since it occurs mostly in men who have been somewhere Saturday night, and comes on after the Sunday morning papers are read. This tendency to regular periodicity is familiar to all, and Darwin in his "Descent of Man" writes: "Animals living about the mean high or low water mark pass through a complete cycle of changes in a fortnight. Their food supply will undergo marked changes week by week, and the vital functions of such animals, living under these conditions for many generations, can hardly fail to run their course in regular weekly periods. Now it is a mysterious fact that in the higher and now terrestrial vertebrata, as well as in other classes, many normal and abnormal processes have one or more whole weeks as their periods. . . . . [Many instances of such periodic processes might be given as the gestation of mammals, the duration of fevers, etc. . . . . .

Should the naturalists establish the missing connection between organic and inorganic life, we may be forced, for hereditary influences, to go back to the vicissitudes of some rock or stone during one of the glacial epochs; for periodicity, however, we need only go to our ancestors known at present as "marine animals resembling the larvæ of existing Ascidians."

How did the germs establish a periodic tendency? Did we all descend from this common ancestor, or did the microbes wait along the shore for the flowing tide to come in with *our* ancestors before attacking them?*

Headaches were from the first referred to the nervous system; yet the only marked advances in knowledge of their causation and real success in their treatment, since 1855, when Dr. Samuel Jackson referred with some scorn to what he called the "more or less" theory of the nervous fluid, have been made through the study of the processes of digestion or of eye strain; for the elaboration of the theory of nervous action into one of sensory discharges or nerve storms, to explain migraine, merely resulted in certain picturesque descriptions of the phenomena without working hypotheses. More recent studies of the effects of toxins upon the neurons point back to the digestive and circulatory functions as the essential consideration. This direct toxic effect is, of course, of great importance, and fits in well with studies of pathological headaches and those due to strain of highly organized and badly nourished nervous tissue. Yet toxins seem to produce remittent or intermittent forms of headache mainly by their effect upon the blood supply, and low tension or perhaps vascular spasm may alone account for attendant phenomena. Severe hemicrania occurs in some cases upon the side of the head corresponding to a ligated carotid, disappearing when collateral circulation is established. In the headache caused by alcohol, the poison is absorbed and produces stimulation and high tension, yet the headache does not appear until weak heart action and low arterial tension are present while nicotine, causing low tension, brings on headache with the absorption of the poison. Stimulants, especially strychnine, are efficient in treatment.

Headaches occurring with menstruation set in, with attending retinal exhaustion, with most severity after a free flow of blood, accompanied with facial pallor, and migraine usually shows the same vascular condition, although a flushed face may usher in or precede the attack.

Among the puzzling things in connection with these

* If the origin of migraine is but ill explained by a comparison with thunder storms, the matter is little advanced by referring the question of periodicity to a time when headache was unknown, since heads were yet to be evolved. Primitive man is supposed, like savages of to-day, to have periodically gorged himself with food, as he happened to obtain a supply. We know that at a later period in the world's history, chiefs sallied out with their clans for plunder when the tribal larders needed to be replenished, and upon their return indulged in drunkenness and gluttony; "and there is nothing sure but the morning head." Transmisson of such traits to posterity, with the constitutional, effects produced by "errors of diet" of this nature, continued through many generations, account singularly well for a predisposition to migraine. The view that migraine is a sort of transmitted *katzenjammer* is supported by many points of similarity, but if it were positively known to be true, it would serve no practical purpose. A recurrent period, if approximate of the right duration for any process of function, would not, when once gained, be liable to change; consequently it might be transmitted to almost any number of generations.

facts is the action of the coal-tar products in relieving headache, since they produce pallor and apparently a less active supply of blood; neither a vascular nor an antitoxic action would seem to account satisfactorily for their effect upon the pain.

Leaving out pathological headaches, including those of nasal obstruction, treatment should be directed toward correcting the eyes and improving nutrition; uterine treatment is here included with the latter, for headaches described as uterine are only those of anæmia, toxæmia, or eye strain, as the same forms occur from ocular or vascular causes in men as well as in women.

Although headaches from the eyes are usually worse at night as compared with most others, too much reliance should not be placed upon this point. Headaches from eye strain can not be diagnosed by the chamber of the headache alone, but by the presence of the eye strain as well, and the establishment of a coincident relation.

Perhaps the very best rule yet given by which the headache of eye strain may be diagnosed was that laid down by Donders. It is, slightly modified, that when anybody is seen to frown, squeeze the lids together and rub the forehead upon using the eyes, eye strain is present and by a little elasticity this will serve for local pain and general headache caused by refractive errors and divergence tendency or exophoria. The headaches of vertical tendency or hyperphoria are harder to connect with eye strain, but since patients with hyperphoria tip the head sideways upon attempting to see clearly, and patients who tip the head toward either shoulder when looking at objects usually have hyperphoria, we have a diagnostic sign of that condition.

The more difficult diagnosis of headache from convergence tendency or esophoria yet remains. If the patients have sick headache from theatre-going, visiting picture galleries, railroad journeys, bicycle riding, or the like, esophoria should be suspected. If they develop headache regularly after continued fixation of distant objects under different atmospheric conditions, esophoria may be diagnosed. These rules apply to cases with no eye correction, or to those with improper or insufficient correction.

And what are we to do with the well nourished, rushing, flushing, blushing one, our best friend or our worst enemy, whose pains travel about like coins of a juggler, in at the head and out at the elbow? Our responsibility is great, for at a word we may transport a human being from the enjoyment of a psychophysical flower garden into the middle of a great desert, and the return journey may be very difficult.

As we rise in the social scale, we see such an increase in these troubles that we are absolutely sure that they arise from the possession of too much money, and the greatest of medical indications is "removal of the cause!" We are now approaching high art where only a few geniuses in our profession seem properly proficient.

After all, success in the treatment of eye strain or gastro-intestinal disorders may be "the gift of fortune," but ability to handle the emotional element "comes by nature."

118 East Seventy-Second Street.

Japanese Dentists perform all their operations in tooth-drawing with the thumb and forefinger of one hand. The skill necessary to do this is acquired only after long practice, but when once it is obtained, the operator is able to extract half a dozen teeth in about thirty seconds, without once removing his fingers from the patient's mouth.

THE TAMPON IN GYNECOLOGICAL THERAPY.

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In writing this paper it is in main the object of the author to call the attention of the general practitioner to a method of treatment which appears to be a somewhat neglected art.

There is a class of gynecological patients which find their way into the office of the family physician, and in which surgical measures are not always indicated. It is in these cases that the proper application of a vaginal tampon is sometimes productive of excellent results. It should be noted, though, that each case is a study in itself, and that different conditions require variations in the manner of treatment.

In too many instances, physicians think all that is necessary is to insert a tampon, made of any kind of material, with the patient in any position whatever, and then are disappointed if the results are not always good.

It is not the intention of the writer to hold that tamponing, even if properly done, can replace radical measures, but some patients meet the idea of an operation, no matter how slight it may be, with such abhorrence that the physician is tempted to try to alleviate their suffering with less heroic treatment.

Then it is that the tampon comes into use, and the relief that its proper application produces is surprising as well as gratifying. There is also a class of cases in which some functional disease, such as diabetest nephritis, or endocarditis, contraindicates the administration of an anæsthetic, and the tampon then presents itself as one of the methods of treatment to which the surgeon must resort.

Material.—As regards the materials that are commonly selected and employed for this purpose, I may state that some substance which is non-irritating to the mucous membrane, which possesses good draining properties, is easily introduced and removed, is soft and retains its resiliency for a great length of time, even when wet, should be used. The materials which possess the above qualities to a greater or less degree are cotton, wool, and gauze.

The two preparations of cotton, namely the absorbent and the non-absorbent, have each their merits and their objections. Absorbent cotton is invaluable for the application of fluid medicaments, with which it readily becomes saturated; but when the excess of fluid has been expressed, we have a hard mass of cotton, which does not favor drainage.

It should therefore be noted that when this material is used, and when the excess of medicinal fluid has been expressed, the tampon should be spread out flat and its fibers separated by the fingers of the physician or nurse. This will relieve its hard and impervious condition and cause it to assume all the properties for which it is intended. With these precautions we are sure that there remains sufficient room for drainage, and this important quality will still further be facilitated by the saturation of the tampon with the secretions of the vagina and uterus, which also tend to convert it into a soft mass.

Non-absorbent cotton may be used where an antiseptic or astringent powder is to be applied. In flexions, versions, and mild forms of prolapsus it may be employed for the mechanical effect. I also use it as a means of preventing the medicinal fluid, held by an absorbent tampon previously introduced, from escaping and soiling the patient's linen.

Wool probably possesses fewer objections than any other material. It is rather more expensive than

cotton, but its use will give both physician and patient such satisfactory results, as fully to compensate for its additional cost. It is naturally soft, allows for drainage, and retains its resiliency for a longer period than cotton. The ordinary wool, or lamb's wool, it should be noted, has the property of working its way into the mucous membrane of the vagina, and if introduced dry and left for twenty-four to forty-eight hours, it cannot be removed without injury to the mucous membrane and severe pain to the patient. The tampon should, therefore, previous to its insertion, be covered with vaseline or other emollient. If the operator purposes applying an antiseptic or astringent powder, the tampon, after being covered with vaseline, may be rolled in the powder and then introduced.

Another method of averting the evils that may be produced by a wool tampon, has been described by R. T. Morris, and is perhaps the most satisfactory way in which to apply a vaginal dressing in selected cases. The wool is covered with a layer of absorbent cotton, which becomes saturated with the medicament, while the nucleus of wool within gives the tampon the required degree of elasticity or resiliency and serves also as a perfect medium for drainage. The ends of the tampon are not covered with cotton, but are left free so as to prevent the packing from slipping. Morris states that the loose ends should be left dry, but I have been in the habit of covering the ends with a small amount of vaseline, as I believe that even this small exposure of wool will cause irritation of the mucous membrane. Waldo recommends Australian wool as the best material for vaginal tampons. He states that "it is fine and non-irritating, is hygroscopic and retains its resiliency when wet. Combed wool is much better than uncombed because no short pieces are left to irritate the mucous membrane."

Gauze is used by many gynecologists in numerous disorders. Personally I never use it, except as a means of checking hemorrhage such as that which arises from an ulcerated carcinoma, or in cases of misplacement of the uterus for its mechanical effect.

Size.—The size of the tampon is an important feature. It is better to use a few small tampons than one large one, for the reason that because of its bulk, the large tampon cannot be easily manipulated and applied to the exact portion of the vagina or uterus that it is the object of the surgeon to treat.

The cotton tampon that I employ is made as follows: A piece of cotton five inches long and three inches wide, is folded, not rolled, into four thicknesses, and a double thread, about six inches long, is tied about its center. The tampon thus becomes about one and one-quarter inches wide. Rolling the cotton causes the center of the tampon to be hard and robs it of its absorbent properties.

The wool tampon is made the same as the above, and then covered with a layer of absorbent cotton about one-quarter of an inch thick, if this method is used. Gauze tampons are made by me of a piece of gauze eight inches square, folded four times and impregnated with the medicament. They should be packed into the vagina in an accordion-pleated form. Among other materials that I might mention, and that have been used but are more or less abandoned are jute, charpie, and wood wool.

Application.—In the application of a tampon, the position of the patient is important. For most purposes Sims' position is the one selected. It possesses several advantages. Upon the retraction of its posterior wall, with a Sims speculum, the vagina becomes ballooned out with air, and there is presented to the operator a full view of the vaginal walls and the cervix uteri. The distension thus produced is not so great as that occurring in the knee chest position, and the possibility of overpacking the vagina is thus overcome. In backward displacements of the uterus, however, the genu-pectoral posture has the advantage, for the uterus is thrown forward, and the packing may then be placed in the posterior fornix, thereby preventing the organ from again assuming its malposition when the patient arises from the table. Many operators prefer the dorsal posture. The field thus presented is limited, although this position is best during the digital examination. For office work, when the operator may not have the advantage of an assistant, the dorsal posture presents many inducements, for with the use of a bivalve speculum the cervix can be clearly brought into view, and still the operator has the use of both hands.

If the Sims' position has been selected, after the posterior vaginal wall is retracted with a Sims' speculum, a vaginal depressor to retract the anterior vaginal wall, will still further assist in bringing the cervix into view. A pair of straight uterine forceps is then seleceted, and the medicated tampon is seized longitudinally at its center. Care should be taken that the ends of the forceps do not project beyond the tampon, for injury might thus be inflicted upon the mucous membrane of the vagina, or upon the cervix with which the forceps would come in contact.

The tampon is then placed in the portion of the vagina in which it is indicated, be it in the anterior, posterior, or lateral fornices, in direct contact with the os, or encircling the cervix. The forceps is then held against the packing, so as to prevent any displacement which even the gentle withdrawal of the speculum might cause. After the speculum is thus removed, the forceps is also withdrawn. The packing should remain in place for twenty-four hours, after which it should be removed either by the patient or the physician. It is an important matter to enlighten the patient upon the fact that a tampon has been inserted, for there are a number of cases reported in which the patient failed to return, and the packing undergoing putrefaction, produced severe sepsis. Beckwith reports the case of a woman in whom a tampon had been inserted by a midwife twenty-nine years previously, without the patient's knowledge, and which was removed with difficulty. The tampon in this case had become encrusted with a shell of lime salts, and was taken out piece-meal and at intervals, because of the hemorrhage that its extraction caused.

It will be found that the removal of the packing is facilitated by retracting the perineum with the finger, and by pulling on the thread downward and backward. All pressure should be avoided, and if any difficulty is experienced, the physician should not hesitate to introduce a speculum and remove the packing by means of forceps. A hot vaginal douche should then be administered, when a second application may be made if necessary.

Purposes.—The purposes for which tampons are applied are two-fold: namely, for their (*a*) medicinal and (*b*) mechanical effects. The medicament chosen may be applied for the relief of pain, or to produce counter-irritation, absorption of inflammatory products, or contraction of relaxed tissues. Glycerin is the best adjuvant to other drugs. It is hygroscopic and will assist in the reduction of an enlarged uterus. It tends to soften a hardened os uteri and also aids to reduce over-distension of the blood vessels in the organ.

In erosion of the cervix, a tampon carrying a twenty-five per cent. solution of ichthyol in glycerin, will, beside its germicidal action, cause a desquamation of the epithelial cells of the cervix. This I have seen followed by a regeneration and the return of the cervix to its normal condition.

Chronic endometritis and parametritis will be benefited by placing beneath the cervix a tampon of boroglycerin (forty per cent.), or ichthyol in glycerin (fifteen per cent.). The packing will also exercise the mechanical effect of elevating the uterus, thus improving its circulation. If after several applications there does not appear to be any improvement, this treatment should be discontinued, and some radical measure, *e. g.*, curettage, performed. It is not my intention to convey the impression that I believe that palliative therapeusis of this nature will always replace the more positive remedy of curettage. Chronic metritis may be treated in a way similar to that described under chronic endometritis.

Hemorrhage which has its source from the vagina or cervix is usually controlled by applying a hemostatic such as tannic or gallic acid or the new preparation, suprarenal extract. Gauze is easily impregnated with these powders, and can then be packed tight into the vagina with the powder in direct contact, if possible, with the bleeding point. In inoperable tumors accompanied by a foul discharge, such as fetid carcinoma, a mixture of equal parts by volume of tannic acid and iodoform, will, in addition to its styptic effect, act as a powerful deodorant. Should the hemorrhage not be controlled by the above measures, gauze soaked in perchloride of iron, with or without the addition of tannic acid, may be used to pack the vagina. The gauze thus applied forms a hard and impenetrable mass, and is usually certain to control the most obstinate bleeding. Care must be taken, though, to protect the patient's linen or the bed clothes from becoming soiled by the inky fluid which this combination forms.

In subacute salpingo-oöphoritis, after the section of vaginal mucous membrane surrounding the inflammation has been painted with tincture of iodine, a tampon of boroglycerin or ichthyol in glycerin (twenty-five per cent.) should be placed against the tumor. The iodine is applied by means of a piece of absorbent cotton wound about a uterine applicator, and care must be taken to express the superfluous iodine, so that none but the required part of the vagina will be painted. The same treatment will be found efficient in pelvic peritonitis where the action of the medicated tampon will loosen the adhesions caused by the inflammatory products.

Vaginitis and vulvitis may be treated by applying a solution of silver nitrate directly to the inflamed parts, and then holding the surfaces apart by a tampon impregnated with boracic acid. A two per cent. solution of silver nitrate is used at first, and the strength is gradually increased until a ten per cent. solution is reached. After the swollen parts have been well rubbed with the silver nitrate, the tampon is introduced. The silver has a germicidal action, and the boracic acid assists in modifying the inflammation.

Lusk recommends the tampon in menorrhagia, and my experience with it in this condition has led me to agree with his conclusion that "the practically complete repression of the menstrual flow is absolutely harmless." The best method to employ is that of Marion Sims, which in the words of the author is as follows: "Wads of cotton of suitable size, soaked in carbolized water, and compressed into the form of flattened discs, are applied firmly to the vault of the vagina. The Sims' speculum is used and the pads should be placed with the flattened surfaces in a transverse position rather than parallel with the vagina. The packing is stopped at the urethro-vaginal septum. They should be removed at the end of twenty-four hours, the vagina irrigated, and a fresh packing applied."

In cases in which this treatment is followed by unfavorable symptoms due to the repression of the flow, the packing may be applied after the patient has menstruated for two or three days, and good results will be obtained if this treatment is even carried out in the intermediate periods.

The mechanical action of tampons has been referred to in the discussion on vulvitis and vaginitis, in which we have seen that the addition of a medicinal agent causes them to assume a two-fold function.

In hemorrhage, in addition to the properties already cited, Abbot states that the tampon acts in three mechanical ways: first, to compress the afferent arteries and the os uteri; second, to mechanically entangle the fibrin and form a blood clot; and third, to form a dam to the outflowing blood.

In prolapse, version, and flexion of the uterus, the proper introduction of a tampon will sustain the uterus at a higher level and improve its circulation. In version of the uterus, the patient should be placed in the knee-chest posture, thus throwing the uterus forward, after which the insertion of a tampon in the posterior fornix of the vagina and encircling the cervix in a semicircular fashion will hold the organ in its normal position.

Flexions should be treated with the patient in the dorsal position, and with the tampon in the anterior fornix around the cervix as described above. As these two conditions are usually accompanied by endometritis, the tampon should be saturated with a solution of ichthyol in glycerin, as stated in the discussion on that affection.

Cystocele and rectocele may be relieved by introducing a tampon around and encircling the cervix, and then a second, and if necessary a third, against the os uteri. This relieves the patient from the dragging pains due to lack of support of the uterus, and removes the cause of frequent and painful micturition, to which women in these conditions are subjected.

In cases of miscarriage prior to the fourth month, a tampon serves as a useful adjuvant in terminating the premature labor. This is produced by the pressure of the uterus during expulsive efforts against the tampon, which serves to relax the os uteri. The tampon used in this case is preferably of antiseptic gauze impregnated with boracic acid.

When uterine packing is indicated, a vaginal tampon of gauze will serve as a reinforcement, and as an aid in diagnosis, through the discharge which clings to it, it will be found invaluable.

Many women in whom a pessary causes great discomfort will, after several introductions of a soft cotton or wool tampon, bear the pessary very well.

30 West 126th Street.

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The Medical Supervision of School Children.—J. Cassel advocates the plan of having regular medical examination, to be seconded by such special treatment as may be needed, a part of the public school system. Weak-minded children could then be subjected to such modes of teaching as would be best adapted to their mentality, and, in particular, the eye and ear specialists would find much useful work to do. The interchange of views between pedagogues and physicians would result in the development of ideas valuable to both professions, while the children themselves would be immeasurably benefited.

LATENT PULMONARY TUBERCULOSIS.

By CHAS. R. UPSON, M.D.,
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I USE the term "latent" in this paper to indicate the unsuspected presence, in a large class of cases, of pulmonary tuberculosis, the symptoms of which are so ill-defined that the patient, and too frequently his medical attendant as well, fail to appreciate their true import. It has been estimated by other writers on this subject that not one case in fifteen of consumption is diagnosed in an early stage, but an extended study of this class of cases justifies me in placing a much lower estimate on the number of early diagnosed cases. It is my belief that fifty per cent. of our population are or have been infected with pulmonary tuberculosis. The disease is to a large extent latent, and an early diagnosis is not only the great essential to its successful treatment, but is of the utmost value in preventing the spread of the disease.

Illustrative of the prevalence of unsuspected cases of pulmonary tuberculosis, I would call attention to the following brief summary of one hundred and ninety-seven cases of patients who have consulted me for other than lung affections, whom I found to be tuberculous, and yet none of whom suspected the presence of the disease. These cases were classified as follows:

Naso-pharyngeal catarrh	68
Hypertrophic rhinitis	39
Hypertrophy of the tonsils	35
Purulent otitis media	25
Chronic catarrhal otitis media	18
Mucous polypi	12

It will be noted that I have—for obvious reasons—excluded from the above classification all cases in which cough was a prominent symptom. None of these patients had previously been examined for lung trouble nor had any of them, as I have already stated, suspected the existence of such a condition. Although in quite a number of cases the patient had recently consulted a physician regarding certain persistent ill feelings, in no case had an examination of the lungs been made. A considerable number of these cases had been labeled "malaria", that indefinite term which is so often used by careless practitioners in hastily-made diagnoses.

These cases may be most conveniently studied under the following heads:

Sex—115 patients were females and 82 males.

Age—Under 10 years, 12 (8 females and 4 males); between the ages of 10 and 20, 38 (27 females, 11 males); between 20 and 30, 45 (17 females, 28 males); between 30 and 40, 63 (38 females, 25 males); between 40 and 50, 35 (25 females, 10 males); between 50 and 60, 4 (all males).

Family and Personal History—Both the family and personal histories were good in 145 cases. In 52 cases the family history showed a susceptibility to disease. The personal history in 100 cases was good. In 97 cases there was a history of frequent or occasional attacks of indigestion, diarrhœa, or constipation; 5 patients acknowledged having had syphilis; 5 had met with accidents—falls, blows on the chest or back—since which there had been a slight "shortness of breath" on exertion.

Home Environment—So far as I could learn the home environment in 99 cases was satisfactory. In 78 cases the patients had lived or worked with consumptives; 48 cases were among boarders in the poor classes of boarding-houses, where the hygienic and other conditions were far from satisfactory.

Occupations—Students (including school children), 25. Persons of leisure, 12. Factory operatives and machinists, 90. Clerks, book-keepers, and stenographers, 15. Dressmakers, 5. Professional men and women, 10. Farmers and milk-men, 3. Commercial travelers, 6. Housekeepers and servants, 15. Unclassified, 16.

Inspection—There was little in the appearance in 50 of the cases to call attention to the existence of lung disease. In 125 cases the eye conditions were more or less noticeable, showing an exaggerated brilliancy, or dilated pupils, or both; in 20 cases the pupils were unequally dilated.

There was pallor in 63 cases. In 72 cases there was abnormal chest development. Unequal chest expansion was noticeable in many cases in which but one lung was involved. Close inspection and careful measurements of the chest during forced respiration will frequently show diminished expansion of the affected side, even in cases presenting but few physical signs.

Physical Signs—Exploration of the chest gave the following indications of pulmonary tuberculosis: The percussion note was in 148 cases a trifle duller than normal. In 28 the dulness was more markey and the percussion note was higher. The respiratord murmur in 142 cases was lowered in intensity; in 29 it was increased and pitched higher, with, in many cases, a jerky or "cog-wheel" respiration. In 116 cases, in some of which it was difficult to detect dulness, there was in the posterior apical region a noticeable transmission of the heart sounds. Prolonged tubular breathing and fine râles on forced coughing were noticed in 115 cases.

Temperature—There was in 118 cases a slight rise in temperature of from 0.8° to 1.6° F. In 38 cases, in which the temperature was normal, exercise to the point of fatigue caused a rise of from 0.9° to 1.9° F., leaving but 41 cases in which the temperature was normal under all conditions. When possible, the afternoon temperature was taken daily for a considerable period after the completion of the digestive process. A sub-normal morning temperature was found in 17 cases.

Respiration and Pulse—There were increased respiratory movements and rapid pulse in 105 cases, exclusive of the 33 cases in which there was a rise of temperature following fatigue.

Appetite, Digestion, Assimilation, and Weight—In 125 cases the appetite was more or less impaired or capricious. In 97 cases, the digestion and assimilation were imperfect and accompanied by a loss of from 3 to 13 pounds in weight.

Vitality—There was an admission in 132 cases of an increasing sense of fatigue following mental or physical exertion. Most of the patients mentioned a general "tired feeling," especially during the early morning hours, notwithstanding a good night's sleep.

Cough and Expectoration—Slight cough or hacking on assuming a reclining posture or on arising in the morning was present in 130 cases, with little or no expectoration other than that of catarrhal matter.

Dyspnœa—"Shortness of breath" on exertion had been noticed in 165 cases. In 10 cases they "got out of breath easily." The remaining patients would not confess to any difficulty in breathing. In several cases the dyspnœa was out of proportion to the extent of lung involvement, but none of these cases showed any signs of heart disease.

Hæmoptysis—12 patients admitted having "spat up blood." Two of these—single women, aged respectively 19 and 30 years—had been "raising blood," one for 3 and the other for 5 months, at each catamenial period—the catamenia being normal.

Chest Pains—Pleuritic pains of varying intensity had been present in 90 cases.

Night Sweats—In but 26 cases had night sweats

been a prominent symptom; in 4 instances they had occurred in patients presenting the fewest physical signs. In 72 cases the patient had noticed occasional night sweats—in many cases, however, so light as hardly to attract attention.

Pharyngeal and Laryngeal Symptoms—In a large proportion of the cases the pharyngeal and laryngeal mucous membranes presented a more or less congested appearance. In some cases the membrane was decidedly pale, while in others there was pallor of the pharyngeal mucous membrane with more or less marked local congestion of the arytenoid region.

Other Symptoms—Intestinal indigestion was present in 95 cases, accompanied by occasional attacks of diarrhœa in 38. In 53 cases there was constipation. A coated tongue was present in 106 cases, and more or less headache was complained of in most of them. Many of the patients believed their general ill feelings to be due either to "chills," "dyspepsia," or "malaria"—the latter being the favorite self-diagnosis.

Leaving the reader to make his own deductions and draw his own inferences from the above reported cases of latent tuberculosis, I will simply call attention to the frequent occurrence in these case of certain subjective and objective symptoms, which, when present, are sufficiently significant of the initial stage of the disease to call for a thorough physical examination of the patient. Whenever the disease is diagnosed the physician should, for the protection of the patient, his associates, and the community, advise the former or his family of the fact.

Dr. Von Ruck[1] in speaking of the causes which are responsible for the frequently tardy recognition of pulmonary tuberculosis, says: ' In instances where a physician is consulted and makes a correct diagnosis he is liable to be discredited either by the patient, when an intermission of the symptoms takes place, or by his neighbor practitioner who may have failed to appreciate the true state of affairs; under all circumstances it will be found difficult to convince the average patient or his interested friends that the slight symptoms of general malaise, loss of appetite and strength, or decline of a few pounds in weight, mean really the onset of so serious an affection as pulmonary tuberculosis, and though we may succeed while the symptoms last, their disappearance makes the interested parties again sceptical, since their ideas of tuberculosis are derived from what they have observed in cases of consumption that have reached a progressive or downward course."

Every physician who has given the subject careful study will readily admit the great prevalence of latent pulmonary tuberculosis, which will doubtless suggest to him the urgent necessity for the institution by the profession and public authorities of active measures for checking its insidious advance.

It is largely through ignorance of the true significance of these early subjective symptoms and the apathy of the lay population that the disease is permitted to gain such a firm hold on its victim. The remedy, to my mind, is a simple one and easily within the reach of every municipality. I refer to the publication and general distribution by boards of health of literature describing the early subjective symptoms of pulmonary tuberculosis and the necessity, whenever these symptoms are noticed, of an examination of the lungs. The circular should, furthermore, explain that while the disease is largely curable in this stage it will, if neglected, rapidly advance to the incurable stage, rendering the victim a source of danger not only to himself but to others.

Persons thus instructed in the dangers incident to their condition would, I am positive, early seek medical advice, and, if the physician failed to make it would insist on an examination of the lungs.

[1] "The Diagnosis of Pulmonary Tuberculosis," *Journal of Tuberculosis*, Vol. 2, No. 3.

MEDIATE PALPATION.*

By E. W. WHITNEY, M.D.,
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In matters pertaining to physical diagnosis much depends upon habit and education. Often have I been astounded at the ease and rapidity with which certain of our colleagues have proclaimed grave pulmonary and cardiac lesions by a hasty pressure of the ear upon a chest enveloped in thick flannels and a starched shirt, or have declared those organs in a condition of perfect and natural health.

Often have I been sceptical as to the accuracy of the result, and sometimes the thought has forced itself upon me that the declaration was based more perhaps on the clinical history, state of nutrition, and physiognomy, than on a true analysis of the respiratory and circulatory data which are usually recognized in detail and fully only by a careful, painstaking, and intelligent research.

The senses vary in animals, and so some diagnosticians may have most acute hearing, and be able to recognize broncho-vesicular breathing at a bound, or to locate a cardiac murmur, audible to the ordinary clinician only after physical exertion on the part of the patient (as hurriedly ascending a flight of stairs), conjoined with quiet and the use of a favorite stethoscope. Many variations of this last instrument—the stethoscope—have been presented to us since we became wedded to the one we started with and perhaps still retain—as in my own case. There have been large bells, made larger by rubber overcoats, small bells, etc. It is not volume of sound, however, that we want in a stethoscope, but differentiation, or one that enables us to recognize the quality of the tones reaching our ears.

We can detect the sharp crack of a rifle and the boom of a cannon if we can but just hear them, and the fog siren when barely audible above the sound of the waves

The object, however, of this brief communication is to call attention to a manner of intensifying vibratory thrills in the employment of that old and familiar method styled palpation, as used to detect vocal fremitus, a bruit, frictions, crepitus, or râles, or any vibratory thrill perceived by the tactile nerves. The quality of these various signs is usually so definite and distinct that an increase in volume does not obtund its recognition.

The modern phonendoscope is to many an excellent instrument, and in skilled hands elicits the evidence sought. I have recently found, however, that not alone in auscultation do its merits lie, but also in its ability to emphasize and determine the vocal fremitus and all vibratory thrills brought to our cognizance through the tactile sense.

A short time since, when I first employed it in this method of examination, which perhaps might be styled "mediate palpation," the result was so brilliant that a day or so later I brought it to the attention of a friend, an adept in physical examination, and it is through his suggestion that I present this subject to the Society this evening.

The method of use is as follows: The phonendoscope is placed upon the chest, as is usual for auscultation, and then after the rubber tubes are removed, the palmar surface of the hand is laid upon it and receives the vibrations which have been reduplicated by passing through the instrument. Its action is akin

*Read before the Salt Lake County Medical Society, April 22d, 1901.

to that of a sounding board, delivering the result, however, to the sense of touch instead of to the auditory apparatus. One instrument can be shifted from one side to the other, or two can be used, one for each palm.

Any good conductor of vibration may be used, and I have tried several, but the phonendoscope does excellently, and if one has it, he need look no further at present, as it fulfills in this way a double office—namely, that of auscultation and mediate palpation.

To determine the presence of fluid or air in the pleural cavity is usually not difficult, and yet at times the examiner is not without some doubt, and if any detail of examination will throw additional light upon this frequent lesion, it is worthy of employment.

To detail all the conditions in which a vibratory thrill is felt, in greater or less volume than natural, would be an unnecessary labor, as fremitus, crepitus, and frictions are well understood by all. In tuberculosis, pneumonia, pleurisy, fluid exudates in the pleural cavity, pneumothorax—in fine, in all pulmonary lesions, fremitus is a valued sign.

Bony or ligamentous crepitus, in a difficult case, would, by this method, be accentuated. Hydatid fremitus would be made plainer.

I have in mind an instrument with diaphragms, on the order of the phonendoscope, for this special purpose.

The Treatment of Accidents Under Chloroform.—A. Wilson states that the indications for treatment are threefold; to remove the anæsthetic-laden air from the lungs, to encourage the flow of blood to the nerve centers, to stimulate the circulation and respiration. The various methods suggested for the attainment of these ends may be grouped into five classes: 1. External applications or procedures which, under normal conditions, excite reflex respiratory efforts, such as (*a*) cold or hot affusions to chest and face, Corrigan's button to epigastrium, hot sponge to perinæum, etc.; (*b*) rhythmical traction on the tongue, and dilatation of the sphincter ani. 2. Direct mechanical or electrical stimulation of the heart by intermittent pressure, rapid percussion, faradisation, acupuncture, etc. 3. The mechanical performance of natural functions, as artificial respiration with or without tracheotomy. 4. Measures of a mechanical nature designed to counteract the effects of failure of the circulation, by raising the general blood pressure, or causing the determination of blood to the vital centers—*e. g.*, the dependent position of the body, rectal enemata, transfusion, compression of abdomen, artificial respiration, curtailing the area of the circulation by bandaging the limbs, etc. 5. Drugs, introduced subcutaneously or by inhalation, which have the power of stimulating the depressed nerve centers—ammonia, nicotine, strychnine extract of suprarenal capsules, etc.—*Medical Chronicle.*

Diaphragmatic Hernia.—C. A. Parker says that diaphragmatic hernia is of fairly frequent occurrence; the diagnosis is more rarely made than in almost any other known surgical condition, being limited to two per cent of the cases. Absence of a sac is the rule, it being present in but ten per cent. of all cases, and in only about one per cent. of traumatic cases. Stab wounds are usually on the left side, because of the desire of an adversary to inflict injury on the heart side, and because it is the side naturally opposed to the stroke from an opponent's right hand. The contents of the hernia are most frequently omental, but may include almost every solid and hollow viscus in the abdomen. A complicating intercostal hernia is not infrequent, having occurred in two of the writer's five cases. Though many of the congenital and acquired lesions of the diaphragm are so extensive as to be quite incompatible with life, yet gross defects in its structure with dislocation of many important viscera, may occur with little or no disturbance of health. The diagnosis is aided by the presence of local scars or lesions directing attention to the diaphragm. Skiagraphy may also be of value. The immediate danger in large wounds of the diaphragm is due to injury of adjacent viscera; the remote danger, from contraction of the opening and constriction of the contents, is greatest in small wounds. Spontaneous cure may result from contraction of the orifice and atrophy of the contents composed of unimportant structures. The treatment is surgical, and is limited to a small percentage of cases, on account of (*a*) the infrequency of diagnosis, (*b*) severity of gross lesions and symptoms, and (*c*) inaccessibility of the part injured. In the examination of all wounds in range of the diaphragm, the possibility of injury to that muscle should be remembered, and all wounds in its structure should be closed at once, if possible, to prevent the development of hernia.—*Medicine.*

Recovery from Cerebro-Spinal Meningitis.—E. F. Trevelyan reports two cases. The first case was that of a boy of sixteen years, who complained of headache and vomiting. Three days later a swelling appeared on the back of the neck, followed by labial herpes, retraction of the head, and some loss of power in the legs. The pupils were equal, and reacted to light. The lad was delirious at times, and passed his time in bed. A diagnosis was made of a diffuse meningitis. Iodide of potassium was given, but had to be speedily discontinued. On the thirteenth day, the swelling on the back of the neck was incised, and two ounces of pus evacuated from the deep muscular planes. The disease lasted fifty days in all. Its later stages were marked by temperature running intermittently (it had been 102° F. during the first two weeks), and gradually becoming normal. There was never any recognizable pneumonia, endocarditis, or other primary focus of disease. The second case occurred in a girl of fifteen years, and was ushered in with headache and severe and repeated vomiting. The neck was rigid, and the head retracted. On the fifth day the girl was comatose and unable to swallow. The symptoms varied in severity from time to time, and covered a period of about six weeks. From that time on, the patient steadily gained. There was no otorrhœa. The author has nothing new to add concerning treatment. He is not in favor of spinal puncture, which he believes to have very little to recommend it. He is inclined to believe that the only hope of a satisfactory treatment lies in orrhotherapy.—*Medical Chronicle.*

Some Points of Practical Importance in the Symptoms and Treatment of Acute Pneumonia.—R. H. Babcock calls attention to the fact that we may have a scattered exudate not large enough to give the classical signs of dulness, etc., but comprising, in the aggregate, considerable lung tissue. The infection in these cases is often intense. Cyanosis is present, and due to paralysis of the vasomotor centers in the spinal cord, being followed by heart weakness, secondary to this vasomotor paresis. The temperature in the axilla may be even subnormal, while the thermometer in the rectum will show considerable elevation. Thus, in one case, the axillary temperature was only 97.6° F., but the rectal temperature was 102.1° F. For such cases Babcock is disposed to rely on strychnine hypodermically, one-thirtieth to one-twentieth grain every two hours, or, in urgent cases, hourly. Valerianate of caffeine, in grain doses, may be given in the same manner every two hours. Toxic influences can be combated by the use of the decinormal salt solution, both by the rectum and under the skin. Venesection to the amount of sixteen to twenty ounces is also of service. As long as the blood is dark, it should be allowed to flow, but when it becomes red, it is evidence that enough has been withdrawn. Oxygen also finds, in these cases, a proper employment.—*Medicine.*

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THE SUPPRESSION OF THE MOSQUITO.

SINCE it has been concluded more or less definitely that, in addition to being the chief if not the only means of propagating malaria, mosquitos are responsible for the dissemination of yellow fever, an unrelenting war of extermination, if possible, has been declared against the anopheles claviger and culex fasciatus. The difficulties in the way of a complete extermination of these two species are, however, so great, that general satisfaction will be given if only measures can be devised to reduce appreciably the numbers of the parasite-conveying insects, especially in tropical regions now largely frequented by white men. It has been shown already, that is so far as malarial fever is concerned, that protective measures—such as rendering the interiors of houses inaccessible at night to mosquitos and compelling workmen on night duty to wear cowls—are to a large extent effective.

Nevertheless more radical and wholesale methods than these are called for, and Mr. L. O. Howard of the Department of Agriculture, at Washington, in a book recently published,* declares that he sees no reason why the task of exterminating mosquitos altogether should be looked upon as impossible. While perhaps a large number of those versed in the ways of mosquitos may be inclined to regard Mr. Howard's views as somewhat unduly optimistic, yet such opinions proceeding from so eminent an authority are worthy of respectful consideration. Colonel Giles, a well known entomologist, serving in the British Army Medical Corps in India, speaking of the anopheles says: "Far from being as we have been led to expect confined to a few marshy pools of moderate size, they are omnipresent and seem to be capable of developing in water of very varying degrees of purity." Anopheles Rossii is in fact what Ficalbi would speak of as a "foveal" and not a "paludal" or even "sub-paludal" species. A consideration of these few facts makes it therefore self-evident that the task of extirpating malaria by the systematic treatment of mosquito-breeding places with larvicides, is by no means so simple as it was hoped it might prove. Ross wrote in 1899, that the anopheles seemed to prefer, as a rule, natural collections of water on outskirts of town and in rural districts as a place of deposit for eggs. If Giles is right and the anopheles is omnipresent, as assuredly the culex is, it will be plainly evident that to hope for a wholesale massacre of mosquitos or even of the larvæ would seem hardly to be entertained.

Much, however, can doubtless be done in the direction of suppressing mosquitos in a given locality. Mr. Howard lays down three lines of procedure with this object in view. First, the treatment of their breeding places with an agent destructive to the life of the larvæ; second, the abolition of breeding places by drainage; and third, the introduction of natural enemies into those breeding places which it may be impracticable or undesirable to drain or to treat with larvicides.

Before putting into practice any of these methods, it will be essential to examine, in the most careful manner possible, any district in which operations against the mosquito are to be undertaken, in order to locate accurately any pieces of water used as breeding places or which, from their appearance, seem likely to become such. In this connection, it may be well to bear in mind advice given by Ross, who says that an infallible sign in the detection of a breeding place is the invariable habit of the insects of congregating in large numbers in its near locality.

Permanent pools not used for watering stock should be treated with kerosene, swampy ground should be drained, and small pools should be filled with earth. Particular attention should be paid to this last measure, for however omnipresent the mosquito of any species may be, there can be no doubt that, as a place of deposit for its eggs, it has a decided predilection for bodies of water of circumscribed area. The reason for this is said to be that pools of comparatively small size contain no minnows, the inveterate enemy of the embryo mosquito.

Petroleum would appear to be the most effectual means of destroying the larvæ of mosquitos—judging from the results of experiments conducted up to the present. According to Mr. Howard a light fuel kerosene has been found to be most effective. The lamp-burning oil is too volatile and the crude oil is too thick. The destructive action of the oil will last from ten days to two weeks, when a similar process must be again gone through, and continued until the wished-for results have been obtained.

When a house is infested with mosquitos, it should first be screened, and after that the mosquitos within the building destroyed. In order to accomplish this latter purpose effectually many methods have been recommended. Fermi and Lumbao are in favor of the liberation of chlorine gas by treating chloride of lime with crude sulphuric acid. This plan can be carried out only in an uninhabited house, or in one in which the vapors can be allowed to remain for a considerable time. The burning of pyrethrum powder has been also suggested, while Major Havard recommends formaldehyde gas.

To effect the destruction of the larvæ in sheets of water where kerosene cannot be used, it is proposed to introduce certain kinds of fishes which are the natural enemies of the mosquito and which will devour the larvæ with avidity. Most of the small carnivorous fish which dwell in still water highly esteem the larvæ as a delicacy, and Colonel Giles declares that golden carp will consume them in enormous quantities. The common sunfish is especially partial to the eggs of the mosquito, and owing to

* Mosquitos. How They Live; How They Carry Disease; How They are Classified; How They May be Destroyed. By L. O. Howard, Ph.D., New York McClure, Phillips & Co. 1901.

its large mouth and almost insatiable appetite, will make short work of the ovarious deposits of a vast number of the insects. The larvæ of the dragon fly have also a natural enmity to the mosquito larvæ.

Again, some authorities have asserted that certain balsamic trees of the eucalyptus and pine species possess anti-malarial properties, but Celli says that such trees so far from banishing mosquitos are favorite hiding places of the insects. By others the castor-oil shrub is said to be obnoxious in a high degree to the mosquito, while Giles claims similar properties for an Indian floating water-plant, resembling a lettuce, called in Hindustani "alkumi."

Thus it will be seen we have now at hand numerous methods of more or less efficacy for the suppression of the mosquito, and in view of the experiments to be undertaken on a large scale under the direction of Ross in Africa, and those already being conducted by our own army surgeons in Cuba, it may be anticipated that some yet more effective measures will be discovered for the ridding of the earth of these parasite-conveying pests. At any rate a crusade conducted against the eggs and larvæ would seem to promise definite and practical results.

THE SURGICAL TREATMENT OF CIRRHOSIS OF THE LIVER.

It is only very recently that it has seemed possible that anything of a radical surgical nature could be done for patients suffering from cirrhosis of the liver, but there have been already reported something over a dozen instances in which operation has been followed by improvement which may fairly be called great. As is well known the condition which surgery is called upon to relieve is the ascites, and to this end the operator seeks to establish venous communications around the obstruction in the liver, by causing adhesions to form between the great omentum and the abdominal wall, and between the liver and spleen and the diaphragm. The philosophy of this proceeding is obvious, and in practice it is found to be efficient as soon as a reasonable time has elapsed after operation. The technique of the operation is very simple and in many cases it seems possible to employ local anæsthesia, preferably in the form of infiltration. The peritoneum of the ascitic abdomen is not in a good condition for resisting infection, and it therefore appears best to avoid the use of a drain after operation so as to escape one possible source of trouble. If necessary, paracentesis may be employed in case the fluid reaccumulates before the new venous channels are in condition to relieve the congestion.

Every case of cirrhosis is, of course, not suitable for this form of treatment, since in many the condition of the kidneys makes it evident that no lasting good could be expected from any form of treatment, and in others the heart is hopelessly damaged. It is also important to remember that, in the presence of symptoms indicating serious interference with the secreting function of the liver cells, very little can be expected from surgical treatment. Those cases which exhibit ascites and its immediate consequences as the main symptoms are the ones to be selected if we wish to see what surgery can accomplish in this disease.

The resources of medicine have been taxed, and every reasonable form of internal medication has been tried, but no satisfactory treatment for cirrhosis of the liver has been found, so that if surgery can promise relief in a fair proportion of cases, and on rational grounds, the opportunity to prove the promise should not be denied. In a number of the reported cases treated by operation, the ascites seems to have been actually cured and the patients have returned to a condition of apparently normal health. When such a favorable outcome is observed, the indication of course is that the vitality of the secreting cells of the liver has not been too seriously interfered with, and as soon as the pressure has been taken off, they have resumed their normal functions. Frazier (*Annals of Surgery*, June, 1901), reports a case of great interest belonging in this class, in which the man, who had been tapped a number of times, was operated upon and after a short time was able to return to work apparently in good health. A few other observers have had similar remarkable results, so that, although it is perhaps early to draw definite conclusions, we may say that patients with cirrhosis of the liver should always be looked at with a view to possible operation, and should have the benefit of surgery unless there are some distinct contraindications. The operation as such is simple, practically bloodless, takes little time, involves very little handling of the viscera, and, as we have mentioned, can frequently be done without general anæsthesia. We need not be discouraged if it becomes necessary to perform paracentesis one or more times during convalescence, since the newly formed adhesions require time to develop venous channels of sufficient size to be useful.

THE CRAIG COLONY FOR EPILEPTICS.

The seventh annual report of this institution has been recently published, and narrates in a pleasing manner the progress and growth of the undertaking.

The history of the inception and development of the Craig Colony is in a high degree instructive, and should act as an incentive to philanthropists to proceed on similar lines if they are desirous of benefiting morally and physically persons suffering from this class of disorder.

The Craig Colony was founded in 1894, Governor Flower signing the bill creating it on April 24th, of that year. The first mention of the colony system made in America was by Dr. Frederick Peterson, now president of the Board of Managers, in an article published in the Medical Record in 1887. The State Charities Aid Association, inspired by Dr. Peterson's article, took up the matter, and in this course it was followed by the State Board of Charities, the outcome of the movement being that a Commission was appointed by the Legislature to choose a site. A site was selected at Sonyea and after some delay a bill authorizing its purchase was introduced, passed, and signed by the Governor.

From that day to the present time there has been no looking back, the Craig Colony has advanced steadily and surely and has amply justified the confidence of its promoters in the merits of the methods of treatment practiced therein. The year just passed has witnessed the most rapid and satisfactory progress in the admission of patients the Colony has yet had; a gain of 340 having been

made during the year. The Medical Superintendent in his report makes an eloquent plea for the State to step in and legally forbid marriage between epileptics—a law which would undoubtedly be for the welfare of the epileptics themselves and of the community at large. The health of the Colony during the period covered by the report has been satisfactory. Tuberculosis was the most common and fatal disease among its inmates.

It may be truly said of Craig Colony that it has provided an object lesson on this Continent in the intelligent treatment of epilepsy, and has proved a boon, the value of which can hardly be estimated, to the unfortunate sufferers from that disease.

MILD SMALLPOX.

The success with which the spread of any infectious disease can be controlled is directly proportionate to the ease with which it can be recognized. As a result of the beneficent influence of vaccination, smallpox has become so rare that many medical graduates have never seen a case, and their failure to recognize the disease when it comes under their notice is, therefore, in some degree pardonable. This deficiency should, however, be made good, so far as possible, by demonstrations to advanced students in the special hospitals to which the isolated cases that occur are usually sent. It appears, as is pointed out by Dr. F. Montizambert in the *British Medical Journal*, that there has for some years been prevailing in the United States a mild type of smallpox that is not recognized, and has received various names, but is often mistaken for chicken-pox or rubella. The patients are not exclusively children, are generally not confined to bed or even indoors, and exhibit as a rule but little initial fever; the eruption is scanty and discrete, and there is no secondary fever. According to statistics published by the United States Marine-Hospital Service, 11,964 cases of smallpox were reported throughout the United States between December 28, 1900, and March 29, 1901, with only 157 deaths (1.31 per cent.). A serious danger resides in the very mildness of the cases, inasmuch as, the disease failing to be recognized, proper precautions are not observed and extension takes place readily.

PROFESSOR ATWATER AND THE MEDICAL TEMPERANCE ASSOCIATION.

At the annual meeting of the American Medical Temperance Association, held at St. Paul in June, the following preamble and resolutions were adopted:

"*Whereas*, the American Medical Temperance Association, the members of which are physicians and medical teachers who have devoted years to the study of alcohol and its effects, and who are conversant with the work done by scientific men the world over to determine the effects of alcohol when given in any quantity, have noted the teaching of Professor W. O. Atwater, of Wesleyan University, upon the food and medical value of alcohol as set forth by him in the pages of the influential lay press, be it

"*Resolved*, That this Association utterly repudiates the pro-alcoholic doctrine of the said Professor W. O. Atwater as being contrary to the evidence deduced by scientific experimentation, and that his conclusions are unwarranted by the evidence resulting from his own experiments. Be it further

"*Resolved*, That this Association regards the teaching of Professor W. O. Atwater as erroneous, and a source of danger to the laity insomuch as such teaching contributes towards the increased consumption of alcoholic beverages by giving supposed reason for their safe use.

(Signed.) "N. S. Davis, M.D.,
"President, Chicago, Ill.
"T. D. Crothers, M.D.,
"Secretary, Hartford, Conn."

We heartily sympathize with the members of this association in their efforts to combat the evils of over-indulgence in alcoholic beverages, but we are rather sceptical as to the good that can be accomplished by opposing the deductions of scientific experiments by resolutions. This is too much the manner of combat of the antivaccinationists and others of that ilk, with whom to have associated, in the minds of the public, lay or medical, the Medical Temperance Association would be a pity. The conduct and report of experiments similar to, but disproving the conclusions drawn from those of Professor Atwater, would carry more conviction to the doubters and disbelievers than scores of resolutions.

News of the Week.

Inspection of Pennsylvania Quarantines.—The Maritime Exchange of Philadelphia gave an excursion July 12, down the Delaware River, for the purpose of inspecting the maritime reporting and quarantine stations, as well as the engineering work at the new breakwater. The party consisted of Supervising Surgeon-General Wyman, of the Marine-Hospital Service, the Chiefs of the Coast Survey, Light-House Board, and National Weather Bureau, the Collector of the Port of Philadelphia, the Secretary of the Maritime Exchange of New York, and others. Great satisfaction was expressed at the admirable condition of the quarantine stations at Reedy Island and the Breakwater. The emigrant barracks at the latter place are capable, when completed, of caring for two or three hundred emigrants, while ample provision will be made for cabin passengers. Particular interest was shown in the perfected apparatuses for steam and formaldehyde disinfection, and in the systematic methods of quickly and thoroughly fumigating cargoes.

Smallpox at a Fashionable Club.—During a fourth of July entertainment at Ardsley Club, N. Y., a maid, suffering from smallpox, attended ladies in the dressing-room, thus exposing a large number to infection. A physician of the locality, who was subsequently summoned, failed to diagnose the case; the patient was then taken in a railway car to New York, whence she was promptly transferred to North Brother's Island. Great consternation prevails among the club members as to the possible spread of the disease, after such an unwarranted and inexplicable exposure. The occurrence, for some reason, was kept secret for more than a week, but as soon as it was reported to Dr. Todd, Health Officer at Dobbs Ferry, he immediately instituted such preventive measures as seemed to be warranted.

The Heat.—The hot wave under which the entire eastern part of America sweltered the first of this month, has reached Europe, and the cable brings reports of intense suffering all over the Continent from Copenhagen to Geneva and from London to St. Petersburg. Around Berlin the soil is baked to a crust for a depth of a foot or more, fruit is falling unripened from the trees, and the grass and growing vegetables are being burned, shriveled up by the parching wind, as is the ripened corn in our middle West. The statistics of the New York City Health Department show that the mortality from heat was greater in the week ending July 6, than for any

corresponding period since the records have been kept. Owing to this fact, the work of the summer corps of physicians in visiting tenement houses and caring for all sick children not already under medical supervision, was begun a week earlier than usual. The number of physicians in this corps has been increased from fifty to seventy-five.

Blackmailing Druggists.—A gang of swindlers has been profiting by the fears of numerous pharmacists in Brooklyn excited by an ingenious though despisable trick. A man goes to a drug store with a simple prescription, has it made up, and takes the mixture away with him. In an hour or two or the following day the purchaser returns with the medicine which he says he gave to his wife or child, as the case may be, and that the patient was nearly killed by poison which was there through the blunder of the compounder. He says his physician has analyzed the mixture and demonstrated the presence of poison and he allows the druggist to test it then and there. The poison is of course found, as the swindler has added it himself, and he thereupon announces his determination to sue the druggist for damages to atone for the results of his alleged blunder. If the pharmacist becomes frightened at the idea of a suit for damages, and thinks it may be possible that a mistake has been made, he may accept the suggestion of the blackmailer, to settle the case out of court. The amount of settlement is said to vary from $50 to $200.

The Journal of Physical Therapeutics, an English publication, now in its second volume, has recently extended to Dr. Margaret A. Cleaves, of this city, an invitation to become its American editor. The editor-in-chief is Dr. W. S. Hedley, of London. Among the subjects to be treated of in this journal as being within the scope of "physical therapeutics" are electro-therapeutics, hydro-therapeutics, vibro-therapeutics, or treatment by vibration, photo-therapeutics, or treatment by light, radio-therapeutics, or treatment by the radiations of an *x*-ray tube, balneo-therapeutics, or treatment by baths, aëro-therapeutics, or treatment by compressed or rarified air; therapeutic and hygienic exercises, massage and manipulations, dietetics, climatology, and heat and cold also come within the scope of "physical therapeutics." The journal and its readers are to be congratulated upon having secured the services of an American editor of acknowledged ability and practical experience, such as Dr. Cleaves.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the Navy, for the week ending July 13, 1901: July 5.—Asst. Surgeon R. T. Atkinson, ordered to the Washington Navy Yard, July 8. Asst. Surgeon A. W. Balch, ordered to the Wabash, July 8. July 6.—Asst. Surgeon J. R. Whiting, detached from the Dixie, and ordered home to wait orders. Doctors P. E. McDonnold and R. M. Young, appointed Asst. Surgeons from July 2, 1901. July 8.—Asst. Surgeon M. V. Stone, ordered to Naval Hospital, Mare Island, Cal. Asst. Surgeon R. T. Orvis, detached from Naval Hospital, Mare Island, July 20, and ordered to the Pensacola. Asst. Surgeon R. R. Richardson, detached from the Naval Hospital, New York, and ordered to Naval Hospital, Newport, R. I. July 9.—Asst. Surgeon A. E. Peck, detached from the Pensacola, July 20, and ordered to the Asiatic Station as the relief of Asst. Surgeon F. L. Benton.

The Enno Sander Prize for 1901-1902. The Enno Sander Prize of the Association of Military Surgeons of the United States has for 1901-1902 been generously increased by its founder to consist of a gold medal, valued at $100, and $100 in cash. The subject for this year is "The Most Practicable Organization for the Medical Department of the United States Army in Active Service." The following are the conditions of the competition:

1. Competition is open to all persons eligible to active or associate membership in the Association of Military Surgeons of the United States. 2. The prize will be awarded upon the recommendation of a Board of Award selected by the Executive Committee. The Board will determine upon the essay to which the prize shall be awarded, and will also recommend such of the other papers submitted, as it may see fit, for honorable mention. 3. In fixing the precedence of the essays submitted, the Board will take into consideration—primarily—originality, comprehensiveness, and the practicability and utility of the opinion advanced, and—secondarily—literary character. 4. Essays will consist of not less than ten thousand, nor more than twenty thousand words, exclusive of tables. 5. Each competitor must send three typewritten copies of his essay in a sealed envelope to the Secretary of the Association, so as to reach that officer on or before February 28, 1902. 6. The essay shall contain nothing to indicate the identity of the author. Each one, however, will be authenticated by a *nom de plume*, a copy of which shall, at the same time as the essay, be transmitted to the secretary in a sealed envelope together with the author's name, rank, and address. 7. The envelope containing the name of the successful competitor will be publicly opened at the next succeeding annual meeting of the Association, and the prize thereupon awarded. 8. The successful essay becomes the property of the Association of Military Surgeons of the United States, and will appear in its publications.

The Board of Award is composed of the Hon. William Cary Sanger, Assistant Secretary of War, Brigadier-General George Miller Sternberg, Surgeon-General U. S. Army, and an officer of the line to be announced later.

Unlicensed Pharmacists in the Employment of the City.—The Municipal Civil Service Commission has decided that all applicants for the position of druggist in any of the city institutions must first pass an examination before the State Board of Pharmacy. This action was taken because of complaints that the Municipal Commission had been certifying pharmacists who held no license, and that it was a violation of the law to do so. Hitherto the board has certified pharmacists in the belief that the same law applied to them as to engineers. The law requires that engineers must have a license before they can be employed in any of the city departments, and the board thought that after pharmacists had been certified they would have to get a license in the regular way.

The Spitting Nuisance.—The refined and gentlemanly police magistrates of this city seem to be little in sympathy with the law against spitting in public conveyances. At first a few misguided expectorators were fined, and hope arose that the elevated and street cars might no longer be the perambulating spittoons, which they have for so many years served. But this impulse to cleanliness and hygienic decency was short-lived, and now the occasional spitter who may be arrested for specially aggravated indulgence in his filthy habit is promptly released by the magistrate with some such comment as "the companies ought to provide

spittoons," or "this is a harsh rule; I often spit myself," or "soon a man will have no liberty to do anything he wishes." The point is also insisted upon that an offender must first be warned that he is breaking the law and can be arrested only when he persists in spitting on the floor after the warning has been given, yet the notices posted in all the cars would seem to take away from one the possibility of a plea of ignorance of the law.

Examinations for Bacteriologists.—An examination for the position of Assistant Bacteriologist, Class I, salary $800, will be held by the Municipal Civil Service Commission on July 29, 1901, at 10 A. M., and an examination for the position of Assistant Bacteriologist, Class II, salary $1,200, will be held on July 31, at the same place and hour. Candidates for Class II must be able to carry on original investigations. Subjects of the examinations are: Technical knowledge, experience, mathematics, writing a report on an assumed state of facts. Applicants should address Lee Phillips, Secretary, Municipal Civil Service Commission, 346 Broadway. For particulars as to the examination, application should be made to F. G. Ireland, Chief Examiner.

Rabies prevails to an alarming extent among the cattle, sheep, and dogs in the farming district of Romulus near Ithaca in New York State. The disease was imported in a mad bull pup about a month ago. No human beings, so far as is known, have been bitten by any of the affected animals.

Orrhotherapy in Plant Diseases.—An account has been published in France of certain successful experiments in the treatment of rust in plants by impregnating the soil in which the diseased plants were growing with a culture of the causative micro-organism. Mr. Beauverie is the agriculturist who made the experiments and the disease to which he rendered the plants immune was caused by the presence of botrytis cinerea.

A New Maternity Hospital.—The Manhattan Maternity Hospital and Dispensary was incorporated on July 9. The objects of the incorporators are stated to be to maintain in New York City a maternity hospital, to provide hospital accommodations for women and children, to supply medical attendance for poor women at their own homes, and to maintain a training school for nurses. The directors are Daniel S. Lamont, Cornelius Vanderbilt, Percy R. Pyne, Frank L. Polk, Moses Taylor, Harry S. Thompson, and William Thorne.

An Anti-Cigarette League was in session last week in Buffalo. There were about six hundred delegates, representing many local organizations in this country and Canada, present at the opening session. Addresses were made by President Elwood Brown and Secretary Charles Fisk, of Chicago, and a number of papers were read showing the injurious effects to the consumers and others of indulgence in cigarette smoking, and discussing the most practical measures for bringing about a diminution of the evil.

A New Bellevue Hospital.—At a meeting of the State Board of Charities, held in Albany on July 10, a resolution was adopted urging the New York City authorities to consider favorably the subject of the erection of a new and modern hospital to take the place of Bellevue as soon as possible. The board also suggested that the compensation of attendants and other employes in Bellevue Hospital should be reasonably increased, so as to secure the services of competent and satisfactory attendants, and that suitable provision should be made for their care in order that the services of such competent and satisfactory help may be retained. This resolution was taken because of the fact that the demands upon Bellevue Hospital are greater than upon any other hospital in this country, and of the belief that the main buildings of the hospital are too old and ill-adapted to their purposes to be sufficient to meet the proper demands of the service. The main building was erected over a century ago for an almshouse. Last year 25,000 patients were treated in the hospital.

The Plague in Egypt.—The United States consular representative at Cairo has informed the State Department that the bubonic plague, which prevails in many of the towns of Egypt, is of a virulent and destructive type, and on account of its rapid development and the exceptionally high rate of mortality, general apprehension and alarm prevail throughout the country. During the week preceding June 19 there were twenty-three cases reported, twenty-one of which were at Seagazig and two at Minleh. Sixteen cases were admitted to the hospital and five men were found dead of the disease outside of the hospital at the former place. Of those admitted to the hospital six died. The usual evidences of disease among rats were noted before the occurrence of the disease in the human inhabitants. Dr. Edington, of Cape Town, however, has taken the ground, after a series of bacteriological experiments, that there is at most a very distant relationship between bubonic plague in man and the rat plague, and that the two diseases are not intercommunicable.

Gen. Leonard Wood, who has been suffering from typhoid fever, is reported to be convalescent and happily out of danger.

A Doctor and a Nurse.—The newspapers state that one of the internes in a Brooklyn hospital is under discipline for having kissed, or rather for having been caught kissing, one of the young and comely members of the training school.

Obituary Notes.—Dr. James H. P. Wise died on July 10 at Morgan City, La. He was born in Northampton, Mass., fifty-six years ago. He served during the Civil War with the Twentieth New York Calvary, being stationed for some time in Louisiana. At the end of the war, he returned to that State, and entered the now defunct New Orleans School of Medicine, from which he obtained his degree of M. D. in 1869. He first served in the U. S. Marine Hospital at New Orleans, and later entered the medical corps of the army, being with the First United States Cavalry. Moving to Morgan City in 1880, he became the local leader of the Democratic party, was ten years mayor of the town, collector of the port, quarantine officer, and president of the Board of Trade.

Dr. George H. McMurray died of diabetes at Glens Falls, N. Y., on July 12th, at the age of thirty-six years. He was a graduate of the Albany Medical College in the class of 1880. At the time of his death he was secretary of the pension examining board.

Dr. Virgil D. Thompson, aged sixty-one years, a practicing dentist of Jersey City, died on Saturday last at St. Vincent's Hospital, in this city, from the result of injuries received by being knocked down by an electric car.

Dr. John D. Weaver died at Norristown, Pa., on July 12th, at the age of forty-four years. He was a graduate of the Jefferson Medical College, in the class of 1885.

Progress of Medical Science.

Journal of the Am. Med. Association, July 13th, 1901.

Periods of Stress and Their Dental Marks.—J. G. Kiernan says that the struggle of the child for existence is most marked at certain periods and each period is characterized by certain dental phenomena. The first is the period of first dentition. Here, coincident with teething, the child is gaining its impressions of the outside world, is learning to walk and talk and is also developing its eliminative organs, especially the rectum. These varied functions constitute a strain on the system the effects of which are most often evinced through the teeth and jaws. The second period reaches from the second to the sixth year, centering about the time of eruption of the sixth year molar. With the eruption of this molar, premature puberty, sexual precocity, epilepsy, insanity, gout, rheumatism, obesity, and other nutritive degeneracies may occur. All have been charged to the eruption of the sixth year molar, whereas its irregular or difficult eruption is, like them, an expression of constitutional stress. Hygiene of the teeth at this period means also constitutional, mental and moral hygiene.

The next important period of stress is practically that of the second dentition. Here there is a foreshadowing of the mental and nervous phenomena of the following period of stress. Sexual development now frequently receives its initiative. What is true of neuropathic children earlier is true at this time of ordinary children, under conditions of stress. There are disturbed sleep, irritability, apprehension, strange ideas, great sensitiveness to external impressions, high temperature, delirium, convulsions from slight causes, disagreeably anxious, dreams, romancing, intense feeling, periodic headache, muscular twitching, capricious appetite, and marked intolerance of stimulants and narcotics. The struggle for existence between the developing alimentary and other systems, between the second and sixth year, produce effects which are most felt during the sixth to twelfth year.

The period of puberty should include the period from the appearance of the menses or the formation of spermatozoa until the completion of the twenty-fifth year. The appearance of the wisdom tooth at this time marks human maturity, which was the reason that twenty-five was selected for the age of maturity by the code of Napoleon. During this period it is possible to correct dental and maxillary irregularities with benefit to the subject. Every one of the conditions enumerated as due to strain during the period between the ages of six and twelve may reappear. In addition there occurs a type of mental disorder called hebephrenia, or insanity of puberty, which is practically incurable after its development. This is an insanity peculiarly charged to cigarette-smoking, masturbation, overstudy, religious excitement, and "love," all of which are the expressions of the defects and not their cause. The final periods of human life are those of the climacteric and the senile period. The first is accompanied by the menopause in women and prostate change in men. The dental conditions marking these two periods of stress are generally involutional in character and require prothesis or treatment and not correction.

Infectious Diseases.—A. M. Stevens, in this paper enumerates the various diseases which may be transmitted from the mouth of one patient to the mouth of another by means of dental instruments and apparatus. Syphilis, scarlet fever, diphtheria, and erysipelas are especially mentioned, and a plea is made for the more careful observance by dentists of the rules of modern antisepsis.

The Treatment of Cutaneous Cancer.—M. L. Heidingsfeld commends the use of arsenious acid, mixed with equal parts of pulverized gum-arabic, to which sufficient water is added to make a paste of the consistency of butter, and enough cocaine crystals to alleviate the anticipated painful reaction, as recommended by Marsden, Robinson, Gottheil, and Stelwagon. He has found it expedient to add ten per cent. glycerin before adding water, which prevents the paste from becoming too dry, and therefore prolongs and intensifies its action; the reactionary pain is also diminished by the glycerin

R.	Ac. arseniosi,	
	Pulv. gum acaciæ, aa	5
	Cocainæ mur. cryst	2
	Glycerin.	2
	Aquæ q. s.	
M.	Ft. paste. Sig.: Apply locally.	

The paste is applied directly to the ulcerated surface after being uniformly spread on a piece of muslin or linen, which has previously been carefully adapted to the affected area. It dries in the course of five to ten minutes, and remains firmly adherent until its removal, twelve, twenty-four, or thirty-six hours later, is indicated by the pain, intensity of the reaction, or the degree of the treatment required. The after-treatment consists in the application of simple, soothing, antiphlogistic remedies combined with cold compresses saturated with a solution of alum acetate. There is some reactionary inflammation, in the form of redness and swelling, which is usually limited to the ulcer and its immediate neighborhood. Arsenious acid is prompt in results, easily limited and controlled, spares the healthy issues, exerts a marked specific influence, and produces relatively little distress and subjective disturbance. It promotes prompt cicatrization, and speedily converts a freely discharging, foul-smelling ulcer, filled with soft, mushy granulations and flabby detritus, into a firm, clean-looking sore, inhibits the discharge, and materially diminishes the inflammation of the surrounding tissues.

Relation of Syphilis to Blastomycetic Dermatitis.—H. G. Anthony refers to a case he reported a year ago of blastomycetic dermatitis engrafted on syphilitic ulcers. He quotes from various authors in relation to the condition suggested by the title of the paper, and the general contention is that the theory of a syphilitic base for blastomycetic dermatitis is the true one.

Medical News, July 13, 1901.

After-Treatment of Summer Diarrhœa of Infants and Children.—William M. Taylor declares that it is difficult to lay down any fixed rule for the return to a more ample diet after subsidence of the acute symptoms of summer diarrhœa. The condition of the intestinal tract, as evidenced by the condition of the stools, must be carefully studied by the physician. The after-treatment of this affection is essentially hygienic and dietetic. Pure modified cow's milk, diluted with barley water previously dextrinized by diastase or maltine, is most satisfactory. It is almost always possible to attain proper food for the child by beginning with a percentage milk. Kumyss is also valuable, and is especially well taken during the summer months. Beef juice is easily assimilated. Children of two or three years of age may have, besides milk, beef, mutton, or chicken broth, from which the fat has been removed. Scraped rare roast beef is a valuable addition. Dry toast or zwieback is the best form of farinaceous food; liquid diastase should be given at first. Inunction of cod-liver oil is a favorable method of improving the general condition, and is well followed by a warm sponge bath. Tendency to constipation in convalescence is best corrected by the diet, water between feedings, abdominal massage, and enemata. Purgatives, as a rule, are to be avoided. Tonics are nearly always indicated, ferric iodide and the tincture of nux vomica being among the best. The untoward symptoms of dentition should be relieved. A cool morning sponge, outdoor life, and a well-ventilated sleeping room are all valuable auxiliaries to the other lines of treatment. The buttocks should be kept scrupulously clean. In the effort to get fresh air for the child, care must be taken not to cool the body suddenly, or a second attack is likely to be precipitated.

The Medicinal Treatment of Summer Diarrhœa.—Thomas S. Southworth describes the acute gastro-intestinal affections of summer among children as (a) diarrhœa from inability to digest unsuitable articles of food; (b) diarrhœa from bacterial action in tainted milk; (c) cholera infantum, probably due to milk infection. Speaking broadly, milk, including breast milk, should be stopped in all cases of summer diarrhœa in children under two years of age which begin with vomiting or high temperature. Instead may be given dextrinized barley water, rice water, egg-albumen water, mutton broth, beef juice, and plain-boiled water if there is thirst. If there is vomiting, the stomach should rest as far as possible for twelve hours. Medicinally, castor oil and calomel in divided doses are useful. The former is especially valuable when there is much mucus in the stools. But when there is nausea and vomiting, calomel may be given, gr. 1-10 to gr. 1-6 every half-hour or hour, till one grain, or possibly more, has been taken. It is a stomachic sedative and an efficient laxative. It acts as a local disinfectant in the bowel, and stimulates hepatic secretion. When pyrexia is marked, irrigation of the bowel should be performed. Persistent vomiting calls for washing of the stomach with plain boiled water, or, in cases of acidity, a solution of sodium bicarbonate. When it is advisable to check the evacuations, opium is useful, but great caution should be observed in its administration. Stimulants are often required during the acute stages. In breast-fed infants,

nursing may generally be resumed in twenty-four hours. Cow's milk diet must be determined by the indications in the individual cases.

The Hygienic Treatment of Summer Diarrhœa of Infants.—Henry C. Hazen states that the stools should be examined, and the food modified as indicated. Special care should be given to the feeding of the child as warm weather approaches. The mother's health should be looked after. If the child is bottle-fed, the milk supply should be investigated, and the mother should be shown how to sterilize and keep sterile the milk. Bottled milk is far preferable to that kept in bulk. The utmost care must be exercised in keeping the bottles, nipples, and all utensils used in the preparation of the food, clean. The nipple should fit over the neck of the bottle. After use, the nipple and bottle should be soaked in water and then boiled in a solution of bicarbonate of sodium. Food should be given at regular intervals. Frequent drinks of cool boiled water should be given. All the surroundings of the child should conform to the rules of hygiene. Absolute quiet is essential for the sick child. The little patient should be placed on a comfortable mattress, with no superfluous covering. It should be dressed in a light, white, loosely woven, woollen shirt, a loose, light robe, and diaper. Socks are not advisable. A tub bath or sponge, with good soap, should be given daily, both for cleanliness and to aid diaphoresis.

The Diseases of Nutrition in Infants.—T. M. Rotch enumerates the following as diseases characteristic of infancy, infantile atrophy, infantile scorbutus, rachitis, and osteomalacia. The etiology of this entire group is very obscure. Classified under one head, they clearly present a picture of a vice of nutrition. The prognosis of all those diseases which have a definitely determined etiology is much graver when the infant is suffering from one of these general disturbances of nutrition. These diseases are closely associated with improper food and hygiene, and their therapeutic management should demand especial study and care in the feeding during the early months and years of life. The field for purely dietetic treatment is a vast one, and will be the means of easily saving thousands of lives which are now only thrown away. As to osteomalacia, it resembles rachitis, and its treatment is the same—essentially dietetic and hygienic.

New York Medical Journal, July 13, 1901.

The Home Treatment of Pulmonary Tuberculosis.—R. H. Babcock says that the main essentials of treatment under any circumstances are an abundance of good food and sojourn in the open air. To these may be added a judicious application of hydrotherapy. With persons even in moderate circumstances these requisites can be obtained at home and often much better secured there than at some of the vaunted health re orts, The main thing to insist upon is the stay in the open air. Nearly every house has a sheltered porch which can be utilized for this purpose. The porch is screened off by canvas curtains; or a rough shed or suitable tent may be erected in the yard, so that by lowering the curtains on the side toward the wind or rain, the patient may be protected. At the same time he is to be provided with wraps and blankets with which to cover himself in case he feels chilly. If he is so feeble that he is confined to his couch, an attendant should be at hand, who may cover him up, produce friction of the extremities, or supply hot bottles if necessary. For, in carrying out this open-air treatment successfully, it is absolutely necessary to protect the invalid against taking cold. Even in our severe climate it is possible, by selecting a porch or constructing a shed on the south side of the house, and by putting a small stove nearby, to keep a patient in the open air during most of our winter days. If the individual sleeps in his bedroom in the house, then this should be the largest and sunniest apartment and its windows should be kept open all day. Even at night, at least one window is to be open, and by means of a stove or fireplace and screens the patient can be kept comfortably warm.

The Influence of Mouth-Breathing upon the Dental Arch.—M. D. Lederman says that, though the alveolar process is the thickest part of the maxillary bone, it is also the most spongy portion, and one can readily appreciate the possible untoward results that faultily directed atmospheric and muscular pressure might produce. Such pressure would, no doubt, disturb the position of the advancing teeth, as comparatively slight forces may deflect the course of an eruptive tooth. The temporary teeth seldom deviate from their proper position in the alveolar arch, but irregularity of arrangement in the permanent set is not an uncommon occurrence. The most common forms of such displacement are caused by the presence of temporary teeth beyond the proper time of shedding, owing to some disturbance in the process of absorption. This condition is frequently secondary to some defect in the general system, and the evil influences of mouth-breathing due to nasal and post-nasal growths are so common in early life, that attention to the local affection is emphatically indicated. Retarded oxidation with its consequences so often exists under such circumstances that we should certainly appreciate the necessity of getting rid of the pathological factor. The obvious lesson therefore is to attend to the matter of free and unimpeded nasal respiration. If this can be brought about, the development of the dental arch will proceed along normal lines.

The Boston Medical and Surgical Journal, July 11, 1901.

Albuminuric Retinitis and Uræmic Amaurosis, with Especial Reference to Their Occurrence in Pregnancy.—Edmund D. Clap considers these troubles rare in pregnancy, but very important when they do occur. The prognosis of uræmic amaurosis as to sight is favorable for the first attack, and less and less so for each succeeding attack, but the importance of this is usually overshadowed by the uræmic condition present. The prognosis of albuminuric retinitis as to sight is favorable for the first attack, if occurring after the sixth month, but grows worse if it recurs in succeeding pregnancies. Prognosis for sight is bad before the sixth month. In retinitis albuminurica occurring early, abortion should be considered if the retinitis is of a severe type, especially if hemorrhagic, or if a slight retinitis progresses under treatment, for in these cases the life of the child is uncertain anyway, and the mother runs grave risks of eclampsia if the pregnancy goes on to term. In retinitis coming on after the sixth month, it is best to wait and watch carefully, especially in a first attack, and not to induce labor unless some other albuminuric symptom demands it.

Congenital Pelvic Malposition of Left Kidney in a Woman.—John W. Dewis reports a case in which cœliotomy was performed for supposed movable kidney. A congenitally displaced kidney was found, retroperitoneal and lying over the promontory of the sacrum, about two-thirds being in the cavity of the pelvis. The kidney cortex was exposed, and the incision again closed with catgut. Malposition does not seem to interfere with the normal function of the kidney, but it does predispose to complications—in this case to abortion. There is little to aid in diagnosis; the kidney is sensitive to touch, and there is usually marked lobulation. When there is any deformity of the pelvic organs, we should expect misplaced kidney. There is no treatment, and the foremost consideration should be the avoidance of complications.

Two Cases of Pregnancy Complicated by Mitral Insufficiency.—Henry D. Chadwick reports two cases in which the patients died, one twenty-one days and the other ten days after delivery. He holds that the only proper treatment of such cases is to watch the patient closely from the beginning, and when lack of compensation is shown by preliminary congestion, as manifested by œdema and persistent cough, it is not only justifiable, but one's duty to his patient to advise and urge upon such an unfortunate mother the necessity of saving her own life by terminating her pregnancy as speedily as possible.

Philadelphia Medical Journal, July 6 and 13, 1901.

The Recognition of Early Symptoms Indicating Dangerous Forms of Insanity.—W. K. Walker quotes the following definition: "An insane person is one who is a menace to himself, to property, or to the peace and safety of others." The statement of Weir Mitchell that "the thinking general practitioner knows that what he has to deal with is not disease, but a disease plus a man," is deeply true of insanity. The study of these cases involves questions of heredity, developmental defect, predisposition or vulnerability, and incidental or exciting causes, such as toxic substances—either chemical poisons (alcohol, lead, etc.), or microbic poisons (syphilis)—and the innumerable influences of environment. In estimating the tendency to dangerous acts, attention should be directed to the emotional element in a patient, as this is so intimately associated with the defective, perverted, or diseased physical state. Ordinary life reveals many predictions of the most serious forms of insanity, as well as variations which show the transitions from the normal to the morbid state. The morbid mental state, whether of long or short duration, is marked by emotions either pleasant and agreeable or unpleasant and painful. Painful mental states are the earliest manifestations of many forms of insanity, and the invariable and characteristic accompaniment of melancholia. The depression or

dejection in this latter state is excessive and out of proportion to its apparent cause." Tendency to sit and brood, apparent apathy, an attitude of dejection, and evidences of apprehension of imaginary dangers are important criteria of the depressive mental states which threaten danger and should prove sufficient warning. "Irritability" is a striking characteristic of epileptics. Epileptic insanity is marked by a tendency to acts of violence. Characteristics distinguishing epilepsy from other forms of insanity are unfounded suspicions and aversions, ideas of persecution with a tendency to fits of passion and especially to irresistible impulsions (homicide, suicide), and finally its co-existence with terrifying hallucinations. In the case of defectives, it should be remembered that they are incapable of a consecutive course of conduct and of doing anything in earnest; they are capable of showing only the less elevated sentiment and affections, and the lower instincts dominate them. They are liable to more or less sudden maniacal or melancholic attacks. Early manifestations of persecutory insanity are few. The manner is cold, harsh, and suspicious; the speech short and surly. Reticence, secretiveness, and cunning become prominent traits. The prevention of mental disease should be the aim of the physician. The patient should be placed beyond the reach of diverting and disturbing circumstances; this treatment should be early.

Dystocia from Coiling or Occlusion of the Umbilical Cord.—Edward P. Davis concludes that in seeking indication for treatment in these cases, the situation of the placenta should be ascertained as nearly as possible before labor in each pregnant woman. A study of the fetal heart sound, the placental bruit, the uterine bruit, and the beating of the mother's aorta will enable the physician to recognize a murmur in the umbilical cord. If this can be plainly heard, it is excellent evidence that the cord is coiled about the child. In the absence of a murmur, tedious labor in which no other cause for delay can be assigned, recession of the presenting part between the pains, ceasing or slowing of fetal movements, and the sensation of pain referred to the body of the uterus, afford strong presumptive evidence that the cord is coiled about the fœtus. In cases of coiling, the patient should be delivered as soon as possible and the use of forceps is justifiable. When the cord murmur is absent, but recession of the presenting part, arterial hemorrhage between the pains, pain in the uterus, uterine inertia, and delayed labor are present, a cord anatomically or practically shortened is present. Forceps is not indicated here. The patient's labor pains should be stimulated, her strength maintained, the child delivered so soon as the head is born, and the placenta removed as soon as possible. When there is a knot or occlusion of the cord by amniotic adhesions, nothing can be done to save the life of the fœtus. In the interests of the mother, the uterus should be made to expel its contents so soon as fetal death is positively diagnosed.

Coxalgia.—E. H. Coover believes that in hip-joint disease the action of cold is to allay inflammation, arrest suppuration, and promote a healthy nutrition. It shortens the stages and lessens the severity of the disease. If cases are taken in time, there will be little or no deformity, and little danger of wasting the strength of the body or of a fatal issue. It is not claimed that cold destroys the bacteria, but that it renders them inactive, thus giving to nature the chance to restore broken-down tissue. This treatment by continued application of cold, must be watched, and the condition of the patient must be carefully considered. If the effect is depressing, the direct application of the ice-cap must be discontinued, and several layers of some fabric or dry paper be interposed between it and the skin. The writer describes several interesting cases in which the continuous application of the ice-cap to the affected part resulted in either great relief or recovery.

Skin Grafting by Means of Freezing, with Reports of Some Cases.—Gaston Torrance describes this method: The area from which the skin graft is to be taken is frozen with ethyl chloride, after which the skin is removed by a sterile razor, and while still frozen is applied at once to the spot to be grafted. During the process of thawing, the graft becomes "glued" to the wound, and is soon closely adherent. A portion of the corium is removed with the epidermis. The grafts are covered with green protective strips, and the part enveloped in a piece of lint covered with boracic ointment. The method is painless, and enables one to cover considerable areas at a sitting, and dispenses with the use of a general anæsthetic

American Medicine, July 13, 1901

Ankylostomiasis in the United States; Report of a Case.—Herman B. Allyn and M. Behrend report this case. The patient was an Italian boy, fifteen years old. He complained of pain in the epigastrium and muscular weakness. Family history was negative. His color was a light tan or greenish yellow hue. The conjunctiva and sclera were blanched, the tongue very pale and covered with a heavy white fur, the teeth spotted with sordes, the mucous membrane of the mouth almost colorless. The pupils were equal and dilated, the legs slightly œdematous; the knee-jerks were absent. The vessels of the neck pulsated strongly. The percussion area of the heart was increased, the impulse increased in area and forcible, and a loud systolic murmur was audible all over the heart and in the cervical vessels. There was much mental hebetude. Examination of the feces showed numerous eggs of the ankylostoma duodenale. Scattered retinal hemorrhages were seen in each eye. The urine showed neither albumin nor sugar. After the administration of thymol the boy steadily improved. The disease occurs especially among those whose habits and occupation bring them in contact with the soil. This point and the existence of a secondary anæmia, chlorotic in type, but especially the discovery of ova of ankylostoma or the parasite itself in the stools, clinch the diagnosis. Practically all the later observers agree that thymol is the most efficient remedy. It should be given after fasting, and should be followed in about two hours by a purgative, preferably castor oil. Sandwith recommends the administration of two grams (thirty grains) of thymol in water at 8 A. M., and two grams at 10 A. M.

Impoverished Blood and Its Relation to Insanity.—J. W. Wherry believes that an impoverished condition of the blood and insanity go hand in hand. The importance of the dietary in acute cases of insanity cannot be overestimated. Nourishment and elimination are two great factors in their treatment. Tonics and aids to digestion and assimilation, with eliminants to remove toxic substances should be employed. The food should be specially selected, specially cooked, and specially served. The taste of the patient should be consulted. A physician should have the constant supervision of the dietary. There should be a wide variety. Nourishment is the one thing needful in these acute cases. The patient should be removed from home environment, and be placed in a hospital where the idea of getting well is predominant.

The Lancet, July 6, 1901.

A Contribution to the Pathogenesis of Cancer.—J. Marnoch reports certain experiments made on guinea pigs, the object of which was to show that epithelium will not grow when taken from its natural site and buried deeply in the tissues, more especially those of mesoblastic origin, or in the various cavities of the body. Incisions were made in the abdominal wall marking out a small ellipse, and thereafter the edges were raised up so as to form flaps and united by sutures over the ellipse, so that the latter came to lie in the subcutaneous tissue under a linear wound. After two weeks the animal was killed and a portion of the abdominal wall covering and including the site of the ellipse was excised and examined. The operation wound was found healed by primary union, and the skin ellipse included beneath it had disappeared; that is, the epidermis had completely gone and what remained appeared to be the corium. Other experiments along the same line gave identical results. The latter are in opposition to those of Kaufmann, who found that buried epidermis continued to live and became converted into a cyst-like tumor. Marnoch believes that when epidermis under varying conditions, is transplanted into or buried beneath a tissue of mesoblastic origin, even though it may continue to live, it does not manifest the properties of a cancerous growth. The author therefore feels bound to conclude that a cancer tumor is not merely epidermis which has found its way deeply into the underlying parts, but that the epithelium entering into the composition of these tumors, must, for some ulterior reason, be endowed with specific properties, not merely of proliferation, but of burrowing into foreign parts. What this particular property depends upon, whether it is parasitical or not, remains as yet, we may say, in great part unsettled. On the one hand, we have the allegations that in the case of the epithelium of the ovary, at any rate, all that is necessary in order to cause it to exhibit the properties of cancer epithelium is to set it free in a cavity such as the peritoneal. On the other hand, we have authors asserting quite as confidently that the disease is a parasitic one, that the parasite can be cultivated artificially, and when that it is introduced into the system of a suitable animal it occasions a tumor at least of epitheliomatous nature. In how far we are to conclude for the one view or the other, or whether the truth may reside in either, is probably in the minds of most pathologists and practical surgeons as yet of the nature of a *questio vexata*. The coincidence of the outbreak of cancerous disease with the scraping of the

ovary and transplantation of its epithelium to the peritoneum seems on the face of it a very remarkable one, and quite possibly it is an experiment which might succeed in one out of a large number of instances, but until this experiment or one allied to it has been repeated successfully most pathologists and surgeons will be inclined to hold the case *sub judice*.

Practical Points in the Treatment of Threatened Asphyxia.—R. L. Bowles devotes this lecture to stertor and the management of the apoplectic and comatose conditions Several varieties of stertor may be recognized: 1. Nasal, arising from approximation of the alæ nasi towards the septum by the in-going air, as in the act of sniffling; 2 Buccal, due to vibrations of the lips and puffings and flappings of the cheeks during inspiration or expiration. 3. Palatine, arising from vibrations of the soft palate, whether the breath passes through the mouth or the nose. 4. Pharyngeal, caused by the lolling back of the base of the tongue into near contact with the posterior wall of the pharynx. 5. Laryngeal; this variety is referable to vibrations of the chordæ vocales, as in croup and whooping cough. 6. Mucous stertor is a term which may be given to the bubbling of air through mucus or fluids in the trachea or larger air tubes.

A series of clinical histories is presented, and from a study of the cases the author draws the following conclusions: 1. That a "laryngeal stertor" may be added to the forms he formerly defined. 2. That the three forms of stertor which have a most important connection with the apoplectic state are the palatine, the pharyngeal, and the mucous stertor. 3. That these three varieties whatever their remote cause, are the immediate result of a local mechanical condition—a condition which may always and at once be changed to the great relief of the patients, and sometimes to their permanent recovery. 4. That it is necessary to keep the patient on one side, that that side should not be changed, and that the paralyzed side should be downwards. 5. That mucus and other fluids gravitate into and fill up the lower lung; and therefore that if the sides be reversed the mucus will find its way into the opposite lung. 6. That the fluid, crossing from the large bronchi of one lung to those of the opposite becomes churned into foam, and causes dangerous obstruction to the respiration. 7. That the lung, by remaining inactive and filled with mucus for a long period is not injured. 8. That these principles apply to all conditions in which blood, mucus, or fluid exists in the lungs, and also to all conditions allied to the apoplectic, whether there be mucus or not.

The Treatment of Glaucoma by the Excision of the Superior Cervical Ganglion of the Sympathetic.—A. L. Whitehead reports one successful case of this nature. The author thinks that the effects of the operation are both immediate and secondary. The immediate effects are relief of pain in the eye, contraction of the pupil when not fixed by adhesions, congestion of the eye, lacrymation, reduction of tension, and unilateral sweating of the head; the secondary effects are progressive reduction of tension, sometimes preceded by a temporary rise, gradual improvement in vision, slight ptosis, and some sinking of the eyeball into the orbit. The lacrymation, congestion, and sweating usually disappear within forty-eight hours. The good results attained in the case reported were attributed to the abolition of the control of the sympathetic over the vascular apparatus and secreting epithelium of the uveal tract, whereby the character and the amount of the intraocular fluid were materially altered.

Preliminary Note on the Direction of the Air Currents in Nasal Respiration —C. A. Parker, from experiments made by inhaling lycopodium and exhaling tobacco smoke, concludes that during quiet respiration in a normal nose, the air traverses the middle, the superior, and probably the fourth meatus, but never the inferior meatus. On this theory, it is difficult to explain how the inferior turbinates functionate in warming, etc., the inspired air. Spurs and deviations of the septum interfere with function only when they are in the way of the entrance of air into the middle meatus. Polypi and enlarged middle turbinates offer considerable hindrance. The same may be said of hypertrophies and growths springing from the nasopharynx. In expiration, however, the air seems to traverse the inferior meatus, and hence conditions encroaching on its lumen will interfere with expiration.

British Medical Journal, July 6, 1901.

An Address on Our Duty to the Consumptive Bread-earner.—J. Burdon Sanderson believes that the bread-earner whose health has been impaired by disease should be enabled to make the best of the strength that remains to him. For this end two things are necessary. The first is to bring within his reach havens of refuge, to which he can betake himself with the assurance that he will find an immediate welcome during the periods of temporary illness to which he is liable. The second is to furnish him with the means of relieving himself from the burden of overwork from the moment that the progress of the disease makes him incapable of sustaining it. He should be sure of prompt admission to the hospital whenever his state requires it. He must have rest, good air, good food, and a resting place away from his home. Sanatoria for the poor are a necessity. In Germany, every workman whose income is less than $500 a year is required by law to insure himself against sickness and old age. The fund thus made may be used to benefit the bread-earner directly, or his relatives who are dependent on him, during the period of his incapacity for work. The time of residence in the sanatorium shall be determined by the judgment of the Medical Superintendent. The patient can then resume, to a certain extent, according to his strength, his tasks as bread-earner. The writer gives the following as essential conditions of success: The choice of suitable sites and the erection and maintenance of suitable buildings. The selection of suitable patients and their prompt admission. The regulation under medical supervision of the time of residence of each invalid. The medical supervision of invalids after their discharge from the sanatorium.

Syphilitic Meningo-Myelitis; Erysipelas; Recovery.—E. F. Trevelyan reports the case of a woman twenty-three years old who contracted syphilis from her husband. Later, paraplegia supervened and soon became complete. There was loss of sensation in the legs, and all the reflexes were slightly exaggerated. There was incontinence of urine, and a large sacral bedsore developed. Later, an attack of facial erysipelas occurred. This was on March 24th. Two injections of antistreptococcus serum were given. On April 3d she could move her toes. Power in the legs began to return, and on July 19th her recovery seemed to be almost complete. The only exception was a slight weakness of the anal sphincter. The diagnosis of an incomplete myelitis, involving the lumbar enlargement and part of the lower dorsal cord, was based on the spastic paralysis, loss of sensation, paralysis of the sphincters, and bedsore. The presence of pains and cramps in the legs showed an involvement of the meninges. The meningo-myelitis was believed to be syphilitic, because there was not only undoubted evidence of past syphilis, but there were still evidences of active syphilis when paralysis supervened. The presence of paralysis combined with rigidity and exaggeration of the reflexes has been noted in spinal syphilis. There was absolute absence of any other effective cause. It is interesting to note that the attack of erysipelas was followed, at least in point of time, by improvement in the paralytic symptoms. It was imagined that the lesions consisted of an inflammation of the pia-arachnoid, probably of a syphilitic nature, and the disease had spread into the cord which it affected in a patchy fashion, and not uniformly.

Position of the Aortic Regurgitant Murmur.—T. Churton states that if a needle is passed through the third left intercostal space, close to the sternum and the upper margin of the fourth cartilage, it will traverse first the pulmonary conus and next the underlying aortic conus. When the aortic *bruit* is caused by regurgitating blood, the walls of the pulmonary conus are in contact; hence there is a continuous solid mass between the aortic conus and the auscultating ear; so the earliest sign of the murmur is usually obtained at or about the fourth left costal cartilage near the sternum. In children, women, and persons with a short chest the *bruit* may be a little higher; in old persons, with greatly enlarged heart, it is lower. Unless the murmur is very loud, it is not as a rule audible in the second space on the right side of the sternum.

The Staining of the Tubercle Bacillus.—Herbert W. G. Macleod describes the following rapid method: Thin slips of white crown glass are used, 76 mm. by 25 mm., and circular cover glasses (16 mm. = $\frac{5}{8}$ line). On a slip cleared of all grease by ether and rectified spirit, three films are spread and "fixed." Two or three drops or carbolfuchsin are placed on each film by means of a pipette. The fluid is allowed to steam over the flame for five minutes, without boiling, fresh stain being dropped on as necessary. The slide is then washed and decolorized by dipping it into 25 per cent. nitric or sulphuric acid. A spot of Loeffler's methylene blue is placed on each film, the slide is gently warmed for a few seconds and then washed. The bacilli are usually stained perfectly. This method has proved rapid and effective.

The Duration of Dreams.—G. B. Flux reports the case of a sailor to whom he administered nitrous oxide gas for the purpose of tooth extraction. While anesthetized the patient dreamed of a shipwreck, through which he had passed, in all its details. The dream could not have lasted more than ten seconds, while his experiences during the wreck covered a period of three and three-quarter hours.

Berliner Klinische Wochenschrift, June 24, 1901.

The Treatment of Obesity.—E. Stadelmann discusses the methods for reducing fat named after Harvey-Banting, Ebstein, Oertel, and Schweninger. The first of these consists mainly in the use of large quantities of meat and moderate amounts of carbohydrates, while fat is forbidden. The theory of the cure depends on the exclusion of all fat, but this desideratum is impossible to attain, for even lean meat contains enough fat to vitiate the results, while the method is open to the further objection that the heavy meat diet is likely to cause troublesome gastro-intestinal disturbances. Ebstein allows albuminous and fatty foods, but cuts down the carbohydrates, which measure is much better borne by the organism, but in many cases the method as described by its originator is not drastic enough, and the daily total has to be decreased to a much greater degree. Oertel, whose experience was mainly gained among the beer drinkers of Munich, cuts down the fluids, while Schweninger's cure is essentially the same, though exploited by methods non-professional. The author's views, which, illustrated by the report of a case in which a woman's weight was, in the space of a year, reduced from 319 pounds to 183 pounds without discomfort, are that every obesity cure must be a period of under-nutrition, and that the method in which this is attained is a matter of indifference. Great individualization is necessary, and the habits and desires of the patient must be largely consulted, and the relative proportions of food stuffs allowed governed accordingly. Every such treatment is a serious matter, to be carried out only under constant medical supervision, though, excepting exercise and massage, the accessory therapeutic measures have but little value; the use of thyroid extract is especially to be condemned, since it carries with it very serious risks and the same results may be reached by other means.

Vegetarian Diet.—Albu says that the older belief that an exclusively vegetarian diet is insufficient, owing to its poverty in albumin, is no longer tenable. He gives the results of three investigations, of which one is original, proving that vegetable proteids may entirely replace the animal albumins without interfering with metabolism. As a regular régime for the healthy, however, a purely vegetable diet is too inconvenient, owing to the large amounts that must be consumed, the quantity of undigested residue, the monotony, etc., ever to enjoy more than a limited popularity, but in many forms of disease it may advantageously be adopted. Neurasthenia and neuralgia are especially benefited, and many forms of gastric neurosis do well under it, as also membranous colitis and chronic constipation. Obesity, cardiac and kidney disease, exophthalmic goitre, and many skin affections are all favorably affected. Contraindications are anatomical disease of the stomach or intestinal tract, gastric atony and all conditions of malnutrition; many persons also exhibit an idiosyncrasy which makes them bear the change badly, and in such cases it should not be persisted in.

Albuminous Decomposition in Pernicious Anæmia, Especially that Due to the Bothriocephalus Latus.—E. Rosenqvist urges the toxic nature of cryptogenic pernicious anæmias, and supports this view by a study of the anæmia due to the bothriocephalus latus. In every case in which the presence of this parasite causes blood changes at certain times there is increased albuminous decomposition, due to some poison secreted by the worm. This is not always demonstrable, however, for, in spite of the presence of the parasite, there may be periods of distinct nitrogen retention. A comparison of the results obtained by a study of this form of pernicious anæmia with those attending the disease when due to other causes leads to the conclusion that in regard to albuminous metabolism no difference exists between them.

Muenchener Medicinische Wochenschrift, June 25, 1901.

Fat Embolism in a Tuberculous Lung Following Rupture of the Liver.—H. Engel reports a case of fat embolism noteworthy for its peculiar origin. The patient was a middle-aged man with well advanced pulmonary tuberculosis, who while walking slipped and to save himself from falling very forcibly rotated his body to the right. He experienced no immediate bad results and was able to walk home unassisted, but the next morning, after a restless night, increasing dyspnœa and general thoracic pain impelled him to call a physician. The physical signs pointed to œdema of the lungs, but in spite of medication the patient's condition became steadily worse, with increasing cyanosis and failing heart action. Death occurred the same afternoon, without previous loss of consciousness. On autopsy the right lobe of the liver showed a fresh tear on its upper surface four inches long and microscopical preparations of the lung gave the typical picture of fat embolism. Serial sections of the liver showed the cells nearest the rupture to be nearly devoid of fat droplets, except a narrow circle around the edge of the cell; larger globules of fat were free between the cells. As the sections proceeded further from the injured area less fat was found between the cells and more in their interior, the large part of the organ consisting wholly of cells completely filled with fat droplets. This observation makes it probable that the great compression, with the subsequent abrupt cessation of tension, which resulted from the trauma, caused the contained fat to be released from the cells and enabled it to enter the circulation, while the advanced pulmonary lesion no doubt contributed largely to the fatal ending, owing to the comparatively small amount of lung tissue that was left available for respiration.

The Treatment of Leg Ulcers.—Walbaum describes a dressing said to cure even large and obstinate ulcers in three weeks. After the usual thorough cleansing, wet dressings of aluminum acetate are applied until the secretion has been somewhat checked and has lost its odor, which usually takes two or three days. A compress, wet with spirit of camphor (the camphor wine of the G. P.), is then applied and covered with rubber protective, which, in turn, is surrounded with absorbent cotton and a bandage. In order to provide sufficient ventilation and prevent irritation, the rubber dam must not project far enough to touch the skin. The dressing is cheap, painless, and convenient, since it needs renewal only every second day, while the results are excellent.

Is There an Isolated Paralysis of the Cricothyroid?—W. Lublinski answers this in the affirmative, and says that he has observed it four times in each of which it was unilateral. In three of these cases diphtheria was the immediate or more remote cause and the lesion was accompanied by both motor and sensory disturbances. In one case, that of a public singer, the lesion was speedily complicated by a paralysis of the corresponding thyro-arytenoid, owing to the patient continuing her exacting employment. The ease with which this secondary lesion is brought in probably accounts for the rarity of reported cases of isolated cricothyroid palsy.

French Journals.

The Puncture of the Sacral Canal and the Epidural Method.—Fernand Cathelin states that the puncture of the sacral canal is extremely simple to perform in man. The patient is placed on the bed in a squatting position, which has the advantage of causing the liquid to diffuse rapidly, and of allowing the puncture to be made well towards the median line; or the patient may assume a laterally inclined position in order to stretch the inferior sacral ligament. The rules of asepsis must be observed in preparing the region for operation. The needle to be used is a special one, six cm. long, with a diameter of seven-tenths of a millimeter. The operator places himself on the left of the patient and places the left index finger on the two sacral cornua, or rather on the last two posterior internal sacral tubercles which are under the skin, and which are easily felt even in lean subjects, one or two cm. above the gluteal groove; these tubercles limit the lateral and inferior part of the sacral V or U, the large inferior hiatus of the sacral canal, closed by a ligamentous membrane. Between those two bony prominences, underneath the last median tubercle of the sacral crest, the finger falls into a triangular depression, always very marked, towards the summit of which the needle is obliquely introduced and directed toward the anterior wall of the canal, and the operator has a distinct sensation in perforating the ligament such as is felt in bursting the head of a drum. The finger is then raised, and after gently elevating the point of the needle it is inserted straight in a median plane—to avoid injuring the coccygeal nerves and their ganglia—to a depth of about three to five cm. There is no difficulty in the insertion. There are several advantages in this method anatomically, the injections remain exclusively vertebral, physiologically, the great advantage from this standpoint is that the injections act on an immense vascular surface, practically, a great advantage of sacral puncture is its simplicity and harmlessness; besides, it is absolutely painless. The writer advocates this method only for medical cases. Indications for its use are cases of severe neuralgia of

the lower extremities, sciatica, lumbago, severe pain of tabes, intercostal, neuralgia, and gastric crises. It may be tried in painful, inoperable cancers of the rectum, in hemorrhoidal fissures, in painful labor, and in painful articular affections of the lower extremities. It may be tried for the injection of most of the soluble medicinal substances administered by mouth, by rectum, or subcutaneously. The epidural injection is less complicated than the direct intra-venous method; its effect is as great, it is less dangerous, and does not cause the nodules sometimes so painful after the subcutaneous injection long time repeated.—*La Presse Médicale*, June 15, 1901.

Phototherapy, Physiopathological and Clinical Studies of the Electric Light Baths.—Ch. Colombo describes one of the first effects of this light bath to be augmentation of the number of pulsations and respirations. They are both fuller and the respirations are more profound. After the bath, besides the copious perspiration, an erythematous condition of the skin has been noted, which begins immediately after the lamps begin to burn. Loss of flesh has occurred in all the cases of obesity, especially after prolonged treatment. Very advantageous results have been obtained in certain articular affections, such as inflammatory and traumatic anchyloses. Gymnastic exercises and massage are rendered more efficacious by being combined with this treatment. Remarkable results have been obtained in all forms of the vague neuralgias from which patients with the uric diathesis suffer. In certain forms of anæmia and of neurasthenia the results have been very satisfactory. Flesh has increased as well as muscular force and strength of digestion. The writer believes that this treatment is destined to play a grand part in therapeutics. It is superior to every other therapeutic agent employed as a diaphoretic, for the great rapidity with which it provokes profuse perspiration—three to ten minutes. Its great advantage is the very stimulating action which it has on all the functions of the organism. This is not caused by the temperature, but by the chemical power of the ultra-violet rays given off by the electric lamps.—*Revue Internationale de Thérapie Physique*, May 1, 1901.

Gaseous Cysts of the Intestine; Narrowing of the Pylorus.—Jaboulay declares that this affection is very rare in man, and it consists in collections of gas in the peritoneum. Gaseous infection of the intestine and of the peritoneum is not well understood in man. The gaseous cysts of the intestine, the evolution of which is slow and torpid, appear to depend upon an attenuated microbic infection. This infection is capable of causing peritonitis and occlusion. The prognosis of this malady must be reserved and the possibility of the increase of virulency of the micro-organism must be considered. This curious affection shows itself by very severe pain on pressure over the pyloric region, by an induration at this point which is strewn with gaseous cysts, and by great distension of the stomach caused as much by the reaction of the peritoneum as by the slight tenosis of the pylorus. These symptoms are in reality the classical ones of narrowing of the pylorus, but the spontaneous suffering is less intense, while that which is provoked is more acute.—*Lyon Médical*, May 26, 1901.

Perinephritic Abscesses.—E. Verstraete states that suppurative perinephritis may be total or partial. There are two periods to be considered in the evolution of a perinephritic abscess: the initial stage, when the diagnosis is necessarily uncertain and the stage when local signs demand a judicious intervention. The initial symptom is pain, lumbar pain, which is increased by effort. The pain, however, may be subacute and allow the patient to attend to his work. There are also, general symptoms which consist of a general weakness and especially of a rise of temperature. The fever may resemble that of malaria. Sometimes the general phenomena are wanting so that, for ten to fifteen days, pain is really the only symptom. The duration of this affection depends on its extent, the date of intervention and the general state of the individual. As to treatment, lumbar incision is not always sufficient, it being necessary sometimes to make secondarily a lateral abdominal incision.—*Journal des Sciences Médicales de Lille*, June 8, 1901.

Three Cases of Abscess of the Liver Treated by Transpleural Incision.—Patel states that it is now conceded that when the existence of a liver abscess is diagnosed it should be opened and drained. The abscess may be anterior or posterior. The transpleural way is rational since it allows approach to the abscess from the convex surface of the liver; it opens a direct passage for the pus, assuring perfect drainage. As compared with costal resections, it is preferable by reason of its rapidity of execution and the absence of secondary thoracic deformities. Pneumothorax and peritonitis are easily avoidable. Only purulent pleurisy cannot be foreseen; it constitutes a grave complication, but it is perhaps common to all the other operations in parts more or less contiguous to the pleura. This complication is not the rule and is less dangerous than peritonitis, which is so fatal and which follows the opening of the abscess on the convex surface of the liver by the abdominal route.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, June 16, 1901.

Vesical Tuberculosis.—A. Hébert in speaking of the symptoms of this affection, mentions pain at the meatus. Desire to urinate is extreme and is frequent both day and night. The position of the patient has no influence on the frequency. Rectal touch reveals alteration of the prostate and of the seminal tesicles, characterized by knobs and sensitiveness to the touch. The treatment ought to be both general and local. The general treatment is that of general tuberculosis, and besides hygienic treatment proper to all such patients, consists especially in the use of arsenic and cresote. Local treatment has for its object the suppression or diminution of the pain of hematuria, an decrease in the frequency of urination. Various solutions are used for the different indications.—*La Revue Médicale*, June 10, 1901.

Agglutination of the Bacterium Coli by Typhoid Serum.—E. Sacquépée concludes that the agglutination of the colon bacillus by typhoid serum is a very frequent phenomenon. One can isolate from the intestine of the same typhoid patient several kinds of colon bacilli variously influenced by the same serum. The relation between the agglutination of the colon bacillus and the degree of typhoidal infection or its complications remains to be precisely determined. The agglutination of the bacillus in typhoid fever seems to betray the infection or intoxication superadded to the organism by the intestinal bacilli.—*La Presse Médicale*, June 8, 1901.

OUR LONDON LETTER.

(From Our Special Correspondent.)

PARLIAMENT—COMMITTEE ON ARMY MEDICAL SERVICE—REPORT OF NATIONAL HOSPITAL INQUIRY—CRUELTY OF ANTI-VIVISECTIONISM—LORD GRIMTHORPE ON FEES—DRUGGISTS' INSTRUCTIONS FOR DOCTORS—DR. WALDO, CORONER—THE RECENT PERSONATION CASE.

LONDON, June 28, 1901.

In the House of Commons, last night, Mr. Brodrick stated, in reply to a question, that he had appointed the Committee of Experts on the Army Medical Service. It includes Mr. Tooth, of St. Bartholomews Hospital; Mr. Makins, of St. Thomas's; Mr. Fripp, of Guys; Sir F. Treves, of the London; Dr. Ogston, Scotland; Lieut. Col. Keogh, Ireland; Dr. Perry, of the Senate of London University; Surgeon-General Hooper, C. S. I., President of the Medical Board of the India office. Major James, of the R. A. M. C. is to act as Secretary and Mr. Brodrick will himself take the chair.

The report of the Committee of Inquiry into the affairs of the National Hospital for the Paralyzed and Epileptic, shows that the greatest pains have been taken to get at the truth. No less than 43 witnesses were examined, most of them experts on hospital management, or those who had experience in this institution. The conclusions of the Committee are given in carefully guarded language. They amount, not only to complete approval of the Medical staff, but to a condemnation of the Board and the Secretary-Director, on every point raised during the controversy. There is to be a meeting of governors and subscribers to receive the report, but if the Board and the Secretary have any self-respect they will resign their offices in advance. A few particulars from the report may interest your readers, especially those connected with hospitals. The Committee find that the Staff were justified in addressing their statement last year to the governors, and they give the results of their inquiry as to diet, nursing, supply of linen, cleanliness and other matters. On the demand of the Staff to be represented on the Board, the judgment of the Committee is that it would be to the great and permanent benefit of the hospital, and they express the belief that if this had been the case the present dispute would never have arisen, or would speedily have been settled. They add that the representation demanded is the smallest concession which is reasonable. They enter into the objections raised by the Board and show them all to be without foundation. They even inquired into the scandalous charge that the sufferings of a patient had been prolonged in the interests of medical science. This abominable slander is shown to be baseless. I suppose those who invented it have lost all sense of shame and will therefore make no apology. The ridiculous assertion that the presence of two members of the Staff on the Board would be "calculated to destroy the religious and philanthropic character of the hospital," is set aside by the Committee, who after considering every objection of the present Board, recommended two members of the Staff to be

added, one of the two to retire each year, but to be eligible for re-election, casual vacancies in these two seats to be filled up by the Medical Committee, which is to elect them at first. As to the Secretary-Director the Committee are clearly of opinion that such an office could never be successful unless under certain conditions which they specify, adding that unfortunately in this case none of those conditions existed. They acknowledge that Mr. Rawlings devoted energy and ability to the hospital, but they find he does not possess the exceptional qualification for the larger duties which the Board put upon him and which he on many occasions was disposed to amplify. But as he acted in the spirit of the instructions he received from the Board, on them rather than on him rests the responsibility of his attitude towards the Staff. An example of that attitude is mentioned: his returning a sealed letter for the Chairman of the Board meeting, as delivering it would be acquiescense in the effacement of his own position. The Committee recommend that the office of General Director, held in conjunction with the Secretaryship, be abolished and that either: (1) The Secretary be entrusted with ordinary secretarial duties and be also the executive officer of the Board, but be restrained from interfering with the Lady Superintendent and Medical Staff, or with persons under their control; or, (2) that a Resident Medical Superintendent be appointed to discharge the duties of Senior House Physician, as the responsible head of the hospital under the Board.

On the question of payments by out-patients, which has been a prominent point in the controversy, while recognizing that there are many weighty arguments against the plan, the Committee think that so far it has not changed the character of out-patients or resulted in any manifest ill-effects.

Other questions as to the constitution and management of the hospital, its structural defects, and the changes desirable receive attention in the Report, and it may be hoped that the governors will insist on the suggested reforms being fully carried out in order to maintain the great position which has been won for the hospital by its Medical Staff.

You are not without experience of the unscrupulous tactics of faddists as a class, but you may possibly hardly have anticipated that any section of them would have attempted to wreck Hospital Sunday. This, however, is the last trick of the anti-vivisectionists. They distributed leaflets at the doors of the churches and chapels urging intending donors to restrict their contributions to hospitals without schools and others free from experimentation. The leaflet, of course recommended the pamphlet of Stephen Coleridge mentioned in a previous letter as a "guide to the charitable."

Canons Fleming and Duckworth both protested energetically against this manœuvre and probably other preachers did the same. One of these clergymen called such fighting "striking below the belt," and the Lord Mayor denounced its "meanness." But this will have no effect on the faddists, and as for Mr. Coleridge his misstatements have often been exposed. The only result is that he seizes on each occasion the opportunity to write to the papers professed explanations which are mere repetitions of his calumnies. This is well illustrated in recent numbers of the *British Medical Journal*, the editor of which has allowed Mr. Coleridge rope enough to hang himself.

The editor having inserted an article on the cruelty of "anti-vivisectionism" Mr. Coleridge has bombarded him week after week with long and angry tirades full of misstatements. These the editor has each time patiently corrected and in doing so has convicted his correspondent of garbling quotations, of appending to an advertisement of his previous "guide" a few words from an adverse review in the *Times* to produce the effect that it was commended, and of other methods of controversy equally discreditable. But the learned advocate of the "anti"-society is only thereby stimulated to further epistolary wrath. He charges the editor, who has been so patient, with breaches of the amenities of debate, pretends that he has been insulted and declares that "to pile mountains of personal abuse on his head will neither silence him nor convince the public that he is wrong." To all this the editor replies by a final endeavor to pin him to facts and to offer him space for anything *new* if he has it to say, but not for "childish reiteration of refuted statements and empty quibbles." This will perhaps be quoted as challenging further explanations, but as nothing "new" is likely to be produced we may be glad to see the closure applied to the repetition of malignant slanders and oft-refuted misstatements.

The manner in which these faddists will trifle with truth may be seen in a side issue to this controversy. At a public meeting Lord Llangaltock, who occupied the chair, declared that Mr. Coleridge had never made a misstatement. Either his Lordship was in complete ignorance of what he was talking about or was making a statement which he knew to be untrue. His motive for his anti-vivisectionism he put forward as his kindly feeling towards living creatures. He was very soon reminded that the newspapers shortly before reported a battue he had held on his estate, involving the prolonged agony of hundreds of wounded pheasants that had escaped immediate death to fall from the sheltering trees in the night as their strength gradually failed. But this is sport, while an experiment on an anæsthetised guinea-pig is "torture."

Lord Grimthorpe is once more on the war path. He never had a good word for Doctors any more than for Bishops, who are his pet aversion. His Lordship has for years been a homœopathist. On one occasion he exerted himself in favor of having a holder to the doctrine of *similia similibus* on the staff of a small hospital of which he was a governor. His present quarrel with doctors arises out of the Birmingham Institute affair, and he denounces in a letter to the *Times*, the iniquity of professional trades-unionism. Perhaps Mr. Chamberlain is responsible for misleading the aged Lord, but surely a lawyer should have satisfied himself that there was some evidence in support of the Colonial Secretary's charge. Dr. Irvine assured the Medical Council that he fully understood their objections were not founded on the low fee. Yet, now Lord Grimthorpe rushes into the *Times* to accuse the Council of trade-unionism on that very ground. Further, he takes the opportunity of denouncing consultants for expecting a fee of two guineas instead of the one guinea common thirty or forty years ago. It certainly scarcely lies in the mouth of a barrister to object to so paltry a fee for a consultation while some of his profession extort twenty to fifty times as much for a brief, and do not return the money when they fail to appear and plead the case.

We are so inundated with instructions what to prescribe from makers of pharmaceutical preparations that it looks as if druggists were to be the thinking machines of the doctors. So many pamphlets and samples have come from your side that some of us began to talk of the dispensing trade becoming Americanized. But progressive English chemists are entering the competition. One firm has this week sent a penny pamphlet to consultants giving directions for the open-air treatment of consumption at home and offering a gratuitous supply of as many copies as they will distribute to their patients.

Talk of counter-prescribing after this! Must we all go to prescribing druggists to learn our profession? The sheer impudence of the thing should open the eyes of physicians to the extent to which they have encouraged tradesmen to prey on the profession.

Dr. F. J. Waldo was on Thursday elected Coroner for the City by the Court of Common Council. He had a distinguished career at Cambridge and has held a high place among sanitarians. He was for several years Medical Officer of Health for Southwark, where he did excellent work. In 1899 he delivered the Milroy Lectures at the College of Physicians, of which I sent you some account at the time. There was keen competition for the Coronership and it speaks well for the City fathers that the three selected candidates were all medical men of mark. All three, too, were barristers as well as doctors.

The conviction of Haddock for personating two students at a preliminary examination of the Dublin Conjoint Colleges has been quashed. Only printed copies of the regulations of the Colleges were produced at the trial and they, said the Lord Chief Justice for Ireland, were rightly rejected by Mr. Justice Kenny. Proof thus failing that these regulations were in accordance with the acts the conviction was quashed. It looks as if the prosecuting solicitors must be to blame.

AN IMPROVED TROCAR.

To the Editor of the Medical Record:

Sir: In your issue of July 6th, Dr. Carl Struch, of Chicago, describes and illustrates an improved trocar. I have been using this trocar for some time and find it a most excellent instrument. It was described and pictured, much as Dr. Struch describes and pictures it, in the *Deutsche Medicinische Wochenschrift* about eight months ago. I had never seen such a trocar, but a surgical instrument maker of this city informs me that his predecessor had made them thirty years ago and that old editions of the catalogue of a German surgical-instrument maker contained cuts of the improved trocar. The improvement therefore dates quite far back and it is really astonishing that it should not long ere this have been adopted more generally.

T. W. Koehler, M. D.

Louisville, July 8, 1901.

Clinical Department.

CLINICAL NOTES AND COMMENTS.*

CASES OF TRACHEOTOMY—CASES OF INTERNAL HEMORRHAGE—OPERATING UNDER DIFFICULTIES.

By WM. W. GOLDEN, M. D.,
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MR. PRESIDENT AND GENTLEMEN: I hope that the following few cases taken at random from my past year's work will prove of interest to you.

Tracheotomy—It was but a few days after my return from my last session at Morgantown when I received a telegram, which read as follows: "Come to see a very sick child." The patient was sixty miles away from Elkins, and was to be reached by very inferior railway facilities, such as are known only to those of us residing in the most mountainous regions of our State, affording but one chance in twenty-four hours for a round trip, and, while it consumes the hours from 7 A. M. to 8 P. M. to make the journey, it gives one hour's time only at the point of destination. Under the circumstances the vagueness of the message meant a very elaborate equipment, from santonin to a tracheotomy tube. On arrival I found the case to be one of extreme laryngeal stenosis in a girl of four. The presence of a few patches on the tonsils and pillars left little doubt as to the nature of the obstruction in the larynx. The family took the greater part of the time at my disposal in deliberating on my suggestion of tracheotomy, and, when consent was finally obtained, there remained only ten minutes for its performance. This, however, proved sufficient. The respiratory relief and general improvement were prompt and decided. The tube was dispensed with after eight days and the wound healed up readily and without any complications. The child has since been in excellent health.

This one and similar cases that have fallen to my lot before and since make me wonder what would have been the fate of these patients if intubation, instead of tracheotomy, was resorted to, in view of the fact that the tube in the former is not infrequently expelled by coughing. Not long ago I had occasion to listen to a paper read by a bright young physician, who, after detailing his experience with two intubations, sweepingly condemned tracheotomy. And this seems to be the prevailing opinion among physicians in cities and large towns. For intubation to be generally the procedure of choice in such communities there are some good reasons; partly because should re-intubation become necessary it is only a question of a few minutes for the physician to reach his patient; partly, too, because the consent of the family is generally obtained much earlier for operation, and hence a failure to give relief on account of tracheal involvement is not so apt to occur; the ease with which the necessary instruments can be procured in those localities is also a consideration. But in country practice tracheotomy, generally speaking, is not only the most advisable, but at times becomes the only available means for the relief of laryngeal stenosis. Those who are fond of pointing to the high mortality of tracheotomy in past generations forget that surgical statistics of the pre-Listerian era are useless as a guide in the present age of clean surgery. This consideration applies with particular force to tracheotomy performed for the relief of membranous laryngitis on account of the extremely filthy condition of the field of operation, which was generally to be found in these cases as result of poulticing and salving. When performed with due regard to surgical technique and cleanliness, an unfavorable result traceable to the tracheotomy should be a very rare accident. This reminds me of a very ingenious instrument devised by Dr. F. L. Hupp, of Wheeling, and described and illustrated in the MEDICAL RECORD of July 27, 1895, for the purpose of facilitating the introduction of the cannula. I have never used it, but always wish I had it at hand when the trying moment comes for the passing of the cannula through the incised trachea.

To my mind, intubation has superseded tracheotomy to no greater extent than has, for example, the practice of asepsis that of antisepsis. The indications in each case and the surroundings are to be considered, a routine adherence to either procedure being irrational. In connection with the claim often made that tracheotomy frequently causes pneumonia to develop, I pass around the photograph of a lad of six, whom I tracheotomized when he was two years of age on account of laryngeal diphtheria, complicated by a very severe pneumonia. The decided improvement which took place in his pulmonary condition soon after the operation, impressed me with the belief that tracheotomy should not figure in the etiology of pneumonia. It is noteworthy that the same charge has been made against antitoxin. The explanation for it is doubtless to be found in the fact that anything which prolongs life in cases of severe diphtheria makes the appearance of the late and natural complications and sequelæ of this disease possible, and pneumonia is one of them.

I feel that the account of my experience in the above case is quite incomplete without a reference to antitoxin. Did I use antitoxin in this case? Unfortunately for the statistics of antitoxin I found the vial broken, when its wooden casing was opened. I must add, however, that I am still adhering to the views I expressed to you on this subject two years ago in my paper on "New Remedies." Only a few days ago I had occasion to regret that it had not been used in the case of a child in the family of a fellow-practitioner. I was called in to relieve the child from imminent death, as a result of membranous obstruction in the larynx. This tracheotomy speedily and well accomplished. My suggestion to use antitoxin was not followed and the child died fifteen hours after the operation from cardiac paralysis.

Internal Hemorrhage.—Early one morning last September I was awakened to find a case of alarming pulmonary hæmorrhage at my office door. The case was that of a young man, who had apparently been in good health up to that time, except for a cough, which had been annoying him for about two months. The bleeding commenced about midnight while the patient was lying quietly in bed, and he at once left his home for my office, covering the distance of seventeen miles by fast driving. The bleeding was so profuse that I was compelled to keep the patient at my office for five hours before I dared remove him to a hotel. About noon all traces of blood disappeared from his sputum. The bleeding returned, however, the next morning with even greater profuseness, so that death from drowning through the rapid accumulation of blood in his lungs seemed inevitable for a while. He slowly rallied, however, after the cessation of the bleeding, which occurred at noon that day. The next morning another attack followed, fully as alarming as the preceding one. When the man rallied from this last attack, it became evident that his survival of one more attack, should it occur, would be almost a physiological impossibility. It is perhaps needless to mention that all the usual remedies of any hæmostatic value were freely made use of during those three days; but something more effectual

* Read before the Medical Society of the State of West Virginia, at Grafton, May 23, 1901.

was needed. I therefore decided to test the claims made in recent years for gelatin. About eight ounces of a one per cent. solution of gelatin in a decinormal salt solution was injected subcutaneously in the afternoon of that day. The hemorrhage never returned after that injection. My patient died, however, one week later from general miliary tuberculosis.

The effective and lasting hæmostasis secured in this case, apparently by the action of gelatin induced me to make it a first resort in the next case of severe internal hemorrhage. It was one of intestinal hemorrhage toward the end of the fourth week of typhoid fever. There were no evidences of bleeding after the gelatin injections were commenced. In this case the remedy was also administered by the mouth. Of course, the usual remedies were not omitted, and, in addition, two three-grain powders of suprarenal capsule were chewed up by the patient in accordance with some recent recommendations. The patient died, however, the next day from exhaustion, a result which was fully expected even before the hemorrhage took place.

In 1899 I had the pleasure of calling your attention to the hæmostatic properties claimed for gelatin. A further study of the literature on this subject, together with my own personal observation since, has convinced me that gelatin is destined to rank at the head of the list of remedies for internal hemorrhage. It certainly deserves to be singled out for further trial from the scores of new remedies thrust upon us every day. The method of using it does not differ from that employed in the ordinary subcutaneous injection of a simple salt solution, with the exception that a little more time should be taken in doing it. The soreness provoked by it in the injected area is not great and can be entirely relieved by the application of cold. In an early issue this year of the *Münchener Medizinische Wochenschrift* the statement was made by Dr. Gossner that in sterilizing gelatin solutions the temperature should not exceed 100° C., and that they should be subjected to that temperature at intervals of a day or two. From a private communication from Dr. T. B. Futcher, of the Johns Hopkins Hospital, I learn that in that institution they do subject the gelatin solutions to temperatures much higher and under pressure. He writes, in part: "Temperatures above 100° C., do not seem to injure the action of gelatin, as we found that the injections definitely increased the coagulability of the blood, as determined by the coagulometer of Wright."

Operating Under Difficulties.—On the 26th of last January, I was called to operate in a case of strangulated hernia. After traveling a distance of twelve miles (which was one-third greater than the messenger stated), I found the patient, a young man of about twenty-five, suffering from a very acutely and extensively inflamed right inguinal hernia. It had become strangulated three days before. The physician, who was summoned on the first day advised an immediate operation, after having failed to reduce the hernia by taxis. The family and friends, however, preferred to exhaust their own skill before submitting to the doctor's advice. I am not aware that any sledge hammers had been used by them to drive the hernia back, but certainly all mischief that ignorant hands could do was done. The ignorance and poverty of that family were even denser than the very dense woods that surrounded their little cabin, and as under such circumstances the capacity of a house for filth is generally in inverse proportion to its size, you will readily realize how adverse the surroundings must have been to clean surgery, if I state that the house consisted of two very small rooms, which accommodated, in addition to the one-half dozen of human souls and their legitimate belongings, the dust of two generations. By the time I was ready to commence the operation, darkness had set in. In response to my call for light, the only lamp in the house was brought in, a small affair and without a chimney. Fortunately, by the time I had the partly gangrenous intestine exposed two old lanterns were procured from a neighbor. In spite of the thick incrustations upon the chimneys of these lanterns some dull light did penetrate through them, and by it I succeeded in relieving the constriction, which was found at the internal ring, and secured the intestine to the abdominal wall with the object of forming an artificial anus, hoping to close it at some future date by a secondary operation. To attempt to do anything more at that time, and especially under those circumstances, you will agree with me would have been bad surgery. Outside of the administration of the anæsthetic, which was done by Dr. Holsberry, of Kerens, the entire work devolved upon myself. The climax of annoyance was found in the fact that I was compelled to hug the stove with my back no matter at which part of the room I placed the table used for the operation. As the day was very cold and a warm room was particularly desirable under the circumstances, the stove had to be fired heavily, and this necessitated frequent glances backwards to see if my clothes were not afire.

In ten days my patient was able to be out and came to Elkins. I found the wound entirely closed by first intention. The intestinal fistula was small and by a well-fitting pad was securely occluded. The patient's bowels acted well per vias naturales, and he gained rapidly. In two weeks from the date of the operation, he was able to do ordinary house work. By that time, however, a brother practitioner succeeded in making my patient dissatisfied with the result of the operation on the ground that the wound (meaning the intestinal fistula) should have healed up long ago, and he passed out of my observation. Two months of ill-health as a result of the sudden exposure from an over-heated room to the very cold open air, which was made necessary in order to reach a train for home, was the penalty I paid for this misplaced kindness.

FECAL IMPACTION AS A FACTOR IN THE CAUSATION OF FLOATING KIDNEY, WITH THE REPORT OF A CASE.

By FREDERIC GRIFFITH, M. D.,
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Floating kidney is a well-known surgical condition and, when uncomplicated, the symptoms are plain and the examiner is seldom misled.

A history of constipation, with more or less impaction of feces along the colon, may well be taken into consideration, however, in determining the causes which produce loosened attachments of the kidney, whether the impaction is demonstrable or not.

The following case is notable from the fact that long-continued weighing down of the colon with fecal accumulations was active in the production of the kidney condition, and when it was removed a prompt recovery took place.

V., a Frenchwoman, aged twenty-five years, married, has one child. The woman is a brunette, of medium height, spare build, and wiry frame. She came to me with a request that I produce an abortion upon her. Examining the woman I determined that she was probably in the second month of pregnancy.

Asking her the reasons for her desire to avoid a second childbirth, she stated that it was on account of the miserable condition in which her first pregnancy,

eleven months before, had left her; an instrumental delivery having been necessary. For several months past, she had been in regular attendance at a clinic, for "womb trouble," due, according to the physician in charge, to "improper treatment" when the child was born.

From straining over a washtub upon the seventh or eighth day of the puerperium, she had developed "floating kidney" upon the right side, with typical symptoms, and until the "womb trouble" phase had been presented to her, she had been under treatment for it and was wearing a padded corset, to retain the organ in its place, with but poor results.

Palpation of the right lumbar region in its upper part toward the middle line of the body, demonstrated a movable mass, which was the kidney and something else. The liver could be readily differentiated from it and it was the size of and felt most like a fetal head; pulsation, not transmitted from the aorta, was to be felt.

Believing that I had to deal with a fecal impaction at the junction of the ascending with the transverse colon, as a complication of the kidney condition, I gave the woman daily for three or four days, high, copious bowel irrigations, with olive oil internally in one-ounce doses, two or three times a day; this was followed by a continued treatment for constipation, from which she had suffered since childhood.

The result was most satisfactory, the fecal portion of the mass disappeared and the tumor resolved itself into the kidney outline during the course of a few days, though soreness and dragging pains remained for a longer time, but finally disappeared, and the woman recovered health.

When I met her upon my return from a vacation at the end of the summer, she informed me that the kidney trouble was all right, but that a short time after I had last seen her, she had been taken with bleedings (evidently following attempts at the production of abortion upon herself) which finally necessitated a curettage; though now she was "all well."

A case which has come to my notice very lately is that of a young woman who, while having a loosened right kidney, began to suffer from a stubborn colitis, which defied treatment until the performance of nephrorrhaphy; when, almost at once, the bowel symptoms disappeared. The pressure of the kidney upon the colon had evidently set up a subacute inflammation, and the result of the treat- of the kidney affection proved the intimate connection between the lower bowel and the kidney.

805 Madison Avenue.

ALCOHOL AND IRON IN ANÆMIA.

By T. B. DOWDEN, M.D.,

HOWARD CITY, MICH.

I had a patient, a woman, aged thirty three, whose menses were established at fifteen, who had always been anæmic. She married at twenty-seven and had had two miscarriages and came to me for relief. I tried all ordinary remedies, including all the (insoluble) iron preparations without avail, and finally put her on the following prescription:

℞ Iron filings ..... ʒj.
Good whiskey ..... ℥j.
Water, to make ..... ℥xvj.

A half pint of this was to be drunk every day. All that was required was to take the sixteen ounces every day, and the patient was at liberty to take it in one dose or spread out during the twenty-four hours. Well, she was a faithful patient. At the end of six weeks there was a pinkness in her cheeks. In three months her cheeks were red. When she gave birth to her third effort she had grown strong and nursed the child from a well-developed breast—her chest before had been flat like a board. My object in writing this is, I believe, that a certain amount of alcohol can carry iron to the red blood corpuscles. With plenty of sleep, alcohol and oxygenized iron will put redness in the cheek.

REPEATED PARACENTESIS FOR ASCITES.

By WARREN PERRY, M.D.,

FAIRBURY, NEB.

Mr. G., age sixty-seven, railroad engineer, twenty-eight years, had suffered from cardiac dropsy since 1893. The patient came into my hands in September, 1895. At that time the feet, legs, and abdomen were badly swollen. I put him on

℞ Tr. digitalis ..... ℥ii
Pot. acetatis ..... ʒvi
Buchu nf. fl. ..... ℥iii

ʒi in water four times a day. Pulv. jalap co. ʒi every other night at bed time.

In three weeks he was back on his engine and worked till September, 1897, when I went away for a year. The tinture of digitalis had been increased gradually to twenty drops four times daily, which he was taking when I left. In the latter part of September, 1899, the patient came into my hands for the second time. Not being able to reduce the swelling by internal treatment, I decided to tap him, as his former physician, Dr. Andrews, had already done eight times, and below is the record of times tapped by me and amount of fluid removed at each tapping.

Tapped	Oct.	30, 1899,	gallons	5.
"	Jan.	12, 1900,	"	4.
"	April	13, 1900,	"	3½.
"	May	26, 1900,	"	5.
"	June	27, 1900,	"	4¾.
"	July	22, 1900,	"	4, trifle over.
"	Nov.	5, 1900,	"	3¾.
"	Dec.	10, 1900,	"	4+.
"	Feb.	8, 1901,	"	3½.
"	April	15, 1901,	"	4.
"	May	13, 1901,	"	4, 1 pint.

He is now taking ten drops of tincture of digitalis three times a day, and one drachm of compound jalap powder three times a week. He is up town the next day after tapping, for I cannot keep him in bed over one day.

Temporal Periostitis of Auricular Origin Without Intra-osseous Suppuration.—H. Luc calls attention to a class of cases which may be confounded with intratympanic disease, but which are in reality quite distinct therefrom. The affection appears generally in the course of acute otitis, and is located in the temporal fossa. It is not accompanied by the usual painful manifestations characteristic of mastoid disease. Moreover, its location above and in front of the pinna of the ear is noteworthy. It generally begins as an œdematous swelling, possibly extending to the eyelid, moderately tender on pressure unilateral or bilateral. It may go on to suppuration, or may resolve. The mastoid is not tender to the touch. If suppuration occurs, the pointing of the purulent collection takes place on the upper wall of the auditory canal. Operative incision should be made in this location, and can be effected under cocaine. Pressure on the temporal region will tend to promote free drainage. Strict antisepsis should be observed. The infection undoubtedly comes from the nasopharynx, and finds a point of least resistance in the tissues named.—*Revue hebdomadaire de Laryngologie, etc.*

Society Reports.

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-seventh Annual Meeting, Held at Boston, June 19, 20, and 21, 1901.

DR. GEORGE L. WALTON, OF BOSTON, PRESIDENT, IN THE CHAIR.

First Day—Wednesday, June 19.

President's Address.—The proceedings were opened by the PRESIDENT, who delivered the annual address. After speaking of the steady advance in all branches of neurology and the collateral sciences, he dwelt upon the gradual change in the practical duties of the neurologist as a consultant. His practice is not now limited to the mentally incapacitated, the nervously invalided, and the sufferers from chronic organic disease, but he is consulted by surgeon, general practitioner, and specialist to aid in the solution of problems of varied nature, particularly those affecting motion, sensation, and nutrition, involving other than purely nervous structures.

The "clearing house" function, increasing in all branches of medicine, is becoming the province of the neurologist. It is important for the student proposing to devote himself to this specialty to give the study of other specialties a prominent place in his training. We may be forced eventually to recognize the neuro-pathologist, the clinical investigator and consulting neurologist, and the practising neurologist, though not with well-defined restrictions. Even general practice tends towards subdivision; the general consultant is called not merely to share responsibilities and add weight to opinion, but also for his special proficiency in some branch of general medicine. There is no danger of the family practitioner being driven from the field. The very withdrawal of those with special training and peculiar aptitude leaves a demand to be met by those whose broad interests in humanity and whose disregard of personal comfort lead them to undertake the duties and accept the responsibilities of general practice.

Myeloma of the Spine with Compression of the Cord.—Dr. JOHN JENKS THOMAS, of Boston, reported the case of a man, thirty-nine years of age, who was attacked by severe pain between the shoulders which lasted four or five days. After that he improved but there was more or less pain on movement. Six weeks later he noticed a slight uncertainty in the use of the legs, with numbness in the legs and sensation of constriction about the abdomen. Eight weeks after there was slight diminution of sensation of touch and pain below the eighth rib, and very slight paresis of the legs without increase of reflexes. The spine was freely movable and it was not tender, but there was a slight kyphosis in the upper dorsal region. The symptoms increased, and four months after the onset the patient was confined to the bed with a paraplegia with increased reflexes, loss of sense of pain and temperatur and diminution of tactile sense as far as the fourth r i, and sphincteric disturbances. At operation, a myelo na was found affecting and destroying the lamina and b dy of the fourth dorsal vertebra. The tumor was r oved as far as possible. The wound healed well a the patient regained completely, both strength and sensation in the legs and control of the bladder. The operation was performed six months ago, and there has been no return of the cord symptoms. The interesting features of the case, aside from the rarity of the tumor, were the relief of pressure on the cord by laminectomy, and the presence of dissociation of sensation in consequence of pressure on the cord from without.

Dr. P. C. KNAPP, of Boston, said he had seen the patient whose case had just been reported. The dissociation of sensory disturbances was very well marked. He thought at first that there was a glioma in the cord. Pressure from without had given rise to syringomyelic symptoms in several instances.

Dr. F. W. LANGDON, of Cincinnati, thought that caries of the spine occasionally produced dissociation of sensory symptoms.

Dr. J. J. PUTNAM, of Boston, spoke in favor of operation in cases of tumor of the spinal cord even if the entire tumor could not be removed. He referred to a sarcoma of the cord that had been entirely removed. The patient recovered from the operation and gradually improved. The operation was performed four years ago.

Cervical and Bulbar Tabes with Necropsy.—Drs. WILLIAM G. SPILLER and SOLIS COHEN, of Philadelphia, reported this case. Some of the most important symptoms were: Nocturnal incontinence of urine, beginning in 1872, drooping of the right upper lid, which could be overcome voluntarily; variation in the size of the pupils from time to time, paresis of the facial muscles, difficulty of mastication and deglutition, atrophy of the tongue, disturbance of sensation, especially of temperature and pain; sharp pains in the abdominal region and lower limbs, grayness of the optic nerves, and loss of the reaction of the irides to light and in accommodation. Ataxia was not present and the knee-jerks were preserved. The posterior roots in the lower cervical and upper thoracic region and portions of several cranial nerves were degenerated. A clinical history of the case was published in 1889. Death occurred in 1900. The authors discussed at some length the cervical and bulbar forms of tabes, very few cases of which, with necropsy, are found in literature.

Dr. CHARLES K. MILLS, of Philadelphia, said he had seen this patient several years ago, and was present at the autopsy. The case at the time he was familiar with it seemed to have the features of syringomyelia. He thought the observation was one of great value. He had observed several cases of high tabes, in one of which there was evidence of involvement of the upper part of the cord, and dissociated sensory phenomena. He preferred to call them "cervico-bulbar" cases.

Dr. H. M. THOMAS, of Baltimore, asked Dr. Spiller if articulatory disturbances were more frequently found in this form of tabes.

Dr. GEORGE W. JACOBY, of New York, was surprised to hear the view expressed that these cases were so infrequent. The purely clinical cases were not so unusual. He had had several cases under observation for several years, and had also seen the trigeminus involved in one case, and in another there was involvement of the trigeminus and the eighth nerve as well.

Dr. JOSEPH COLLINS, of New York, was of the same opinion as the last speaker regarding the supposed rarity of this condition. In a study of one hundred cases of tabes he had found five of high tabes. It was unusual to see both the sensory and motor neurons involved. Dr. Spiller's case was like one of bulbar paralysis.

Dr. JOSEPH SAILER, of Philadelphia, mentioned a case of high tabes that had been under his observation. It was accompanied by severe laryngeal crises. He asked if such crises were more frequent in this form of tabes.

Dr. Spiller, in closing the discussion, said that no mention had been made in the history of any articulatory disturbances. They were probably absent. He thought that cases of cervical tabes were not so infrequent as supposed. From his experience, laryngeal crises are not necessarily more frequent in this than in other forms.

Tabes and Progressive Muscular Atrophy.—Dr. JOSEPH COLLINS, of New York, read the clinical and pathological report of a case of this form of disease.

Peripheral Pseudo-Tabes with Exaggerated Reflexes.—Dr. CHARLES K. MILLS, of Philadelphia, reported a case in which the sensory symptoms were those of tabes spinalis, but the knee-jerks and other reflexes, deep and

superficial, were exaggerated. Some hypertonicity was present, as were also bladder symptoms and changes in the iritic reflexes of one side. Autopsy and microscopical examination showed that the spinal roots and spinal cord were not degenerated except that there was limited degeneration of some of the cell bodies of the ventral horns. Marked degeneration was found in the most distal portions of the nerve trunk and in the small nerve bundles within the muscles examined. Some degenerative changes in the muscles were also present. A brief discussion of pseudo-tabes was given, and the fact was pointed out that the case upon which the paper was founded appeared to be unique.

Dr. F. X. Dercum, of Philadelphia, thought that the exaggerated knee-jerk in Dr. Mills' case was an unusual feature. The question of neuro-tabes was a broad one and the disease bore a relation to neurotic atrophy.

Dr. Jacoby had seen the patient (whose case was reported by Dr. Collins) some years ago, and found that the history corresponded with that recorded by him at that time. The clinical diagnosis was at variance with the pathological findings, the ptahological diagnosis being multiple neuritis.

Dr. C. L. Dana, of New York, said that Dr. Collins' case gave a typical clinical picture of progressive muscular atrophy. He considered it a case of progressive muscular atrophy with tabes. The pathological report, however, changed the entire scheme. In such a long standing progressive atrophy, the nerves are ultimately involved. The disease was no doubt primarily in the spinal cord.

Dr. Spiller considered Dr. Collins' case probably one of conjoint systemic disease with muscular atrophy of the spinal type. In Dr. Mills' case, the most interesting thing was the exaggeration of the knee-jerk occurring with neuritis.

Dr. Knapp then presented a patient with tabes and progressive muscular atrophy, and also two brothers twelve and fourteen years of age, respectively, with well advanced muscular dystrophy.

Gunshot Wound of the Spine.—Dr. F. W. Langdon, of Cincinnati, reported a case of gunshot wound producing fracture of the fifth thoracic vertebra, penetration of the spinal canal, and laceration of the dura. At the time of operation the cord was apparently intacts The symptoms following the injury were immediate paraplegia, both motor and sensory, with involvement of the sphincters. All reflexes were abolished excepting the plantar which was flexor in direction and sluggish in quality. At the autopsy on the fifth day, there was found a central clot in the gray matter at the level of the fifth dorsal segment, while the continuity of the white matter was fairly preserved.

Chronic Hemianæsthesia of over Seven Years' Duration from Destruction of the Carrefour Sensitif.—This was the report of a case by Drs. F. X. Dercum and W. G. Spiller, of Philadelphia. The patient was a mulatto who had been under observation at the Philadelphia Hospital with a right-sided hemianæsthesia and right homonymous hemianopsia, persisting over seven years. The symptoms had followed an apoplectic seizure, the resulting motor hemiplegia being slight. The patient finally died of a second apoplexy, the lesion involving the righ side of the brain. At the autopsy, an old cyst was found in the left hemisphere, in the *carrefour sensitif* (posterior third of the posterior limb of the internal capsule). The thalamus was apparently intact, except in so far as it was implicated by secondary degeneration. The motor fibres in the internal capsule were merely slightly implicated. The affected area was studied by serial microscopical sections.

The Separate Localization in the Cortex and Subcortex of the Cerebrum of the Representation of Movements and of Muscular and Cutaneous Sensibility.—This was the title of a paper by Dr. Charles K. Mills, of Philadelphia. He held to the separate localization in the cortex and subcortex of the cerebrum of the representation of movements and of muscular and cutaneous sensibility, not believing that the Rolandic and adjacent regions were sensorimotor, as had been held by Munk, Bastian, Dana, Dejerine, and others. He maintained that the cerebral motor zone included only the precentral, postcentral, and paracentral convolutions, the caudal extremities of the first, second, and third frontal convolutions, and the anterior one-fourth of the superior parietal convolution; and that a separate and extensive sensory zone existed which included the gyrus fornicatus, precuneus, and postparietal convolution, possibly also the hippocampal conovlution, as held by Ferrier. He included the recent work to which he appealed under five heads: (1) Observations on sensory phenomena and especially on astereognosis in connection with cases in which operations guided by localization have been performed; (2) observations on cases in which operation and autopsy have demonstrated the presence of lesions strictly limited to the motor zone or to this zone and the region anterior to it, showing that no objective sensory phenomena were present; (3) clinical observations with autopsies and microscopical investigation showing the existence of the *carrefour sensitif* of Charcot, as in the case of Dercum and Spiller reported at this meeting; (4) the case of Spiller in which was demonstrated the extent of the motor cortex in man from the cortical degeneration present in amyotrophic lateral sclerosis, the region thus mapped out corresponding closely to the motor zone as given by von Monakoff and by the writer; and (5) observations on a case of softening of the superior parietal region in which astereognosis and ataxia were present, but no motor paralysis.

He believed that the cerebral sensory mechanism was compound and even complicated; that we have certain perceptive centres for cutaneous, muscular and other sensations comparable to the well-known visual and auditory perceptive centres; that we have associative centres, perhaps comparable with the speech concept centres, and that we have, third, a higher stereognostic centre, where takes place the final assemblage and arrangement of the stimuli which are to call forth movement by evoking the cells of the true motor or executive region, which is entirely separate even from the stereognostic centre.

Dr. Dercum believed in a definite location for the sensory areas as separated from the motor areas Proof is still wanting, he said, that the motor area is at all sensory. He then described three cases in support of the view that a lesion in the motor region of the cortex does not produce astereognosis.

Dr. George L. Walton of Boston said that no definite conclusions could be drawn from single cases on account of the lack of proportion between the symptoms and the apparent lesion. This was especially true of post-operative cases. In one case removal of a bit of cortex from the Rolandic area was followed by mind-blindness and word-deafness, functions of remote localization. The study of groups of cases, through still baffling, was more satisfactory. His study of such groups would indicate that loss of stereognostic sense is common in Rolandic lesions, and that loss of pain, touch, and temperature senses, as well as stereognostic sense, is likely to occur in lesions including both central and parietal convolutions. It seemed to him most probable, that in the Rolandic region centres existed for aggregation of all varieties of sensory memories registered in their simpler forms more posteriorly. These assembling centres are near the corresponding motor centres, possibly even overlying them, possibly again, they are in the posterior central gyrus.

Dr. Knapp said that Dr. Mills had formerly stated that the sensory centre reached the fissure of Rolando, but now he had receded a half inch. The evidence as to astereognosis is as yet somewhat indefinite. Stereognosis is a cortical function, but we can not yet determine its exact centre, until we have established that the patient had a normal form of tactile sensibility in every other

respect. Dr. Mills had overlooked the developmental and anatomical conditions of the sensory tract and had laid too little stress on the cases of lesion of the Rolandic area in which sensory symptoms were present.

Dr. LANGDON referred to a case of Jacksonian epilepsy in which, after an operation and removal of a very small portion of the cortex from the Rolandic area, there was produced well marked astereognosis.

Dr. WHARTON SINKLER, of Philadelphia, mentioned a case in which a tumor involved the Rolandic area without causing any sensory disturbance. He thought that astereognisis was more frequently associated with disease of the thalamus than with disease of any other part of the brain.

Dr. CHARLES W. BURR, of Philadelphia, expressed the opinion that at the present time the motor cortex of the brain is motor only. That along the fissure of Rolando destruction will produce motor symptoms only, and posterior to that, sensory symptoms. He considered stereognosis an intellectual process and not a special sense. He might change his opinion at any time in regard to sensory localization.

Dr. JAMES H. LLOYD, of Philadelphia, said there were some clinical grounds for supposing there is an area in the cortex for the special function of stereognosis. They tend to prove that it is in the superior parietal lobule.

Dr. COLLINS thought that the sensory area coincided with the motor area. He believed there was no centre for stereognosis, and that there was no single area for this intellectual act.

Dr. H. T. PATRICK, of Chicago, said we should have more facts in regard to this matter before drawing conclusions.

Dr. E. D. FISHER, of New York, mentioned two cases in which there was a very large tumor in the Rolandic area with astereognosis from pressure. In the second case, the hand centre was excised, and this was followed by astereognosis.

Dr. JOSEPH SAILER, of Philadelphia, thought it was always necessary to study the other forms of sensation in the affected extremity, and called attention to the fact that transient astereognosis occurs occasionally in patients with cerebral hæmorrhage.

Dr. G. M. HAMMOND, of New York, agreed with the views expressed by Dr. Mills.

Dr. C. L. DANA, of New York, said that when he first began the study of this subject he believed that the motor centers had distinct definition. Cutaneous and muscular sensation have no such definite localization as was formerly supposed. He referred to a case of tumor in the parietal region without asteregnosis. A piece of the motor cortex was cut out and produced disturbance of sensibility but no astereognosis.

Dr. Mills, in closing the discussion, said it was not true that he had withdrawn from or even greatly modified his original position. Some cases with autopsy had been referred to during the discussion which seemed to show that lesions in the Rolandic area might produce both motor and sensory symptoms. These cases would not bear critical investigation. He believed that a single case thoroughly studied, like that of Dercum and Spiller was of great value. All the recently studied cases in which astereognosis was a feature seemed to him to favor the views which he had presented.

Acute Multiple Neuritis.—This was the title of the paper by Drs. C. W. BURR and D. J. MCCARTHY, of Philadelphia. It comprised the study of a case of multiple neuritis (alcoholic), with incontinence of urine and fæces and death by cardiac failure. The examination of the central and peripheral nervous system revealed besides a parenchymatous degeneration of the vesical nerves, degeneration of the vesical and pelvic plexuses of nerves and of the pneumogastric and phrenic; degeneration of the muscles, selective in character; perivascular sclerosis in the spinal cord; and degeneration extra- and intramedullary of the anterior and posterior roots. Widespread chromatolysis of the ganglion cells of the central nervous system and the intervertebral sensory ganglia was also present.

Dr. COLLINS asked if there was any apparent anæmia in the case described. Dr. Burr replied that the blood had not been examined.

Dr. PATRICK asked if it was common to have paralysis of the bladder and rectum in multiple neuritis, unless there was some complication.

Drs. FISHER and KNAPP said it occurred very rarely in clear cases without complication.

Second Day—Thursday, June 20.

General Paralysis and Symmetrical Gangrene.—This was the title of a paper by Dr. HENRY R. STEDMAN, of Boston. The case reported at length was that of a man thirty-five years of age, who, before coming under observation, had suffered from an obscure trouble largely neurasthenic with general malnutrition. He finally developed depressive delusions and hallucinations which were followed by an apathetic condition with semi-stupor. General paralysis was established by the progress of the case, memory defect increasing and convulsions becoming frequent. He died over a year later from exhaustion. While he was in a low condition physically from refusal of food the radial pulse of the right wrist suddenly stopped, and only a faint wave could be detected in the brachial artery. There was also absence of pulsation in the dorsalis pedis artery and a small black spot of necrosed tissue one-third of an inch in diameter appeared on the tip of the second toe of the right foot. This gradually disappeared. The nails of two of the other toes came off later. Two days after the cessation of the radial pulse, a bluish gangrenous spot appeared on the pulp of the index finger. This gradually spread, and in about two months all the soft tissue of the index finger and thumb were affected with dry gangrene to such an extent as to necessitate amputation. The process of gangrene was attended with much pain. The amputated portions with some healthy tissue were examined, but no evidence was found of arteritis the vessels being entirely healthy. There were no indications at any time of cardiac disease, embolism-thrombosis, arteriosclerosis, or renal disease. From the fact of its occurrence in a case of general paresis, it was possible to assume that syphilitic disease was largely involved in the causation of the gangrene. A series of crayon drawings and photographs of the case were exhibited.

Dr. JACOBY thought that in the case reported, as the symmetrical gangrene occured ten years after syphilitic infection it was the result of endarteritis. The words "after syphilis" should therefore be added to the title of the paper.

Dr. SPILLER mentioned the case of a patient with symptoms of hysteria and Graves' disease. Symmetrical gangrene developed later. He had examined the tissues post-mortem. The central nervous system was normal. The ulnar nerve and the terminal arteries were diseased. He considered it very difficult to determine which was the primary process in this condition.

Dr. DANA spoke of a case of symmetrical gangrene in a man thirty years of age. The thumb, lips, and toes were affected. After five weeks there was considerable improvement, and he was nearly well in two months. As there was a rheumatic history, he was treated with salicylates. Symmetrical gangrene in some cases suggests a rheumatic toxæmia. The speaker had seen several other cases due to infection.

Dr. KNAPP had seen Dr. Stedman's patient and agreed with Dr. Jacoby's view as to its syphilitic origin. He believed in infection as a cause of symmetrical gangrene.

Dr. B. SACHS, of New York, thought we should speak of Raynaud's disease not as a morbid entity, but as a

clinical group. According to his observations, these cases are due to venous and arterial disease. It was remarkable he said, in view of the presence of syphilis, that symmetrical gangrene does not occur more frequently in general paresis.

Dr. HAMMOND exhibited photographs of a patient with general paresis, showing gangrene of the sacral region and extremities as a terminal condition.

Dr. J. J. PUTNAM, of Boston, showed a patient with muscular dystrophy. There were double facial paresis extreme thinning of the chest, and conspicuous involvement of the muscles of the arms and forearms.

Tumors of the Corpus Callosum.—This was the title of a paper by Drs. J. J. PUTNAM and EDWARD R. WILLIAMS of Boston. They had observed three cases. Sections of the brain in two of these cases were exhibited. The symptoms in the first case were those of general pressure together with considerable inflammation of the optic nerve, leading to atrophy which eventually became complete. Pressure symptoms subsided after a time but later returned, causing rapid failure, bodily and mental, and causing also recrudescence of the optic neuritis, in spite of the fact that the nerve was atrophic. Only one or two other cases of this sort are on record. In the second case, the first signs of a tumor consisted in changes of temperament and failure of judgment, suggesting general paresis. Some months later, a difficulty in the use of one hand came on associated with disturbance of speech. Then pressure symptoms showed themselves, for the relief of which a trephining operation was done. Some of these symptoms were relieved, but the patient died two months later. In the third case, the whole course of the symptoms covered only a period of a few weeks, though the size of the tumor showed that it must have been present for a much longer time. Changes in temperament and awkwardness in the use of the legs and the left hand showed themselves first, but soon afterwards the patient became rapidly helpless and half unconscious. It was pointed out, especially in view of the fact that mental symptoms are so prominent and occur so early in these cases, that all the more recent and careful work with regard to the brain, both experimental and thoeretical, indicates that there is no portion of that organ which can be considered exclusively psychical in function, although a small lesion of the frontal lobe will accomplish as much in this respect as a larger lesion of other parts.

Brain Tumor with Unusual Symptoms.—Dr. WHARTON SINKLER, of Philadelphia, reported four cases of brain tumor.

CASE I. The tumor was situated in the fissure of Rolando. Symptoms of melancholia and delusional insanity, existing for at least two or three years, were followed by Jacksonian convulsions at first thought to be hysterical. There was paresis of the left arm and leg, with attacks of clonic spasms in the arm. No sensory phenomena were present. The growth was localized in the right motor area, and was removed by operation. Death occurred a few hours later from hemorrhage and shock. This case emphasized the teaching of Horsley and others that an operation for brain tumor should be made in two stages when there is great vascularity.

CASE II. This was one of recurrent carcinoma a year after removal of the right breast for cancer. Within a few weeks, violent headache occurred, but there were no localizing symptoms. Two weeks later choked disc developed. There were hemianopsia, violent headache and vomiting, with but slight muscular symptoms. The tumor was then localized in the occipital lobe and so found at autopsy.

CASE III. A man, thirty-one years of age, had had attacks of severe headache with vertigo and occasional shooting pain in one arm and leg for a year. Later he began to have attacks in which there were paresis and incoordination of the left arm, with paresis of the face on the same side. There was diplopia from paralysis of the right inferior and right external rectus, but no hemianopsia. It was difficult to reconcile the symptoms on the theory of a single growth, but it was thought probable that there was a growth in the right crus. The patient died suddenly after a convulsive seizure. A tuberculous growth was found in the upper part of the tempero-sphenoidal lobe. Another similar growth was at the base, resting upon the central surface of the pons and left crus.

CASE IV. A man of fifty, who gave no history of syphilis and had apparently been in good health until two months before coming under observation, then became hypochondriacal, morose, and indifferent to business. Soon after he showed signs of dementia, and then became semiconscious, sleeping most of the time and being difficult to arouse. He had no vomiting, complained of no pain, and there was no paralysis of motion or sensation. The deep and cutaneous reflexes were exaggerated. Optic neuritis was present. He died comatose in about ten days. A tumor was found in the right frontal lobe, involving the roof of the right lateral ventricle and the entire corpus callosum, and extending into the left frontal lobe. There was also a small growth in the left occipital lobe.

Tumor of the Brain; Operation; Recovery.—This was the report of a case by Drs. William M. Leszynsky, of New York, and James H. Glass, of Utica. The patient was a man fifty-six years of age, who had for several years complained of localized spasm, affecting the left upper and lower extremities. These attacks were followed by transient paresis of the affected parts. Ultimately, the paresis became progressive and permanent. The diagnosis of a neoplasm was made, its location established, and an early operation advised. An endothelioma was found in the Rolandic area and removed. The patient made a good recovery from the effects of the operation which was performed by Dr. Glass two years ago. He is now following his daily occupation as an accountant, the present condition of partial hemiplegia being the result of the destruction of brain tissue previous to the removal of the growth. A noteworthy feature in the case was the entire absence of headache and vomiting during the course of the disease.

These three papers were discussed together.

Dr. SACHS spoke of the surprising adaptability of the brain to pressure by tumors, and the variability of the mental symptoms. He then referred to an unusual case of brain tumor that ran a course of several years. Complete dementia gradually developed. Later, all the mental symptoms disappeared. The exact location of the tumor seemed to be a matter of doubt. The growth probably originated in the optic chiasm. There was no optic neuritis, but optic atrophy developed, and complete blindness ensued. He thought it would be interesting in all cases of brain tumor, to study the visual fields. In one case, after trephining the parietal region, and attempting the removal of a tumor, the trigeminal pain which had previously existed entirely disappeared.

Dr. KNAPP mentioned two cases of tumor of the corpus callosum. In one case, the patient died with symptoms of meningitis. In the other case, which also proved fatal, there was no real paralysis at first, but, later, severe headache, vomiting, unconsciousness and left hemiplegia developed.

Dr. LLOYD spoke of the symptomatology of tumors, and referred to a case of tumor of the callosum giving rise to a curious symptom which he called "lock spasm." The other symptoms were unilateral. When attempts were made to grasp an object, the tonic spasm in the muscles of the hand became so marked that the patient was unable to relax his grasp for some time. This symptom showed evidence of cortical irritation, and might prove to be of value in diagnosis.

Dr. THEODORE DILLER, of Pittsburg, considered the question of doing these operations for brain tumor in two stages, in order to avoid excessive hemorrhage. He

thought that trephining for the relief of headache was justifiable in some cases.

Dr. SPILLER said that, at operation, tumors growing from the dura were likely to be accompanied by severe hemorrhage. He had noticed that these tumors produced considerable pressure without occasioning severe symptoms. He questioned the advisability of operating on tumors of the cerebellum.

Dr. WILLIAM BROWNING, of Brooklyn, deemed trephining unjustifiable for the relief of headache, as the symptoms returned. He preferred the use of depressant drugs, such as gelseminum, veratrum viride, etc.

Dr. MILLS called attention to the fact that no case of tumor of the callosum has been reported in which the tumor did not involve neighboring parts. It is probable, he thought, that tumors of the callosum give symptoms of a mental character, and also give rise to a peculiar form of ataxia. The method of operation for brain tumor should be changed. There should be no clinic, no lecture, no consultation; the strictest attention should be given to the particular case, and the operation should be finished as soon as possible.

Dr. JACOBY spoke in support of the remarks of the last speaker. He always expected a large amount of hemorrhage in operation for the removal of dural tumors.

Dr. LANGDON knew of four cases of operation for cerebellar tumor in which recovery from the operation had occurred. Three of these operations were done by Horsley and Macewen, and one case occurred in his own practice.

Dr. HAMMOND presented a plaster cast of a tumor originating in the dura and making pressure on the pons and cerebellum. The only symptoms of brain tumor were optic neuritis and vomiting.

Dr. KNAPP exhibited a specimen of tumor involving the corpus striatum.

Cerebellar Tumor.—This was the report of a case by Dr. JOSEPH SAILER, of Philadelphia. Shortly after a severe fall, the patient developed strabismus, vomiting, and a staggering gait. Later, a protrusion appeared below the external occipital protuberance, which pulsated and had a thrill and murmur, and there was an opening in the occipital bone. Vision rapidly deteriorated, and two operations were performed with the hope of evacuating a cyst, or removing a tumor, but they were without result. The child died, and multiple tyromata were found in the vermiform process. The knee-jerks had been lost until shortly before death, when they reappeared. No degeneration was found in the spinal cord.

Tumor of the Cerebellum Associated with Corpora Quadrigeminal Symptoms.—Dr. H. C. Gordinier, of Troy, reported this case, which occurred in a person twenty-one years of age. The illness began with severe frontal headache, gradual loss of vision in both eyes, and projectile vomiting. Soon after, staggering gait, with a tendency to fall to the left side, was noted, and, later, vertigo, feeling of pressure in the head, and intense occipital headache. There were double optic neuritis passing on to atrophy, slow cerebration, gradual loss of memory, choreiform movements, tremor and nystagmus. The focal symptoms were ophthalmoplegia interna, with double incomplete ophthalmoplegia externa, a marked cerebellar gait, coarse intention tremor of the hands, and ataxia of the left leg. Death occurred at the end of one year. The autopsy revealed a neuroglioma originating in the superior worm of the cerebellum, extending into the posterior quadrigeminal bodies, and involving each oculomotor nucleus. The superior cerebellar peduncles were also affected.

Dr. KNAPP thought that, in spite of the hopelessness of the condition and the danger in operating, it was worth while to operate in cases of cerebellar tumor. Out of eighteen cases, of which he had the notes, there were only two in which the knee-jerks were lost, and these were complicated with cord trouble. In all of the others the knee-jerk was exaggerated.

Dr. DERCUM said that the knee-jerk in cerebellar growths is very variable. He had seen it reappear after a prolonged absence.

Dr. BROWNING said that there is one symptom that occasionally occurs to which no reference had been made. That is the intermittent tonic contraction of the muscles of the neck, as originally described by Hughlings Jackson. He had seen this condition marked in one case that had been under his observation.

Dr. FISHER inquired as to the location of the pain in the cases just reported. In one case of which he had knowledge, the general symptoms of tumor were very plain. The pain was intense, and always located in the forehead. This was the only point indicating the possible position of the growth. At operation, nothing was found. A cerebellar tumor was revealed post-mortem.

Dr. Gordinier replied that the pain at the outset was in the frontal region, but later it became entirely and intensely occipital.

Dr. Langdon said that, in the case he had reported previously, the headache was entirely frontal for many weeks, and yet the other symptoms were distinctly cerebellar.

Dr. Sailer said that in a number of cases there was unilateral loss of the reflexes. In his case, the child denied that there was any pain in the head. The knee-jerks did not return immediately after the operation, but about two months later.

The Prognosis of Traumatic Hysteria.—Dr. PEARCE BAILEY, of New York, read a paper with this title, which was based upon the subsequent histories of seven litigated cases. From these cases he concluded that the prognosis of litigated traumatic hysteria is uncertain. Restoration of health is impossible until legal questions are ended. Heredity is often difficult to demonstrate in these cases. The younger the patient the better the prognosis. The previous condition of health is an important factor to be considered. Recovery from hysteria is especially difficult in old persons and in those suffering from chronic diseases. The mental state is the cause of hysterical symptoms, and consequently the determination of the mental condition, together with changes in character, etc., is more important from the point of view of prognosis, than is an enumeration of the purely physical symptoms. The chances of recovery from traumatic hysteria in a previously healthy person, not over thirty-five or forty years of age, are generally very good, but a cure is not absolutely certain. Recovery in these cases means ability to return to work or to resume the same kind of life as was led before the accident. It is probable that, even after such recovery, certain subjective symptoms remain for some time.

Dr. LANGDON reported a case of traumatic hysteria in a man sixty-three years of age. He had been shocked by a fall ten or twelve years before coming under observation. He went about his work after the fall, and there was no question of litigation. He was subject to attacks of astasia-abasia, and there was distinct hemianæsthesia, of which the patient was unconscious.

Dr. S. G. WEBBER, of Boston, thought it would be obtaining information of great value if we could follow up every litigation case and ascertain in how many recovery took place and in how many it did not. He had seen a patient with traumatic hysteria persisting four and a half years after the settlement of the damages. In another case with hemianæsthesia, the symptoms were still present three years after the settlement. He also spoke of a man who was in a bad condition three years after the injury. In this case there was no question of damages. Seven years later, the man still showed signs of hysteria.

Dr. KNAPP thought that, in coming to any conclusion about these cases, one could not depend on hearsay evidence. The evidence that somebody saw the patient going across the street or doing a certain amount of work,

is absolutely worthless unless the physician himself has examined that patient, in order to determine definitely what the symptoms are. Unless it can be proved that there is no longer any hemianæsthesia or any contraction of the visual fields, the patient cannot be pronounced free from the danger of recurrence of hysterical symptoms. The shifting character of the anæsthesia is sometimes pronounced. In a recent case that had been under observation for six years, this condition was present, and the patient ultimately developed all of the signs of disseminated sclerosis. In the speaker's experience, it was only in a comparatively small percentage of cases that he had been able to find complete and persistent disappearance of all the symptoms.

Dr. Riggs had seen a patient sixty years of age who had been hurt in a street-car accident. The peculiar feature in the case was the mental condition which bore a very close resemblance to dementia. He agreed with those who held that these cases should be considered along the line of surgical injuries.

A Medico-legal Case.—Dr. James Hendrie Lloyd, of Philadelphia, reported a case in which there was extensor paralysis of the forearms, in a patient who had been exposed to poisoning by hydrofluoric acid, which exactly resembled that which is caused by lead. The object of the paper was to establish the presumption that the paralysis was in reality a case of lead palsy, in spite of the fact that there was nothing positive in the history of the patient to prove that he had been exposed to lead except the very indefinite history of his having worked in a glass factory and also in a brush factory, in both of which lead is used. The medico-legal interest of the case centered upon the fact that the patient claimed that the palsy was due to exposure to hydrofluoric acid. This acid is used by etchers on glass, and is a highly corrosive poison. It acts directly upon the skin, like other corrosive poisons, such as nitric and sulphuric acids. The man's work was that of an unskilled laborer employed to rinse the glasses after they had been etched. This rinsing was done in a trough of running water, in which the amount of hydrofluoric acid must have been exceedingly small. The question arose whether under such circumstances hydrofluoric acid could act as a poison, and if so, whether it could act by being absorbed without injuring the skin, and could thus cause extensor paralysis of the forearms identically like that which is seen in lead palsy.

Dr. Courtney said that, in the chemical process of etching, the hydrofluoric acid liberates lead.

Dr. Knapp thought that it was important in the diagnosis to determine the presence or absence of lead in the urine. While it was the ordinary rule in lead paralysis that the extensor muscles of the forearms were affected, it was not an invariable rule. He had seen the paralysis attack the legs rather than the feet, and the shoulder muscles rather than the wrist.

Dr. Lloyd said that, under the circumstances in which the acid is used, the man simply had his arms immersed in water, which was flowing all the time, and the lead which would be liberated on the glass, would be so rapidly diluted and carried off that it would be unlikely to be absorbed. Hydrofluoric acid acts as a corrosive poison. Have we a right to suppose it can act by being absorbed through the skin, not injuring the skin, and yet with the result of producing lead poisoning?

A Clinical Classification of Insanity.—Dr. F. X. Dercum, of Philadelphia, insisted upon the importance of the clinical study of insanity, and believed that it offered at present the only intelligible scheme of interpretation. He insisted further upon the necessity of approaching the subject from the standpoint of practical medicine, beginning with the consideration of delirium as it was met with in ordinary practice. He took up in succession the various elemental forms of insanity. These he grouped as follows: 1. Delirium, confusion, stupor. 2. Melancholia, mania, circular insanity (melancholia-mania). 3. Paranoia. 4. Neurasthenic insanities. 5. Dementia.

The considerations presented justified the following conclusions: 1. All of the mental disorders which result from the infections, the intoxications, the diathesis, the visceral diseases, the diseases of the nervous system, pregnancy, the puerperium, and lactation, belong to the symptom-group of delirium-confusion-stupor-dementia. Delirium, confusion and stupor are largely interchangeable terms possessing a certain degree of equivalence, and it must depend largely upon the activity of the morbid process, as well as upon its character as to which of these forms is present in a given case. 2. The melancholia-mania syndrome bears no relation to the various infections, intoxications or visceral diseases. Neither mania nor melancholia ever results from them. They are diseases primarily of the nervous system—*neuroses*, so to speak—and are largely hereditary. 3. The delirium-confusion-stupor syndrome may occur at any age. It usually exists independently, but its forms may occur as complications or episodes in any of the other affections. Melancholia-mania and paranoia are related to definite periods of life.

Dr. Lloyd said it was very evident that there is great dissatisfaction with the present system of classifying insanity. With our present dearth of knowledge of the true insanities, it would be, perhaps, premature to place mania and melancholia in the same group of insanities. Clinically, the two diseases are very distinct. All have seen instances in which mania and melancholia alternate in which one patient will at one time have maniacal symptoms and at another depressive symptoms.

Dr. Knapp said he was glad that Dr. Dercum was approaching the same position that he (Knapp) had advocated, two years ago, before this Society. Certainly many of the cases spoken of as either melancholia or mania might much more properly be placed under the type of confusion, and others would be brought into closer relation with either neurasthenic conditions in some of the cases of mental depression, or true paranoiac conditions. In the main, he agreed with the views expressed by the reader of the paper.

Dr. Mills was not prepared to accept the idea that melancholia and mania must be included under the same clinical group; nevertheless, he regarded the classification as a useful one, especially for students.

Dr. Fisher thought that a classification of insanity on a clinical basis would lead to infinite confusion.

Dr. Dercum, in closing the discussion, said he believed that the clinical classification is the clearest possible classification. As to including mania and melancholia in the same group, when we have these in the same person he did not see how we can escape from the clinical evidence that they are expressions of one and the same disease.

Third Day—Friday, June 21.

Dispensary Treatment of Mental Diseases.—This was the title of a paper by Dr. Walter Channing, of Boston. He recommended several ways of solving the problems of the increase of insanity and how it can best be prevented. These were: 1. Through discussions in medical and lay societies. 2. By instruction by means of didactic and clinical lectures to students. 3. By the investigation and treatment of patients with more or less mental disturbance while living in the general community. To accomplish the third object, a department of mental disease was established at the Boston Dispensary in 1897. Many cases of insanity have been sent to it by the physicians of all the public institutions of Boston. Also cases of neurasthenia, simple depression and alcoholism, defective children, etc. The study of defective children has gradually become an important branch of the work. Their number in the city is considerable. Many go unrecognized, and later develop into imbeciles, tramps and crimi-

nals. The women often become the mothers of illegitimate children. The work of the Mental Department at the Dispensary has shown that there are more unsuspected cases of insanity in the general community than had been supposed. Much time has been spent in the examination of each patient, which in the clinics of the other departments is less possible.

Fear of Insomnia.—Dr. EDWARD COWLES, of Waverly, reported the case of a patient in whom this "phobia" had existed for years, and had impelled him to resort to devices for seclusion at night and for promoting sleep. The nature of obsessions was explained to him, the imperative idea was precisely pointed out, and a proper substitute was suggested, which resulted in immediate correction of the disordered association-process and recovery. The speaker believed that such primary disorders of physiological mental processes were very common in normal subjects,.and were not necessarily manifestations of constitutional neuropathic instability. The subjects of acquired or hereditary neurasthenia were only more susceptible to influences causing such "dissociations." Insistent and imperative ideas in various forms, more frequent and striking, but only further modifications or exaggerations in the workings of fundamental elements, were common to all minds. These affections should not be conceived and classified as essentially neuropathic.

These two papers were discussed together.

Dr. DILLER referred to the case of a man bed-ridden with arthritis deformans, who was a subject of all sorts of obsessions. The counterpane had to be arranged in an exact position, and, at certain times of the day, he would pull out a bit of the wool from a certain portion of it. He read a certain number of hours a certain number of columns, and did everthing in an exact way The obsessions disappeared under moral management in a few weeks.

Dr. J. W. PUTNAM thought that these patients have certain current mental action which is founded upon error, and yet it proceeds logically from incorrect premises. If we give them the correct premises, with the same force of logic, they improve.

Dr. SACHS entirely agreed with Dr. Channing that there is great need of more careful observation of mental cases. He could, however, see no reason whatever for divorcing the mental clinic from the general neurological clinic. In New York it is the custom for physicians to direct patients suffering from mental derangement to the neurological clinic, and if the cases are not as carefully observed as they should be, it is the fault of those in charge of the clinic, or due to lack of time There is danger in creating further subdivision in general medical subjects. We should strive to keep these two departments in close touch with one another. He felt that it would be unwise for all of us to imitate Dr. Channing's example, except in so far as we should pay greater attention to the mental cases that come before us. As to Dr. Cowles' case he could not see that special fear of insomnia is anything else but what we, in old-fashioned term, used to call a hypochondriacal delusion. It seemed to him that some distinction should be made between such a fear as that, and the ordinary obsessions, imperative ideas, etc.

Dr. KNAPP believed that it is very much better that the two departments should be closely associated instead of being separated. He thought there was an unfortunate tendency to regard neurasthenia as a manifestation of a profoundly neurotic conditon, as primarily a psychical disturbance. It is primarily a fatigue neurosis. The morbid fears developing in neurasthenia should not always be regarded as a manifestation of any profound neurotic taint or degeneracy.

Dr. J. J. PUTNAM said that neurologists are under distinct obligation to give more attention to mental disorders than they have hitherto done. The subjects of neurology and psychiatry are gradually drawing together. In Boston, the mental clinic had worked satisfactorily. The conditions referred to by Dr. Cowles were like those which develop in cases of fatigue. We should begin by attacking the psychical defect and the building of fasle conceptions which have gradually arisen, often on very slender bases. He felt quite sure that such a method was far more possible than is ordinarily realized.

Dr. PATRICK did not believe that imperative conceptions, phobias, and the like, were simply manifestations of neurasthenia, He was inclined to think that they approach a pure psychosis and were not manifestations of a fatigue neurosis at all.

Dr. DANA said that the fear of insomnia as described by Dr. Cowles was not exactly of the nature of a fixed idea but came rather in the class of cases of hypochondriasis with this distinct depressing idea dominant. The various types of morbid fears, doubting manias, etc., are more or less closely related. They should not be called neurasthenic insanity. Such manifestations are evidences of degeneration and should be placed under the head of degenerative psychoses. He was in sympathy with Dr. Channing's proposition as to the establishment of a separate mental clinic. He thought that the idea of paying special attention to the mental cases is an excellent one, if for no other reason than that we may in time get the attention of the public and of our millionaires directed to provide more for this class of cases In New York little provision is made for them, and the situation at present is a very discouraging one.

Dr. GUY HINSDALE, of Philadelphia, said that a Dispensary for Mental Diseases had been in operation in Philadelphia for the last five years. There was no difficulty whatever in the conduct of it. It was a great convenience to the members of the neurological clinics.

Dr. H. M. THOMAS felt that a practical division of the neurological from the mental clinic was a very difficult one to make. In connection with the neurological clinic in Baltimore, there were men who had had special training in the examination of such cases.

Dr. Cowles, in closing the discussion, said we must go much deeper than to classify upon the superficial feature of conduct or of concrete facts from which arises this concept of harm to self. To speak of these fears as hypochondria is descriptive, but not satisfactory, as an explanation of the disease.

Dr. Channing said in conclusion that there is no essential reason why a mental department should not be connected with a neurological department. The fact is that the young neurologist is not competent to make a proper examination in a case of mental disease. In establishing a clinic of this sort, we are not separating neurology from psychiatry, but rather in this way we shall eventually bring the two together.

Record of Footprints for Studying the Gait.—Dr. JOSEPH SAILER, of Philadelphia, exhibited some foot-prints made by a new method which consists of smearing the soles of the feet with a mixture of oil and lamp-black, and then having the patient walk on long strips of Manila paper.

Studies with the Ergograph.—Dr. AUGUST HOCH, of Waverly, presented an ergographic method for the finer differentiation of various forms of diminished mental or motor activity. It was found that practice shows itself normally by a rise in pull number while the average pull height remains the same. In a person with mental depression in whom no psycho-motor retardation was noticeable, but only a feeling of inadequacy, this rise in pull number was not present while the average pull height rose The speaker claimed, therefore, that this was a method for demonstrating psycho-motor retardation even when this may be very slight.

Hysterical Paralysis Associated with Black Chromidrosis.—Dr. J. W. PUTNAM, of Buffalo, reported the case of a patient, nineteen years of age, who was in good health until one year ago when she was affected with black chromidrosis for several months. The cheeks

and eyelids were involved. Later a hysterical paralysis of both legs occurred which lasted one week. After several months of treatment he recovered from the chromidrosis.

Dr. DANA asked what sort of stuff she painted her face with.

Dr. Putnam replied that he had expected that question. It was not an artificially produced chromidrosis, as it would become dark in his presence as one sees a person become covered with perspiration, and no person could so apply the substance as to have it cover and surround the individual eyelashes. It could be washed clear by a combination of peroxide of hydrogen with water. He was sure that this was not artificially produced.

Chorea with Embolism of the Central Artery of the Retina.—Dr. H. M. THOMAS, of Baltimore, reported a case and presented a short review of the embolic theory of chorea. The patient was a girl, aged sixteen, with an unimportant family and personal history. She had never had rheumatism. Seven weeks before admission to hospital right hemichorea developed, and sudden blindness of the left eye came on at about the same time. There was a typical picture of embolism of the central retinal artery. The heart was dilated and there was a systolic murmur. The speaker referred to the literature of similar cases, and said that they were comparatively too few in number to justify holding upon them the so-called embolic theory of chorea.

Dr. KNAPP agreed with Dr. Thomas that chorea with embolism was an unusual event. The embolic theory of chorea did not explain the very large precentage of cases in which there was no evidence whatever of either arthritis or endocarditis. A certain proportion of the cases would naturally be regarded as cortical or subcortical, especially if the symptoms were one-sided.

Dr. DANA said that his experience had lead him to disbelieve in the embolic theory of chorea. He considered that chorea, in the first place, is a disease of the cortex of the brain, the infectious process affecting mainly the capillary circulation of the cortex. In old cases of chorea we get secondarily a degeneration of the arteries and changes in the cortical cells.

New Members.—The following were admitted to membership in the Association: Dr. Allan McLane Hamilton, of New York; Dr. Herman H. Hoppe, of Cincinnati; and Dr. Stewart Paton, of Baltimore.

The annual election resulted in the choice of the following officers for 1902:

Election of Officers.—*President*, Dr. Joseph Collins, of New York; *Vice-Presidents*, Drs. H. T. Patrick, of Chicago, and J. T. Eskridge, of Denver; *Council*, Drs. George L. Walton, of Boston, and George W. Jacoby, of New York; *Secretary and Treasurer*, Dr. G. M. Hammond of New York.

Paul Portal.—John Bartlett says that for a knowledge of the actual relation of the placenta prævia to the neck of the womb, the profession is, without a doubt, indebted to Paul Portal, of Paris. He knew the history of cases of placenta prævia and their tendency to death without delivery; he also knew that to "turn and deliver" might rescue the patient from danger. He had learned that, in some cases, hemorrhage ceased spontaneously. Experience had taught him that, in certain cases, the fœtus not being viable, it might be good practice to detach and remove the placenta in advance of the delivery of the child. The following is the chronological order in which the several authors accredited with the early appreciation of the true relation of the after-birth to the uterus in placenta prævia made their observations: Portal, 1664; Schacker, 1709; Petit, 1723; Giffard, 1730; Brunner, 1730; Smellie, 1747; Levret, 1751; Roederer, 1753; Wessel, 1753; Puzos, 1753; Plattner, 1758; Plenk, 1768; Rigby, 1772.—*The Clinical Review.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 13, 1901:

	Cases.	Deaths.
Measles	219	10
Diphtheria / Laryngeal Diphtheria (Croup)	155	25
Scarlet fever	148	25
Smallpox	66	33
Chickenpox	41	
Tuberculosis	267	148
Typhoid fever	24	9
Cerebro-spinal meningitis		4

Self Drugging.—The pernicious habit of self drugging has grown to be a source of untold mischief. It is greatly assisted by the enormous improvements which have been brought about in recent years in pharmaceutical preparations. Thirty or forty years ago medicines were bulky and had to be taken in large doses of generally a nauseating flavor. But now medicines can be taken in small doses and with a minimum of trouble. The columns of the daily press are given up to flaming advertisements, setting forth, in more or less scientific language the various feelings of malaise engendered by hepatic insufficiency and constipation, and the sufferer is assured that if he will take some or other preparation "that tired feeling," or any other of the thousand and one symptoms attributable to dyspepsia or lithemia will vanish like a dream when one awaketh. The advertisements to which we take exception are not quack medicines. They undoubtedly are useful in the condition described under certain circumstances. But the dangerous thing about them is that they induce the public to drug themselves, and, very possibly, to omit to seek treatment for what may not be simply constipation, gout or dyspepsia, but possibly the outcome of malignant disease. This is why we think that such advertisements are in no way right. They are, if not intentionally deceptive, at all events practically so.—*Lancet.*

The Care of Consumptives in the Different Countries of the World.—Of late years no disease has been regarded with so much attention as has consumption. The progress effected in the manner and methods of treatment is well exemplified by the following statistics, compiled by S. W. Hynes, examiner of accounts of institutions in the Department of Finance. From this list it will be gathered that Germany leads the nations with respect to the number of sanatoria for the treatment of tuberculosis, established within a comparatively recent period. "In Germany there have been established, in the last few years, nearly one hundred sanatoria for the treatment of consumptives, with a combined capacity of five thousand. These have been established partly through the government, partly through private charity, and largely through the life insurance companies. In Germany the life insurance companies find it profitable to send their insured who have tuberculosis to sanatoria for treatment, because of what they can save in the payment of insurance money with those who get well, and the deferment of such payment with those whose lives are prolonged. They also profit by the prevention of the spread of the disease. In England, prior to the prevention movement on behalf of the consumptives, there were already hospital accommodations to the extent of about two thousand beds. Since this movement began many new sanatoriums have been opened, and the old ones have been improved. England has probably three thousand beds for consumptives at the present time. In France about two thousand eight hundred beds for tuberculous subjects existed when the present movement be-

gan, and sanatoria either have been or are being built since then at Lyons, Paris, Orleans, Bordeaux, Nancy, Lille, Havre, Canet, and Cimiez. The French Government is about completing a sanatorium at Agincourt, at an outlay of over a million francs.

"In Russia, under the leadership of the Czar, five sanatoriums have already been established, and a number are under way. In Italy sanatoriums are being established at Arignano, Padua, Umbria, Naples, Messina, Tarent, Cadore, and Milan. A law has also been passed requiring existing hospitals to set aside wards for the treatment of consumptives. In Norway, since 1897, three sanatoriums have been established, and two are under way, all under the government. A number of private sanatoriums have also been opened. In Denmark a hospital for consumptives, with ninety-four beds, was opened in 1900 for the use of the entire country, and another with 110 beds for the use of the city of Copenhagen only. In Sweden a large sanatorium for consumptives is at present being built as a jubilee memorial. In Switzerland there are already seven sanatoriums for poor consumptives, and a number of others have been projected. In Austria a sanatorium has been established at Alland, and similar institutions are projected in Bohemia, at Machren and at Stiermarck. In Hungary a sanatorium for consumptives is at present being erected as a memorial to the late Queen Elizabeth. In Poland three sanatoriums for consumptives have recently been erected. In Spain, under the leadership of the royal family, a large national sanatorium for consumptives has been opened at Porta Coli. In Portugal Queen Amelia has recently given 20,000,000 reis for the establishment of a tuberculous hospital. In Holland, the young Queen, within a year, has given a large sum of money for the establishment of a sanatorium for consumptives. In Canada, there are as yet but two sanatoriums for consumptives, with a combined capacity of seventy-five beds. In the United States the National Government has established sanatoriums in New Mexico for the treatment of tuberculous marine-hospital patients and for consumptives of the army. The State of New York has at present ten sanatoriums for consumptives under private management, and one projected sanatorium, to be supported by the State. They have an aggregate of six hundred beds. Of the above-named ten, three are situated in the City of New York." The Board of Estimate and Apportionment appropriated for these three institutions, in 1901, $70,000.

Safety in Numbers.—*The Lancet* of June 29th treats of the census just taken of the United Kingdom, making the base of discussion the rush of people to towns and the preponderance of the female over the male sex. Our contemporary's shrewd comments run as follows: "For those people who find pleasure in the manipulation of statistics, there is a rich harvest of delight in the recently issued preliminary report and tables resulting from the census investigations of April 1st, 1901. Even the abstract from the report in the *Times* of June 15th is full of figurative plums, for that large class of persons who find interest in such matters. It is curious how many men there are to whom bare figures are a source of interest and gratification; men whose chief pleasure in life is the examination of tables, the comparison of annual statistics, and the detection of minor mathematical flaws. To all such the census returns are, of course, a bonne bouche, the taste of which will linger pleasantly for weeks and months of the present year. Even the less statistical, however, can find in these figures something of interest, and to the medical man certain facts brought out are not unimportant. He ponders over the astounding increase of town as opposed to country population, and on the excess of over 1,000,000 of females over males in Great Britain. Along with the first he places, perhaps, the predominating part that nervous diseases of all kinds tend to acquire in modern nosology, and the second makes him introspective of the position of the modern woman. The remedy for such developments of particular kinds of population is, of course, not in the province of medicine. We are engaged in what sometimes appears to be the paradoxical pursuit of preserving human beings, whether fit or unfit, whether their 'survival' is really for the benefit of the nation which owns them or the reverse. Healthy, or of deficient physical qualities, however, they all play an equal part in the census returns, and the most diseased individual may console himself with the reflection that on paper, he is as fine an item as Mr. Sandow himself. What is to be done for the female plethora? Physical science offers no resource, for in spite of the sanguine recommendations of certain continental physicians, we believe medicine is not yet in a position to offer even the most patriotic of mothers a son when the, at present, incontrovertible course of nature has determined on a daughter. The production of women rather than of men is not to be limited by any means at our disposal; it remains for the political forces of society to dispose of them to the greatest advantage for the nation. English women, happily, have never been wanting in the courage and enterprise of their race, and doubtless in our growing colonies will be found the natural home of many females whom it would be ungracious to characterize as 'superfluous' in Great Britain."

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended July 12, 1901:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Iowa, Ottumwa	June 1st to 29th	8	
Kansas, Wichita	June 29th to July 6th	4	
Louisiana, New Orleans	June 29th to July 6th	2	
Massachusetts, Fall River	June 29th to July 6th	7	
New Bedford	June 29th to July 6th	1	
Worcester	June 21st to July 5th	4	3
Michigan, Detroit	June 29th to July 6th	1	
Nebraska, Omaha	June 29th to July 6th	6	
New Hampshire, Manchester	June 29th to July 6th	1	
New Jersey, Newark	June 29th to July 6th	4	1
New York, Dunkirk	June 29th to July 6th	1	
New York	June 29th to July 6th	91	25
North Dakota, Buffalo	June 29th to July 6th	2	
Glaston	June 29th to July 6th	5	
Lakota	June 29th to July 6th	2	
Lidgerwood	June 29th to July 6th	2	
Valley City	June 29th to July 6th	12	
Ohio, Cincinnati	June 28th to July 5th	1	
Cleveland	June 29th to July 6th	18	2
Toledo	June 29th to July 6th	1	
Pennsylvania, Philadelphia	June 29th to July 6th	2	
Pittsburg	June 29th to July 6th	4	
Rhode Island, Providence	June 29th to July 6th	1	
Tennessee, Memphis	June 29th to July 6th	1	
Nashville	June 29th to July 6th	3	
Washington, Clallam County	June 18th	3	
Wisconsin, Green Bay	June 30th to July 7th	4	

SMALLPOX—FOREIGN.

Austria, Prague	June 15th to 22d	2	
Belgium, Antwerp	June 18th to 15th	4	1
China, Hongkong	May 18th to 25th	2	1
Colombia, Panama	June 25th to July 1st	5	1
Egypt, Cairo	June 10th to 17th	2	
France, Paris	June 15th to 22d		11
Germany, Berlin	June 18th	2	
Gibraltar	June 16th to 23d	1	
Great Britain, Glasgow	June 21st to 28th	10	1
London	June 15th to 22d	1	
India, Bombay	June 4th to 11th		5
Calcutta	June 1st to 8th		12
Karachi	May 26th to June 2d	1	
Italy, Naples	June 16th to 23d	149	
Netherlands, Rotterdam	June 15th to 29th	3	1
Russia, St. Petersburg	June 8th to 15th		1
Switzerland, Geneva	June 1st to 15th	3	

YELLOW FEVER.

Colombia, Bocas del Toro	June 29th		1
Cuba, Havana	June 22d to 29th,	1 death, case came from Santiago de las Vegas.	
Jamaica, Kingston	June 1st to 30th		1

CHOLERA.

India, Bombay	June 4th to 11th		2
Calcutta	June 1st to 8th		63
Straits Settlements, Signapore	May 18th to 25th		1

PLAGUE—FOREIGN AND INSULAR.

Africa, Cape Town	To June 15th	714	338
China, Amoy	May 11th to 28th		1,050
Hongkong	May 15th to 25th	200	87
India, Bombay	June 1st to 8th		86
Calcutta	June 1st to 8th		40
Karachi	May 26th to June 2d	45	41
Turkey, Constantinople	July 3d	2	
Hawaii, Honolulu	June 25th		1

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INEBRIETY.

A STUDY OF ITS CAUSES, DURATION, PROPHYLAXIS, AND MANAGEMENT.

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I HAVE described in previous articles[1] some of the social conditions and clinical history of the class of patients known as alcoholics, brought into the wards of Bellevue Hospital. The number of these patients has increased from 3,428 in 1889, to 4.190 in 1895,[2] and about 6.000 in 1900.

My present paper gives some further details regarding the development of the inebriate. It shows the rather definite limitations of life of the sot and the periodical inebriate, the maximum capacities of the human body for alcohol, the methods of prevention, the necessity of a special law for the commitment and care of inebriates, and the treatment, temporary and permanent, of this class.

The cases that are brought into the wards include all phases and degrees of alcoholism. I personally studied 350 cases in 1891, and a somewhat larger number in 1892, 1893 and 1895. I found the acute effects of hard drinking to be distributed about as follows: Simple intoxication, sixty per cent.; delirium tremens, ending in recovery, thirty-six per cent; delirium tremens, with complications ending in death, four per cent.

These acute conditions occurred in persons suffering from what may be in general termed inebriety, which took the form of periodical inebriety in about ten per cent., chronic or neurasthenic inebriety in twenty per cent., ordinary drunkenness or besottedness in seventy per cent.

Heredity.—Among 350 patients whom I questioned on this subject, I found that drinking habits existed in one or both parents in all but ten (97.5 per cent.). The father was usually the drinker; in eight cases both parents drank; in one case the mother only was an inebriate. The patients were largely of foreign birth or descent, however, and drinking was the natural habit, so that very great importance cannot be attached to this fact. In another series of 210 cases, the percentage was much lower. Among the total, twenty-five per cent. gave a negative hereditary history. Among thirty periodical inebriates, in two-thirds there was a distinct history of heredity; in fourteen the father drank; in eight both parents drank.

No other point in heredity was systematically investigated; but my opinion is that drinking is largely a matter of habit and environment. The victims of it have always some neuropathic or temperamental bias of which excessive drinking is only the accidental expression.

[1] *New York Medical Journal*, June 14, 1890; MEDICAL RECORD, March 19, 1892; *American Journal of Insanity* July, 1893; *Post-Graduate*, July, 1896.

[2] The mortality in 1887, 4%; 1888, 4.6%; 1889, 4.7%; 95, 4.2%; in 1900! 3.9%.

Occupation.—It is not the day laborors, but the mechanics, artisans, and small tradesmen that furnish the greatest proportion of cases. Drivers, waiters, painters, and liquor dealers supply a very considerable quota. It is the indoor workman, however, who is oftenest the victim. Among 1560 cases I found the following:

Professional men	54
Clerks and salesmen	239
Tradesmen	387
Laborers	589
Drivers	113
Waiters	64
Painters	64
Liquor dealers	50

Among 614 other cases I found this distribution:

Professional men	3 per cent.
Clerks	15 "
Tradesmen	25 "
Laborers	35 "
Drivers	8 "
Others	14 "

Schub asserts that alcoholism occurs relatively oftener in the persons above the laboring classes, and that the "proletariat" are not its worst victims. This is relatively, if not absolutely, the case so far as severe types are concerned. It must be remembered that besides 6.000 cases brought to Bellevue, the police bring to our station-houses over 30,000 cases of drunkenness a year.

Sex.—In a total of 14,391 admissions in the years 1887, 1888, 1889, and 1895, there were 10.479 men, and 3.909 women, giving a proportion of thirty-seven per cent., or little over one-third, women. Eight years ago (in 1887), the percentage of women was thirty-two, and it was the same in 1888; in 1889, it was nearly forty, and in 1895 it was thirty-four. There has been, therefore, a slight increase in the proportion as well as absolute number of female alcoholics. In Switzerland, the proportion of alcoholism is four men to one woman.[3] In Russia, the ratio is 3.5 to 1.[4]

Age.—In a series of 210 cases, I tried to find the age at which the drinking habit began. Among thirty periodical inebriates, two-thirds began drinking before twenty and all began before thirty. Among the others, the ratio was practically the same. It is before maturity that the habit is formed, and there is not much danger after the age of thirty. The greater number of cases and of deaths is found between the ages of thirty and forty; next, between forty and fifty in men and between twenty and thirty in women. The death rate, however, increases relatively in women with age. Few deaths occur before twenty or after sixty.[5] Women who become alcoholics die rather of complications, such as pneumonia, neuritis, and exhaustion, without so often developing delirium and then passing into the terminal stage of cerebral œdema congestion, and meningeal inflammation.

[3] H. O. Schub, *Correspondenzblatt für Schweitzer Aerzte*, May 15, 1899.

[4] S. Sowkanoff, *Rev. Neurol.*, 1899, page 46.

[5] In the Swiss statistics of Schub the deaths occur oftenest between the ages of forty and fifty-nine. The late Dr. Joseph Parrish used to say that the inebriate climacteric was between forty and fifty, but it seems in the hospital classes to come much earlier.

Duration of Life of the Sot—The average duration for men of the drinking habit in serious cases investigated was about fifteen years—the maximum being over forty years. Among periodical inebriates the average duration was nineteen years. In general, it may be concluded that hard drinking can rarely be carried on for more than twenty years, and it generally brings the victim to grief at about the age of forty. There is a certain massive, taurine type of man in whom the capacity to drink seems almost limitless. These creatures have heavy, strong forms, a large muscular system, powerful digestive organs, strong hearts, and usually good brains in the beginning. They have impetuous, aggressive temperaments and strong social instincts, and they often make themselves felt in the community as effective men, though they possess violence of temper, impulsive judgment, and rather defective moral sentiments. When they get to drinking, they develop into sots. They drink moderately, perhaps, in the morning, but keep it up and consume two or three quarts of whiskey daily, going to bed finally in a drunken stupor, but awakening fresh, well, and hungry in the morning. It takes ten or fifteen years to bring on in these subjects the final dementia or insanity, during which time it may be estimated that they drink about two thousand gallons of whiskey. This is, perhaps, the maximum limit for any man, and they reach it usually between the ages of forty and fifty, if their means admit. These men are not drunk except at the end of the day, and often attend to their affairs for years. Some of these continuous drinkers rarely get seriously or noisily intoxicated. One man forty-two years old, said he had been continuously drunk for two years, but had managed to attend to his business.

Striking Examples of Besottedness.—A man of twenty-eight, a dealer in liquors, drank seven or eight pints of champagne and seven to fifteen glasses of beer daily for eight years. Then he replaced the champagne with twenty or thirty drinks of whiskey. Finally, he took up the cigarette habit and this began to finish him. He could no longer stand the drinking, but had an attack of cerebral automatism and began to develop impulsive criminal tendencies.

A man, fifty-five years old, confessed to me that he had been drunk twice a day for three years, making about two thousand intoxications. These were not immoderate or hilarious sprees; he simply got home to dinner in a semi-drunken hebetude from whiskey, and went to bed in a similar condition from beer.

A man of thirty had been drunk every night for a year and a half.

A man of forty-six had been drunk fortnightly for twenty-five years.

A man of forty had been drunk weekly for twenty years.

A man of forty-three had been drunk a thousand times in fifteen years.

A man of fifty had been getting intoxicated daily for about six months in the year since he was seventeen.

It would seem that the capacity for men to get drunk over a thousand times was rare, and that two thousand was the maximum limit in any ordinary inebriate experience.

The Kind of Drink.—The favorite combination for hard drinkers was beer and whiskey, sixty cases; next came whiskey alone, fifty-seven cases; then beer alone, twenty-seven cases; beer and ale, eight cases; ale, eight cases. The total for malt liquors was thirty-eight, and it will be seen that there is no safety from alcoholism in the lauded malt liquors. In twenty-two cases every possible form of drink, including coca wine, absinthe, Jamaica ginger, tincture of soap, and Hostetter's bitters were used.

There is, however, a remarkable absence of alcoholism in wine-drinkers. In fact, I have never seen in this country an inebriate who confined himself to wine, excepting two women who drank champagne.

Prophylaxis.—I have written some things regarding the social and pathological sides of inebriety and also regarding its therapeutics, but I have always hesitated to say anything about the prophylaxis. The subject of the abuse of alcohol has always been considered more a social than a medical one, and though physicians ought to be, and I believe are, the best judges as to the dangers of alcohol and the means of preventing them, their opinions do not carry nearly so much weight as those of the propagandists of some pet social theory or of the officers of a temperance society.

No one, perhaps, has seen more tragic examples of the baneful effects of alcohol upon the human system and upon the human family; and yet I am not prepared to say that alcohol is absolutely and always a pernicious agent, or has not been of use in promoting human progress. On the contrary, I feel inclined to believe that on the whole it has produced more beneficent results that it has done injury, for it must be remembered that its most serious effects are seen in that class whom we call unstable and degenerate—a class from which not much good to the human race could be expected anyway, and which, if it were not injured gratifying its instincts for stimulants, would likely develop pathological symptoms in some other way.*

Alcohol undoubtedly produces degeneracy in the individual and still greater degeneracy in the descendants, but it only exceptionally produces degeneracy in individuals who are originally sane and well-balanced persons. I do not intend to undertake a defense of the use of alcohol but only to state that the proper way of dealing with it is not at once to condemn as a uniform poison a substance, the use of which, despite everything, seems to be holding its own in civilized races, even those which are growing more intelligent. We ought, however, to teach that alcohol is always and absolutely a poison and a surely degenerating agent, when used in excess, and that even when used in moderation it is equally pernicious to a rather large class of human beings. This class must be aware that to use it means disease, insanity, and death, to themselves probably, or to their descendants surely.

The proper function of the physician and of the statesman is to try and limit the use of alcohol and prevent its abuse, and, finally, to rescue, as far as possible, those who have become subject to its influence. But we cannot do this by a propaganda which tries to stamp out at once the production and sale of alcohol and eliminate from the human race the instinct which has been planted and developed there for centuries.

The agencies for preventing and lessening the injury done by alcohol consist in:

1. Teaching. 2. Control of the sale, making it impossible to secure impure alcohol and difficult to secure even good alcohol, and especially difficult for those to whom it is a poison. 3. Avoidance of transmission of degeneration through the marriage of alcoholics. 4. Personal supervision of those who become inebriates.

The physician has particularly potent means to help along three of these lines. As I have shown, the condition of inebriety begins almost always before twenty, and it is during the formative period of youth—between the ages of ten and twenty years—which is the particularly silly period of life, that when parental teaching and admonitory supervision of the physician are called for. If one can keep a man from hard drinking until he is twenty-five he is not likely to

*Alcohol is beyond any doubt a food, having, according to physiological chemists, about half the caloric value of fat.

form bad habits, and after thirty years he is almost safe.

As regards marriage, the physician has less to say, and yet we know that children born of well developed inebriates are pretty sure to have some neuropathic taint and that the family, unless very richly infused with new blood, will perish in the third generation.

As to the personal control of inebriates, I have a particular word to say. There is no more difficult problem presented to the physican than that of what to do with the periodical or more or less chronic inebriate. His history is that he at first perhaps reforms for a short time under the solicitation of his friends or family, then relapses again, and has very likely taken some form of "cure"; relapsing again, he continues to waste his substance, and impair his physical health, moral stamina, and business position by further drinking. In despair perhaps he is now brought to the physician with the request either to cure him or to put him where he can do no harm.

In this State we are practically helpless in such cases. If the alcoholism has reached that pitch where the man is insane we can sometimes lock him up as such; but when he clears up, as he may in a few months, he soon gets out again and resumes his debauches. He can be committed as an inebriate only for a short time. My own belief is that the most effective mode of relief would be to have a law passed enabling us to commit the inebriate for from one to three years, never less than one, and better, in many cases, three years. The objection to previous laws has been: 1. That the inebriate has been committed for no specified time, and, having gotten over his spree, he in a few months insists upon getting out and succeeds, only to return to his former course. 2. That the inebriate gets liquor at the institution to which he is committed.

To obviate the first defect, our present insane law might be altered so that it would read that the individual should be committed as an inebriate and unable to care for his affairs, for a period of three hundred and sixty-five or more days, as the case might be. He could then be placed in a licensed State or private hospital, or in some licensed asylum organized for this purpose. The Connecticut law is said to be a good one. This contains provisions enabling the authorities to commit an habitual drunkard to an inebriate asylum for not less than four nor more than twelve months, and if the person is found to be a dipsomaniac the term of commitment is to be for three years. Individuals may also voluntarily commit themselves for these periods of time.

The second difficulty is harder to overcome. When we get good laws and successfully commit the patient, he proceeds to get drunk at the very places to which he is sent for cure. And the more specifically the sanitarium is devoted to inebriates, the easier it seems to be in some instances for the inmates to get what they want. Therefore, some special responsibility and penalty should be enforced upon persons who have charge of these institutions, or who, under a future inebriate law, are allowed to receive patients.

Treatment.—The treatment of all that class known as the inebriate is at present of two kinds, the ideal and the practical. The ideal treatment is supervision of the case in an institution, ensuring absolute abstinence from alcohol in all forms for at least one year. Further personal supervision and watchfulness are needed for two years. After that period the patient is reasonably safe unless he is quite young. Unfortunately, this treatment can rarely be carried out. As already stated, the law does not permit the legal commitment of inebriates, except voluntarily, and then only for a short time.

Under present conditions we have to resort to all kinds of makeshifts. The most common is the "cure." These cures have all the same basis. They consist in the use of strychnine, atropine, and apomorphine or some other nauseant. With these are combined tonics, laxatives, full feeding, and the psychical influences exercised on the patient by the procedures of the cure. These are very important, and illustrate how much better a charlatan can sometimes manage feeble and credulous minds than can the most honest physician. The man who takes a "cure" feels a little pride in the experience, and rather wants to show that he has done a wise thing; he has invested his money, and he doesn't want it to be shown that he has been fooled. He has made a special effort of will in submitting himself to reform, and if the patient has some force of character left he may be helped for a long time. But I should say that, as a rule, the patients relapse, and that relapses are more frequent since the vogue of the "cures" has become less. Many of these cures have dropped out of sight because the prestige has gone and the psychical influences fail.

Still, often the best thing a drinker can do is to take some kind of a "cure," under the care of his own physician. It must be understood that the treatment is a cure, and it should be planned to last a year.

The patient should stop drinking and usually smoking, and take for three weeks a mixture of nux vomica, capsicum, and cinchona.

℞ Tinct. nucis vomic. ..... ℥i.
Tinct. capsici. ..... ℥i.
Tinct. cinchon. rubræ. ..... ℥v.

Mft. Sig.: One teaspoonful three times a day, increased by 20 drops daily to half an ounce three times a day.

The maximum dose should be continued for a week, and then reduced as it was increased.

At the same time two drachms of bromide of sodium should be given daily in cases marked by much nervous irritability and insomnia. The patient *should be fed well and very often, and avoid getting tired or hungry.* When the desire for drink comes on he should be told to take two drachms of the above mixture, to which is added 1-120 grain of atropine sulphate and he should should fly to hot milk or beef tea to relieve his fatigue. Tonic baths should be added if possible.

After two weeks rest from medicine, the course should be repeated, the patient all the time reporting weekly to his physician.

After the second course, a month's interval can be allowed, when it should be repeated again, and so on till the end of the year.

All this is very difficult to secure. Inebriates are impulsive, unappreciative, self-confident, and impatient of restraint. But this is all that one can do outside of an institution.

50 West Forty-sixth Street.

Arterial Degeneration and the Tendency Thereto.—Henry Walter Syers thus sums up his article: 1. To determine the presence of degeneration of arteries it is not enough to examine the radical artery only, but the state of other vessels, especially the brachial and the temporal, must be taken into account. 2. Arterial degeneration in many cases is due to an inherited vice, often connected with gout, and is often the weak point in the constitution, determining early death. 3. Care and watchfulness should be exerted to postpone the onset of the malady as long as possible. 4. Only in those cases in which the disease is induced by syphilis or by indulgence in drink can treatment be expected to produce any great improvement. 5. More attention than is customary should be devoted to the investigation of the special liability of any particular case, as the latent tendency to this vascular change is not only widespread, but is fraught with the greatest risk of premature death.—*Treatment.*

PRIMARY RESECTION OF THE INTESTINE FOR GANGRENOUS HERNIA; REPORT OF TWO CASES OF SUCCESSFUL JOINING BY LATERAL ANASTOMOSIS, WITH THE CONNEL SUTURE.

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The joining of the divided ends of the intestine, directly after resection of the gangrenous intestine in strangulated hernia by successful methods constitutes one of the most brilliant achievements of modern aggressive surgery.

It is essentially a measure of very recent development, although for centuries back we find evidence of attempts at enterorrhaphy with varying results, from the notable case of Ramdohr in 1727, by invagination; and that of Deverger, who employed a desiccated segment of calf's trachea, in 1763, as a support in the interior of the gut, the patient recovering and the tracheal-ring being thrown off, per rectum, on the twelfth day.

Richter vainly endeavored, by experimentation, to devise some means to close the hole left in the sloughing gut. Littré was the first to resect successfully several feet of the intestine in gangrenous hernia, though a fæcal fistula was left to remain through life.

In the early part of the present century, extensive experiments were made in France, on the intestines

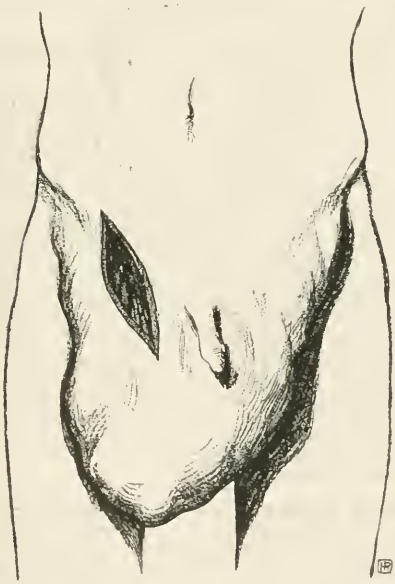

Fig. 1.—Oblong Incision upward through Poupart's Ligament.

of lower animals, with a view to solving the problem of intestinal joining in disease or injury. The names of Jobert, Lembert, and Geily have become historical in this connection. But the disastrous results following the application of their deductions on the human being, by Reyhard and others, led to its general condemnation. Anæsthesia came in 1848, but for nearly forty years it provided no improvement in the operative treatment of strangulated hernia, as we are assured by a statement of the late distinguished surgeon, Dr. Frank Hamilton, in 1880, that the mortality from strangulation, at that time remained about the same as in former centuries—viz., 70 per cent.

After the introduction of antiseptics on scientific principles by surgeons, at about 1880, intestinal surgery came into prominence and was revived on a large scale and placed on a secure foundation by German surgeons.

In 1888, at the International Medical Congress at Washington, Dr. Nicholas Senn submitted his remarkable and epoch-making essay on an "Experimental Study of Intestinal Surgery." Although this contribution was based entirely on experimentation,

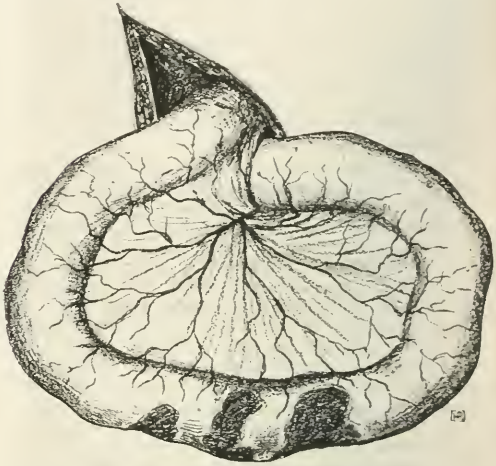

Fig. 2.—Gangrenous Ulceration of the Intestine in Hernia prior to Resection.

it must be regarded as the most valuable, ever before or since submitted, on the surgery of the intestine. It constitutes, practically, the foundation rock on which we have been later building. At the same time, this illustrious surgeon gave us the decalcified bone-plate, something up to that time unrivalled as an approximating support in anastomosis or enterorrhaphy.

Celerity in manipulating has always been regarded as of prime importance in all operations on peritoneal structures. The Senn plate in skilled hands abbreviated the operative period.

The art of intestinal surgery embraces the general principles of mechanics, and hence the effective technique of intestinal junction presupposes a skilled practiced hand and the employment of mechanical aids. The Senn plate fulfilled several theoretical requirements. But it did not dispense with the suture, nor was its adjustment by any means a simple and rapid procedure, except in well-trained hands.

In 1893 Dr. John B. Murphy invented an anastomotic disc for uniting the ends of the intestine, or anastomosing their walls; it may also be employed for canalizing the walls of the stomach or gall-bladder. This button is the very acme of human ingenuity, never before equalled, and probably it never can be improved upon as a mechanical aid. Like the Senn plate, in experienced hands, it will shorten the time of jointing the intestine a few moments; like the plate, too, its adjustment invariably calls for the employment of the suture. Its employment is by no means an easy task for the inexperienced. It has been used on a larger scale and with far greater success in internal lesions of the intestine, than any other mechanical device. It may be

utilized in areas quite inaccessible to any other means, and under various circumstances can be substituted by no other expedient.

In 1892, Dr. M. E. Connell published a brief description of a mode of effecting an end-to-end enterorrhaphy by the employment of a suture. He claimed for it simplicity, security, and safety; and, moreover, that it might be applied, as a rule, as quickly as any of the uniting contrivances then in use. In Baltimore, in 1894, the doctor very kindly explained to me its technique and later sent me several specimens and models illustrating its application.

But it had not yet stood the test of a trial on the human being. Surgeons passed it over in silence, or by general deprecation, because its employment was in violation of some of the most cherished tenets of the surgery of the intestine. Silk suture was recommended; the suture is *continuous:* it must pass through *all* the layers of the intestine, and leave the knots on both ends *outside*.

Notwithstanding its apparent imperfections this suture impressed me as the simplest and best yet devised. In order to test the matter, I made several experiments on the dog, making two or three sections of gut at same time, then joining or anastomosing the ends. In twenty-nine dogs, I anastomosed the divided gut laterally in eighteen and lost none. In eleven, I jointed by end-to-end enterorrhaphy and lost two. My experiment convinced me that this suture was all that Connell claimed for it; but, in order to attain ideal results and obviate the lurking danger of the dead space in the mesentery, in end-to-end union, we must, when at all practicable, obviate

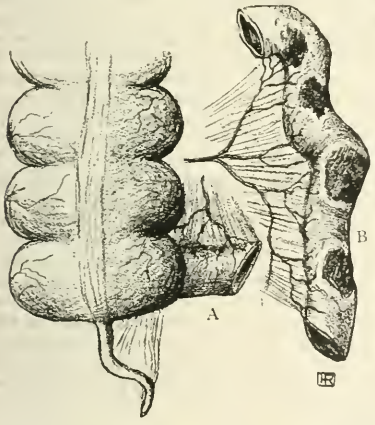

Fig. 3.—A. Incision through afferent end of intestine oblique to long axis. B. Resected segment so divided as to preserve long mesenteric border.

this by a lateral anastomosis, in every instance of resection for strangulated gangrenous hernia.

Dr. Senn has personally informed me that he has come to regard the suture as the best uniting material in joining the intestines, and I understand that Dr. Murphy does not recommend his button in gangrenous hernia.

Dr. Gregory Connell has devised a very ingenious modification which obviates some of the objections of his father's suture. At Columbus, Ohio, the doctor fully described to me its application on the sheep's intestine. By this plan the knots are turned in. But the method impressed me, though remarkably ingenious, as very complex, and as no improvement on the original.

Artificial Anus and Primary Resection in Gangrenous Hernia.—After the division or resection of a damaged coil of intestine in the approximation or jointing of the ends, we are confronted by the same difficulties in restoring continuity that we find in a bone-shaft, in a complete fracture with displacement. There is no mechanical impediment to the complete reduction and retention of the separated fragments; but to ensure this without impairing or destroying the vascular supply is sometimes quite impracticable. And so it has been found, in gut-jointing, that while

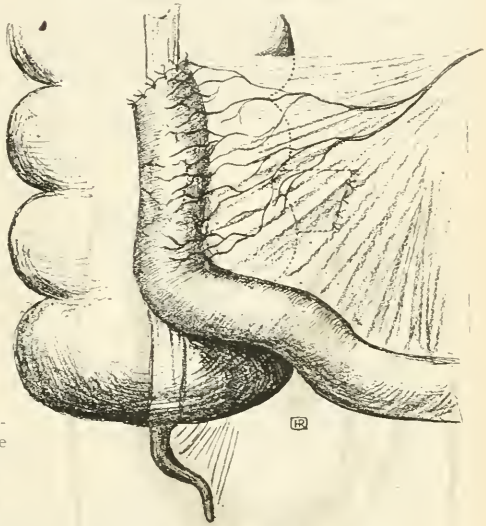

Fig. 4.—Ileo-colic lateral anastomosis after resection in gangrenous strangulation.

there have been a great number of devices invented to effect this, one after another, with few exceptions, they have been set aside, not because they did not effect excellent coaptation, but because they clogged the lumen of the bowel or strangulated the vascular supply in its walls.

In strangulated hernia death rarely ensues until after various degrees of gangrene, torsion, or stenosis of the intestine, either before reduction by kelotomy or after it, often from incomplete timid surgery.

In former times, the operation for the treatment of strangulation was a hotch-potch, unscientific procedure. An incision was made, the ring divided, the unopened sac and all pushed up *en masse* into the abdomen.

The older operators had a horror of hemorrhage and peritonitis. The majority of their patients speedily sank after operation; usually, it was said, from shock or peritonitis, while in fact they went down from an unrelieved torsion, stricture, or perforation of the intestine. Only one phase of gangrene seemed to warrant the production of an artificial anus, viz., when sphacelus or mortification was complete, or the bowel was already widely opened. It sounds strangely these times to note the advice of some writers who say that "in strangulation, with intestine of doubtful vitality, the best place for it is in the belly." But artificial anus has a large immediate and remote mortality. In six cases coming under my own care none survived a fortnight. In three cases no relief came, as there was a twist in the bowel above.

It was only very recently that surgeons could nerve themselves to undertake primary resection. Precon-

ceived convictions from misleading instruction and a consciousness of a want of technical knowledge made them hesitate or operate under great disadvantages.

Then the question of *primary* or *secondary* resection came up. It was said that patients suffering from gangrenous hernia are so exhausted as to bear so formidable an operation as resection very badly, especially, as one noted writer tells us, that "in any event, it will take from one and a half to two and a half hours to complete an intestinal resection."

But whatever line we pursue, provided, of course, our patient is not in a moribund state, we must freely and widely divide the parts not only up to the ring, but above it, in order that *all* the elements of obstruction are well cleared; then, in order to isolate the mortified parts, remove them, and secure an efficient enterostomy, we must resect the dead from the living tissues and pass a row or two of sutures to secure the open intestine in position, in artificial anus. Now, should it occupy any more time freely to expose the

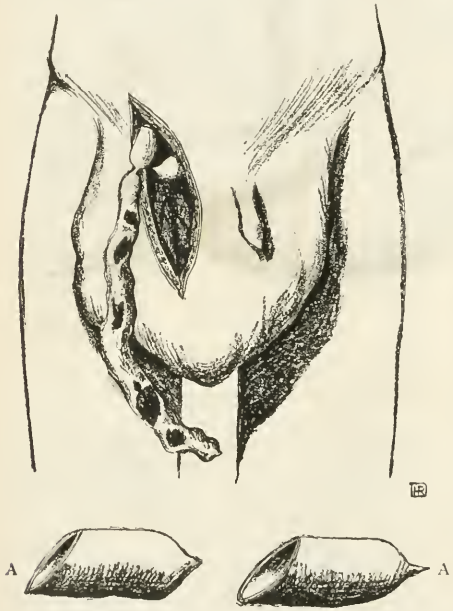

Fig. 5.—Gangrenous hernia with spontaneous amputation of efferent end of intestine. A. Resected ends of intestine prior to enterorrhaphy.

intestine, resect the gangrenous segment, join the healthy ends, and return the gut to the abdomen? Everything being in readiness, a large incision freely exposing the deep parts, a suture jointing by the Connell method may be made by trained hands, in from 15 to 30 minutes. One not familiar with the technique of enterostomy should not undertake it except in an emergency.

Effective enterostomy for gangrenous hernia involves a laparotomy with the kelotomy in practically every case. A large incision is necessary through the site of obstruction for the double purpose of freely drawing the bowel down and, what is equally important, of affording an easy return of the jointed intestine.

Against this free division of the parts, it has been objected that it intensifies shock. However, practical experience proves precisely the contrary, viz., that from the moment the constriction is divided and the gut liberated, the pulse slackens and becomes fuller, the respirations are deeper and more regular.

It is therefore evident that, everything considered, in the formation of an effective artificial anus, one must explore well up over the constricting areas, cut away the necrotic mass and suture the ends of the intestine outside the peritoneal cavity. The essays of Kendall Franks, Lockwood, Rydygier, and McCosh all agree that the economy of time in making an artificial anus is quite insignificant.

Modes of jointing after resection of gangrenous hernia.—Bishop up to 1885 had collected thirty-three different modes of anastomosing the intestine, and Greig Smith in 1896 was able to add thirty more. Nearly all authors occupy common ground in the application of general principles in the jointing of the divided gut. For example, until very recently, and from the very remotest period, end-to-end junction—circular enterorrhaphy — or the re-establishment of the alimentary current over the long axis of the bowel, has been the general rule in resection for gangrenous hernia.

The Lembert suture, Depuytren's or some modification of it, has been regarded as the only one, at all, warranted. Catgut, or some other absorbable suture, had the preference. The great problem was to provide some means that would at one and the same time secure against leakage and not impede the vascular supply to the ends of the divided gut. The Murphy button, no doubt, in a larger degree than any other device fulfils the purpose. But in a bowel crippled by strangulation, with an imperfect vascular supply and a languid alimentary current, the button, or any other apparatus, is at a disadvantage; it may lead to a kinking, may become clogged, or cut unevenly through the intestine.

The uniting discs set aside, in gangrenous hernia, we turn to, first the suture material, and secondly, its mode of application. Suture material here should be fairly fine, strong, and resistant. Mr. Greig Smith, for general intestinal suture prefers fine twisted Chinese silk; but the fairly fine and strong domestic braided or twisted silk will answer for all purposes. An absorbable suture is not safe here, for the reason that in some cases the peristaltic motion commences to put a severe strain on the new joint about the third day after suturing, and unless the delicate plastic adhesions are well re-enforced at this period, the whole bond of union, or part of it, may break down, and large fæcal escape follow. Silk may be easily sterilized and can be employed with a round needle. Catgut requires a Hagedron needle, and tears the delicate serous investment of the intestine.

The Connell is the only continued suture ever heretofore employed, which passes through *all* the coats of the intestine. Moreover, it is a longitudinal suture employed in an oblique or circular enterorrhaphy. On theoretical grounds it was rejected because, it was claimed, "any suture passing through from the mucous to the serous cavity must convey infection and every needle hole become a fistulous opening."

Mr. Greig Smith believed that Connell's was an excellent suture "for the first perforating row," but he stated in his well-known work, that he would not describe it as he was not aware then—1896—that it had ever been employed in the living human being. It has been objected, too, that a running or continued suture was bound to loosen and allow escape on collapse of the bowel. But a healthy vascular intestine does not collapse on completion of the suture; on the contrary, it fills, distends, and begins in a measure to functionate at once.

In *circular* enterorrhaphy, though I believe it even then the simplest and most secure, the inherent mesenteric defect remains in the Connell suture, as in any other; hence it would seem that its great value consists in its application, in combination with *lateral*

anastomosis or enterorrhaphy, in gangrenous hernial resection, when this is practicable.

I am aware that there appear from a speculative view of the subject, several

Weighty Objections.—We must close *three* breaches in the intestinal structure instead of one; there are two diverticula left in the ends of the intestine; the alimentary—or fæcal—current must be deflected and discharged from one segment to another. This it would seem must disturb the anatomical arrangement of the intestine and interfere with regular physiological persistalsis. But theoretical speculation must give way to the demonstration of facts, as has been the case since the first great advances in abdominal surgery began.

The late Mr. Greig Smith, the most noted authority on the surgery of the abdomen in his time, writing on this phase of the subject, said that "it has been proven, so far as restoration of function is concerned, it matters little how the divided intestines are joined as regards their axes; that is, whether end-to-end or side-to-side, the question is almost entirely a practical one." He, however, expressed his opinion "that there was nothing to prove that lateral approximation is more successful in its immediate results than end-to-end junction." He believed that in the lateral, we had to consume time, in closing the ends, that might suffice for a circular suture.

The crowning advantage of lateral joining or anastomosis is the preservation of an abundant vascular supply to the traumatized parts. It obviates the tendency to annular, cicatricial contraction, which may follow a circular enterorrhaphy.

Inequality in the calibre of the intestines to be joined offers no inconvenience. As the borders of the new portal are firmly held apart by the silk suture until solid healing is complete, ultimate stenosis is improbable.

The difference in time, in closing three apertures or one, is so insignificant as to count for nothing. In fact, in comparison with one of the latest approved methods for joining by circular enterorrhaphy—the Czerny-Lembert—without question the Connell suture in lateral anastomosis can be applied in much less time.

Report of Cases of Intestinal Resection in Gangrenous Hernia, with Lateral Jointing by Connell's Suture.—My own experience in resection of the gangrenous gut in strangulated hernia, in which the Connell suture was employed to joint the intestine, is limited to two cases, one private and one hospital case. The former has been briefly reported in the *Annals of Surgery*, May 12th, 1897.

As it was the first case so treated, and as now four years have elapsed since the operation was performed, and there were several special features of interest in the pathology of the case, as well as in the operative manipulation and its ultimate results, it will bear repetition here.

History of First Case.—On November 11th, 1896, I was called by Dr. C. F. W. Horn, of this city, to see a Chinaman, twenty-eight years old, suffering from strangulated hernia, right inguinal. The strangulation had lasted four days and repeated efforts had been made by taxis to reduce it.

The scrotum was enormously distended and inflamed, and at its base showed signs of pointing, like a huge phlegmon, with a necrotic patch on the surface, near the base. The whole mass was wanting in resonance and fluctuated.

The patient's general condition was very bad. The abdomen was largely distended, hard, and everywhere sensitive. He had persistent, fæcal vomiting, with great thirst; and, though being freely plied with morphine by injection, was constantly moaning. His pulse was 140 and thready, the temperature 104° Fahr. in the mouth. The extremities were covered by a cold, clammy sweat. His symptoms pointed to a general toxæmia, with peritonitis, and that he was close to the moribund state

Preparations were rapidly made for an operation to relieve the strangulation, which we were quite certain would be complicated by gangrene.

A long, deep cut exposed the sac. On opening this, a large quantity foul-smelling liquid with fæces came through. On widening the incision, a long coil of the ileum came through it with one end completely cut off by pressure at the ring. By carrying the incision up and exposing the ring, the other, or proximal end, was found nearly eroded; so that on lifting the free coil, this gave way, and we had here

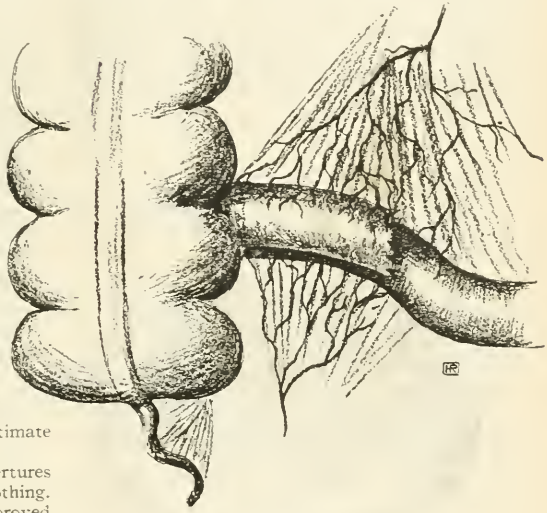

Fig. 6.—Ileo-iliac lateral anastomosis after resection in gangrenous hernia.

a spontaneous excision of twenty-seven inches of gut. On making traction on the divided ends at the ring, it was found that one was in close relation with the cæcum, as it could not be brought out.

Now the parts were thoroughly cleansed, and the incision was carried well up through Poupart's ligament, freely exposing the cæcum. The amputation of the ileum was made five inches from the ileo-cæcal junction. From both of the projecting ends a little more than three inches were cut away; the ends were closed and a side-to-side, ileo-ileo anastomosis was made with strong silk suture, by the Connel method. As there had been so much sloughing over the line of incision, except for about two inches above, it was left open; one tampon of sterile gauze was left in the scrotal segment, and one passed down on to the anastomotic junction of the intestine in the peritoneal cavity. Over all, abundant dry dressings were applied.

After the operation was completed, the man's general condition was much better than when we began. The day following his temperature was 99.4°, pulse 90, with all signs of danger past.

The next day the dressing and the bed-clothing were found freely soaked by a dark, gangrenous-smelling discharge from the incision.

The packing was removed daily for one week. Until the end of ten days, a small quantity of fæcal-smelling fluid escaped from the wound. After this it ceased. In three weeks the wound was soundly healed and he was up. He returned to his work at the end of the fifth week.

This young man before operation, for eight years had a hernia which a truss would not control. He was of a slight, spare frame. It is now just four years since the resection was made, and ample time has elapsed to determine the ulterior effects of loss of nearly a yard of the small intestine on his digestion and general health, and the effects of so large an incision in the way of favoring another hernia. He occupies the same premises now which he did four years ago, and he has since on several occasions been exhibited before medical classes and societies. His digestion is perfect and vigorous; he has gained forty pounds in weight, and though he never wore any prophylactic support, he has yet had no trace of hernia.

Case II: *Right Inguinal Hernia, Strangulated and Gangrenous, Resection of Intestine, Ileo-cæcal Side-to-side Anastomosis, Jointing by the Connel Suture.*

Patient, a male, twenty-eight years old, clerk; always enjoyed good health till present accident.

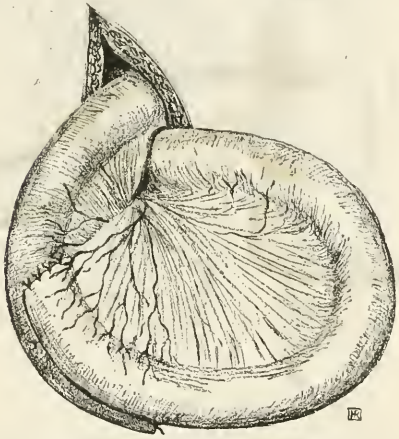

Fig. 7.—Lateral anastomosis after intestinal exclusion before reduction.

On August 24, 1900, shortly after dinner, while moving a heavy chest, he was seized with severe pain in the abdomen and right side. Soon the colic became most acute and exhaustion followed. A physician was called, who discovered that he had a strangulated hernia. He never had hernia of any description before this one appeared. An ambulance was called and he was sent to the Harlem Hospital. When he reached there his symptoms were not regarded urgent. This was at 5 P.M. He was under the influence of morphine and fairly comfortable. The house physician made moderate taxis on his admission, but failing, returned the patient to bed and applied an ice-bag over the hernia.

The patient passed a restless night, receiving four hypodermic injections of morphine in twelve hours. In the middle of the forenoon following, renewed efforts at taxis were made without avail

At this time all his symptoms became more accentuated; but he had yet had no vomiting. At three in the afternoon he was first seen by me. At this time he showed signs of shock, he was of a marble pallor, with a weak but not rapid pulse—94—temperature 101°, in great pain and very restless. In the right groin he had a large tumor, extending well down into the scrotum. This was highly sensative, and was resonant on percussion.

Everything being in readiness, he was prepared for operation and anæsthetized. The incision was commenced high up, on the axis continuous with the inguinal canal On opening the sac there issued forth a foul, gangrenous smelling fluid. Nearly the entire loop of intestine was in a state of gangrene. Pressure, punctures, and the hot-water test, proved beyond question its total death.

Now the deeper stratum of the incision was carried through the stricture in the ring and Poupart's ligament; with this, the internal epigastric artery was opened. The ends of the vessel were closed and the strangulation was removed, when the parts were critically examined.

It was found that it was the terminal segment of the ileum which was involved, the gangrene extending well up to the cæcal terminus. This case impressed me as another one favorable for lateral anastomosis, and also implantation of the ileum in the cæcum. Here the cæcum had a long mesentery, and hence was easily manipulated outside the abdomen. Nineteen inches—forty-eight centimetres—were resected of the ileum, care being taken to leave a long mesenteric attachment to the retained ends of the intestines. On dividing the intestine, it was found filled with clots and fluid arterial blood. This was squeezed out of both lumina in large quantities.

The two ends of the divided intestine were now closed with interrupted silk suture, after inverting the edges. The next step was to carry the ileum well up on to the cæcal wall, and temporarily adjust it, preparatory to lateral jointing. The ileum was led up to its place of mooring in such a manner that, for a distance of about five centimetres above and below the anastomotic aperture about to be made, its long axis would lie in the same plane as the long axis of the cæcum.

Then, with the anchor sutures in position, a careful measurement was made and the cæcum was first opened on its side, midway between the long-band and the mesentery. The ileum was opened in the same manner, viz., along its long axis, on the side between its convex border and the mesenteric attachment. The opening was about three inches—eight centimeters—long. Now the interior, or mucous, lining of the bowels was well cleansed up to the point of compression on either side.

Realizing at once the marked difference in the resistance of the caput-coli and the small intestine, the suture was so applied as to take a deep grip, and leave at the same time a considerable border of the serosa, in order to sustain with safety the severe strain of the intestine at this point. Connell's suture was applied in less than ten minutes. Finally, in order to rest fully assured that the jointing was ample, four interrupted silk sutures were applied. The compressing loops of gauze, to control the fæcal current, were now removed, when immediately the anastomosed parts filled with gas and fluid, passing along from one intestine into the other with no sign of leakage.

At this stage the whole mass was thoroughly washed with sterilized water, and the jointed parts were carefully returned to the abdomen. Now, a Bassini operation was superadded for the hernial cure, and the scrotal wound was closed, but the opening above Poupart's ligament was left with a gauze fold in position over the cæcum, as in the preceding case.

The patient, following morning, very comfortable. He had had no vomiting. Pulse 90 and small; tem-

perature 99°. From this date, progress was steady and uneventful. On the third day he requested an enema, but this was refused. On the fourth day he had a large spontaneous motion, which consisted largely of a black coffee-ground material. The appetite was ravenous. The wound was dressed daily. On the third day a fæcal-smelling fluid appeared in the wound. On deep pressure a hissing of gas was heard through the incision. On the twelfth day all tamponing was removed permanently. On the twentieth day the wound was solidly healed.

In six weeks from the day of operation the man returned to work at his desk. Two months after the operation, October 29th, he weighed eight pounds more than he ever did before. Digestion was perfect and the man has recovered his full strength and vigor.

This second and last case presents several highly interesting features.

First, as to the clinical history. Here we discover strangulation, the *first time* the hernia appears.

Secondly, as to the symptoms. At no time were they of such a violent character as would lead one to the suspicion of gangrene. No vomiting neither before nor after operation. The marked anæmia or rather exsanguination resulting from the large hemorrhage into the bowel probably was due to laceration of the vessels in the submucosan, at the point of strangulation.

Thirdly, as to the behavior of the wound. The leakage of fæcal fluid, for some days after free peristalsis began, suggests the great necessity of always leaving a free vent for any peccant fluids which may escape from the new joint, in the early stages of healing.

Fourthly the anatomico-physiological aspect of the case, the loss of the ileo-cæcal valve, the lateral joining of parts widely dissimilar in structure and function; this was a veritable test-case to demonstrate practically the reliance which we may place on the security of this suture with lateral implantation, rather than in circular enterorrhaphy, or end-to-end apposition, the cardinal and fundamental value of which seems to be derived from the quickness of its application and the conservation of the freest possible vascular supply to the injured parts.

Since the foregoing was written another case, calling for resection of the gangrenous intestine for strangulated hernia has come under my care, the patient sinking shortly after laparotomy.

The patient was admitted into Harlem Hospital at one P. M. on May 9th, 1901. He was a man fifty-five years old, American, of temperate habits. He had usually enjoyed good health, but for several years had a reducible inguinal hernia on the right side. About noon on May 8th the hernia came down in large volume. Unaided by medical assistance, he made very many unavailing efforts at reduction during the afternoon and night. The following morning he had severe abdominal pain, and in the meantime the hernia had become much larger.

His condition on admission to hospital was bad. He had marked abdominal distension with severe pain and muscular rigidity. There was no vomiting. The pulse was 122 and thready, the temperature 103°, respiration 24. He was weak and was very pale. He was able to urinate, and the urine on chemical examination was found normal. There was a large fulness in the right inguinal region, not extending far down into the scrotum. There was no impulse on coughing; the tumor was tympanitic on percussion.

The patient was prepared for operation, ether being administered. A long incision was made from three inches above the internal ring to the base of the scrotum. When the sac was divided a deeply congested knuckle of intestine came into view. On division of the constriction and opening of the peritoneal cavity there was a free issue of a dark colored, foul smelling fluid. Upon my drawing on the distal end of the extended intestine, there came down a widely distended gangrenous segment, the mesentery of which was thickened and œdematous. After the application of various tests this was was found to be in a gangrenous state, but not sphacelated. A segment, thirty-eight inches in length, was resected and the divided intestine was laterally joined by the Connell suture. The whole procedure from the beginning of the operation to the closing of the wound occupied but thirty-five minutes. In this case, as the one previously recorded of resection, the intestine was widely distended with blood, so that on its division more than a quart poured out of the open lumina. By a milking process large quantities could be pressed out from both ends.

After anastomosis the intestine was reduced, and a gauze wick was introduced through the wound for a drain.

The patient came out from the anæsthetic well, and expressed himself as much relieved. At five P. M. he had a large bloody evacuation by the rectum. He now had considerable thirst and was given

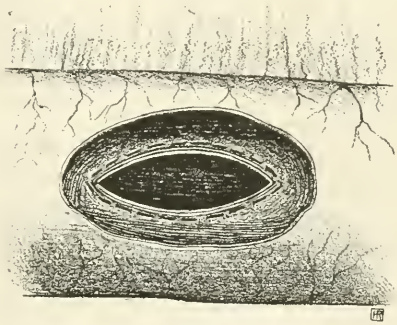

Fig. 8.—Connell suture in position in lateral jointing after intestinal resection.

diluted milk with whiskey. At 7.30 he was seized with nausea and vomited a large quantity of blood and almost immediately after he expired.

Post-Mortem Examination—Eighteen hours after death; rigor-mortis was well marked, with evidence of extreme exsanguination. The wound was re-opened. No hemorrhage had taken place into the peritoneal cavity. The continuity of the intestine had been re-established. The anastomosed segment was resected and on testing was found to be completely water-tight. Death was caused by exhaustion, succeeding internal intestinal hemorrhage, produced by the violent, forcible taxis inflicted by the patient's own hands.

It would seem almost incredible that one could inflict so much damage to the bowel by his own hands; but it is nevertheless a fact. For example, about a week after this case came into my hands, I was called at midnight to operate on what was supposed to be another case of strangulated hernia, as the patient had about all the symptoms appertaining thereto. He had worn a truss, but now the mass had suddenly increased in volume. He vainly tried to reduce it, but without effect. He had severe abdominal pain, vomiting, and muscular rigidity with marked exhaustion; but on operation no trace of a hernia of any kind was found, only a sarcomatous testis, which had burst through the

tunica vaginalis as a result of the man's efforts "to reduce it."

This case was remarkable, inasmuch as it had been diagnosed as "strangulated hernia" by a physician of large experience. For months it had been treated with a truss as a rupture, and it was only when the misguided patient used violence upon himself that the classical symptom of "strangulation" became apparent.

THE USE OF SULPHATE OF COPPER IN AFFECTIONS OF THE CORNEA AND IN AFFECTIONS OF THE LID OTHER THAN TRACHOMA.

By J. HERBERT CLAIBORNE, M.D.,

NEW YORK.

It is my purpose in this paper to present the results of my experience in the treatment of corneal affections and affections of the conjunctiva other than trachoma, by sulphate of copper.

I am aware that the use of sulphate of copper has been and is recognized as the classical form of treatment in trachoma, whether the trachoma is restricted to the lids or whether it is associated with keratitis and pannus; I do not desire, therefore, to bring up the time-worn subject of bluestone in the treatment of trachoma before my readers. Within the last three years, however, it has been my fortune to observe excellent results from the use of bluestone in other conditions than those which are recognized by constituted authority. In order that the subject may be brought out clearly, I propose to detail in brief the history of a number of cases

Case I.—A boy of feeble intelligence, aged ten years, was brought to me suffering from intense photophobia and pain in his right eye. Inspection revealed the existence of a superficial keratitis, which was restricted to the upper half of the cornea, and consisted in infiltrated points and a slight degree of pannus. On examination of the upper lid no evidences of a true trachoma presented themselves; the upper lid, however, was somewhat swollen and exhibited the appearance of what I am accustomed to call "velvet conjunctivitis." This term describes more nearly than anything else I can think of the condition to which I refer. The lid presented a velvety appearance, and the villi of the velvet projected to some extent from the conjunctiva, which warranted me in describing it as I did. The lower lid showed no signs of trachoma whatever.

The boy had been treated with yellow oxide salve, atropine, boric acid, and hot applications—the usual treatment for such cases. All these had been tried with no benefit whatsoever resulting from their use. At that time I was not thoroughly convinced of the utility of bluestone in such cases, and I proceeded to treat him for several days along the same lines. To this end he was sent to the hospital. No benefit resulting, I concluded to use the bluestone, treating him for six or eight weeks, with the result that his eye became perfectly well, the cornea cleared up entirely, and the conjunctival appearance which I have described disappeared. The result of this treatment was marked, and benefit was experienced after the first application. Advantage was taken of this fortuitous result, and the treatment was pursued carefully and persistently. I repeat, there was no sign in this case of a true trachoma, and it could not by the greatest stretch of liberty or license be described as such. There was a superficial keratitis with some degree of pannus. The bluestone acted quickly, safely, and happily. I do not think that any other form of treatment would have resulted, to say the least, in so rapid a recovery. During this treatment no atropine was used, the eye was simply bathed with ice-cold water with a little salt dissolved in it.

Case II.—A young lady, of florid complexion and fair skin, was seen by me five years before the following incident. She suffered from headaches. Examination of her eyes discovered compound hypermetropic astigmatism associated with a number of small corneal opacities producing some irregular astigmatism.

She gave the history that since early childhood she had been accustomed to have repeated recurrent attacks of inflammation of the eyes. I diagnosed recurrent phlyctenular keratitis, with a mental reflection that the condition was due to systemic causes which are recognized as classical. During my first treatment she developed a mild attack of keratitis, for which, without having any specific reason at that time, I employed bluestone, with the result that the condition rapidly subsided; I drew no deductions, however, from this fact. Five years later she was brought to my notice again, having spent that time in Europe at school and in traveling on the continent. Her last sojourn was at Rome, where she had repeated attacks of headaches and phlyctenular keratitis.

This second time she entered my office with an acutely inflamed cornea, pericorneal injections, pain, photophobia—in short, the symptoms of an acute attack of superficial keratitis.

On everting the upper lid I discovered a swollen, succulent condition of the mucous membrane, suggesting the velvety conjunctivitis already referred to. I immediately explained to her that within the last few years it had been my custom to treat such cases not in the usual manner, but by the application of bluestone. She agreed to put herself entirely in my hands, and I immediately commenced the use of the bluestone. The first application produced so marked a benefit that she became convinced of its efficacy and demanded its continuance. To make a long story short she was under my care three months, and the bluestone was applied two or three times a week throughout the entire period; the bluestone was continued after all the corneal inflammation and infiltration had almost entirely disappeared.

The conjunctiva of the upper lid retained its characteristic appearance almost up to the time of her dismissal; at that time, however, I could safely pronounce her relieved of the condition so far as the upper lid was concerned. The corneal infiltrations had diminished to a very great extent so that they could no longer be seen by direct inspection with the naked eye; the eyes took on a very much more healthy look and the patient expressed herself as being satisfied.

In this case there was no evidence of trachoma, and in view of the preceding history and characteristic appearance of the cornea nothing short of a diagnosis of repeated attacks of phlyctenular keratitis or superficial keratitis could possibly have been made. There was nothing in the appearance of the young woman indicating a scrofulous diathesis which is ordinarily assumed to be present in these cases, and in a guarded manner I said to her parents that while I was not able to state definitely that her affection was not due to the condition known as scrofulous diathesis, I was nevertheless of the opinion, from my experience of the last two or three years, that if the condition from which she suffered could not be eradicated it could at least be controlled by the application of bluestone. I therefore suggested the use of the bluestone on each occasion of the reappearance of the inflammation, and its application in the manner in which I had used it.

The patient returned to Rome, taking with her

several sticks of the bluestone ground after the American custom. She said that she would tolerate no other form of treatment.

Case III.—A little girl, a clinical patient, has been for a year or two accustomed to present herself at the New Amsterdam Eye and Ear Hospital at different periods with acute inflammation having attendant pain and an indolent ulcer of the center of the cornea. It is well known that these patients are difficult to cure and are subject to recurrent attacks of acute inflammation. The girl had been treated in the ordinary way—atropine and yellow oxide salve—with the result that at the end of a certain length of time the acute symptoms would subside. She would remain away until the eye became inflamed again, and then she would return. Throughout this treatment she was subjected to the use of atropine and the discomfort of a dilated pupil. I ceased the use of atropine and yellow oxide salve entirely and used bluestone, applying it as usual.

The upper lid presented on each occasion the same appearance already referred to. Immediately on the application of the bluestone there was a beneficent result, so much so that I determined to make use of it continuously. On each occasion she was relieved by the use of bluestone alone, no other treatment being used.

This child has not been cured, but the symptoms have been relieved very much more quickly under the use of sulphate of copper than under regular treatment. The benefit is most marked and the patient returns with alacrity for its employment.

Case IV.—A young woman of florid complexion presented a case of herpes zoster of the right side of the forehead; the cornea became involved, as is usually the case.

After the acute symptoms had disappeared the ulcer of the cornea was treated in the ordinary way—atropine, yellow oxide salve, and hot applications. At length the ulcer filled up and deep infiltration resulted. This infiltration was directly in the center of the cornea; it was exceedingly painful, as is usually the case in this affection, and most unsightly.

This patient was under the care of one of my colleagues who did not share my views on the subject of sulphate of copper. During his absence in Europe she fell under my care and I took the liberty of applying the bluestone to the lids in the usual manner, and the beneficial result was marked; immediately the eye commenced to feel and look better, the cornea cleared up, the blood vessels which had almost covered the upper part of the cornea disappeared, and the entire set of symptoms improved. About that time my colleague returned from Europe and she passed from under my observation. Within recent time it was my fortune to see this patient once more and she came under my treatment. The infiltration of the cornea had increased and a marked convergence of the eye had resulted in consequence of the deteriorated vision. Treatment with the bluestone for two weeks produced a most beneficial effect upon the general appearance of the individual; she herself said that this treatment is of more value than any other form of application. The upper lid in this case presented the same appearance I have described. My colleague has at last decided to continue the treatment and the case is progressing well.

Case V.—An old woman, aged sixty years, upon whom an operation for cataract had been performed, presented herself at the New Amsterdam Eye and Ear Hospital with superficial ulcer of the cornea. The ordinary treatment with atropine had been applied without any beneficial result. Bluestone was used in the customary manner and was followed immediately by improvement. This treatment has been continued at the suggestion and by the request of the patient independently of my own views, benefit being received on each occasion. She remains away whenever she feels better, always coming back, but never remaining under treatment long enough to be entirely relieved.

Case VI.—A young woman, aged twenty-three years, a demi-mondaine, presented herself for treatment with an infiltration of the center of the cornea, attended by intense pain, photophobia, and lacrymation. The customary treatment by atropine and hot applications was employed with but slight relief. There was a great deal of pericorneal injection. The atropine was discontinued immediately, the hot applications to be used if desired, and bluestone applied three times a week. The benefit was marked and immediate; the patient made an almost complete recovery, when a set of unfortunate circumstances carried her from the sphere of my influence and she has since passed from my observation.

The result of the treatment was so marked and so definite that she pronounced herself in favor of it, and it was also remarked by colleagues who were present.

I have, for the last two years, persistently made use of this treatment in all forms of inflammation of the cornea that are recurrent and are not interstitial in character. I have not, however, employed it in the so-called rodent ulcer or in the serpent ulcer of Saemisch. I conceive that it might be of advantage in the rodent ulcer, but while it may be of use in the serpent ulcer of Saemisch, I can see that it is not so definitely indicated in deep inflammations of the cornea as in superficial inflammations and infiltrations. I have not employed it in superficial injuries of the cornea, such as abrasions and superficial wounds. So far as curing inflammations of the cornea is concerned I have observed it to be of advantage in those cases in which the conjunctivitis is associated with a succulent, velvety appearance of the upper lid. This I have generally found to be present in persistent corneal inflammations that are of superficial nature.

These cases, I think, suffice to show the value of bluestone under the circumstances I have outlined. I desire to recite a case of a different nature, however, in which its effect was most marked.

A little boy, nine years old, had recurrent phlyctenular keratitis from babyhood. Over his right cornea was a scar so dense that he was scarcely able to count fingers; over his left cornea there was also a macula less dense in character, but occupying the center of the cornea. He was old enough to go to school, but had been kept away on account of his inability to see letters. I regret to say that I did not take accurate measurements of his vision on the occasion of my visit, but was told there was no use in sending him to school on account of his diminished sight. He was accustomed to have repeated attacks of exacerbations and remissions in the inflammation with pain, photophobia, lacrymation—in short, acute attacks of superficial keratitis.

I examined his lids, both during these attacks and during the intervals, and on no occasion was I able to detect the characteristic appearance on the upper lid indicating the employment of bluestone. Nevertheless I determined to try it in this case.

At the end of two months the infiltration about his cornea commenced to lessen and six months afterward the infiltration in the right eye was so slight that he was able to count fingers at fifteen feet, and with his other eye, with which he had not been able to see letters at all, he could count fingers

at thirty feet. According to the statement of his parents he was able to read with some facility.

It may be said that there was absolutely no indication for the use of bluestone in this case and that its employment was purely empirical; however that may be, the result was most marked.

The best manner of using the bluestone to obtain satisfactory results will be referred to later on.

It has been my custom also in little children suffering from photophobia and lacrymation, the characteristics of acute phlyctenular attacks, to apply bluestone. This is done without the subsidiary use of atropine; yellow oxide salve may be used upon the lids to prevent their closure in the mornings. It has been my routine custom to make use of this treatment in such cases. In older subjects who present the symptoms of phlyctenular keratitis it is also my custom to use this treatment, and the results have always been consistent with the results in other cases.

It is not difficult for me to conceive that some one of my readers may reply that what has been presented is nothing new. I do not pretend that it is anything new, except in so far as the use of bluestone for the cure of cases in which it has not heretofore been employed is concerned.

I have already referred to its use in trachoma and it is rather singular to me that the benefits obtained from its employment in this affection have not earlier suggested its use in keratitis. If it has already been employed by others in cases such as I have indicated I am unaware of the fact. The cases which I have detailed are characteristic and I have not time to outline all of those which have received treatment at my hands. For a very long while in the treatment of trachomatous pannus I had been accustomed to use atropine associated with bluestone. It was but a short time ago that I came to the conclusion, at the suggestion of some colleagues, that atropine was of no value but was rather detrimental inasmuch as it produced paralysis of accommodation and increased the annoyance by reason of the dilated pupil and made the patient generally uncomfortable.

The dilatation produced by the atropine and the paralysis of accommodation are annoying to children and more so to older persons who are capable of appreciating the loss of the power of accommodation.

I conceive, therefore, that the point which I have endeavored to bring forward is one of considerable importance in ophthalmology. If cases of superficial keratitis, ulcer of the cornea, and lid affections can be cured without the use of atropine, something has unquestionably been gained. I am also not unaware that there are many who will argue that the same result may have been obtained by the use of yellow oxide salve, calomel, or some other form of innocuous application between the lids.

In reply I would only say that the use of yellow oxide salve on the inside of the lid for certain conditions is very good, nevertheless in phlyctenular keratitis and particularly in marginal keratitis I will state with confidence that in my hands no such results have been obtained through its employment as have been obtained by the use of bluestone. Its effects are more marked, more lasting, and decidedly more satisfactory to the surgeon and to the patient.

It has been held that the use of yellow oxide salve on the interior of the lids, employed according to the usual method, produced beneficial results from the irritation of the surface of the cornea, increasing the blood supply and the rapid interchange of fluids in the interstices of the cornea, causing, therefore, a more rapid absorption of infiltrated material. I have no other explanation than this to offer for the action of bluestone in such affections, except the following:

Bluestone is unquestionably a disinfectant, an antiseptic, germicide, and to a most marked degree astringent. While it produces similar effect upon the corneal infiltration as does the yellow oxide salve, it is to a greater degree astringent and at the same time it disinfects, cauterizes, and renders antiseptic the lids and so removes the sources of infection of the cornea. I do not think that we have definitely appreciated the rôle that an inflamed, irritated, succulent lid plays in infecting and reinfecting a corneal infiltration, and I attribute the benefit which I have oberved in the treatment of such cases in some respect to the irritating effect of the bluestone, but more to the disinfection and cauterization of the lid.

I shall now call attention to the beneficial effect of bluestone in certain chronic affections of the lids; in short, to chronic conjunctivitis, which is attended by thickening of the lids with reddening of their borders—also to cases of chronic dacryocystitis. As types I will recite one or two cases.

A young man, thirty-one years old, had been afflicted with thickened, reddened lids since childhood. There was marked blepharitis with falling of the eyelashes. There was little or no secretion, but there was a feeling of heaviness and heat.

I explained to the patient that the treatment would take at least nine months, that it would be painful in character, and that his assistance would be of as much value in the case as my treatment. If he desired to undertake the treatment I would guarantee a complete recovery. This bold promise was accepted and treatment was begun. Bluestone was applied in the regular way three times a week for nine months. The lashes whenever necessary were epilated, and nitrate of silver was applied where there was a raw or bleeding surface. Yellow oxide of mercury was used at home and zinc was applied twice a day. At times there would be lapses of treatment from the bluestone in which case the eyes would invariably become worse and the patient would return for more treatment with the bluestone and a renewal of faith and enthusiasm.

At the end of twelve months he was rewarded by being discharged with eyes of normal appearance.

It may be urged that some constitutional treatment and the general mode of life, together with local treatment, the epilation of the lashes, and the use of yellow oxide salve and zinc cured this case. To this I can only reply that I do not think it is true. Whenever the bluestone was withdrawn the eyes would become worse; the patient came to recognize this himself and would return every time after his faith had failed temporarily.

I have used bluestone in cases of this description as a routine treatment for the last three years and I can say definitely that it has produced results such as I have never seen under any other form of treatment. It was valuable where silver could not be used for a prolonged treatment on account of producing argyriasis of the conjunctiva. I have found boric acid to be of no practical service in such cases. It is distinctly palliative, not curative. Solutions of zinc sulphate are of subsidiary assistance but will not produce a cure.

Although not strictly within the limits of this paper, I cannot refrain from mentioning the results obtained from bluestone in the treatment of chronic dacryocystitis associated with slit canaliculi and attended by chronic conjunctivitis.

The treatment by probes of this condition is so very unsatisfactory that it has been practically laid

aside by authority. Reliance is chiefly placed upon the sulphate of zinc, used in mild solution.

The obstinacy of these cases is well recognized. The theory of the profit derived from the use of zinc is that the solution flows into the sac and duct and acts as an astringent upon the swollen and thickened mucous membrane. It is safe to say that the bluestone acts in a similar manner. But the benefit derived is far more rapid and striking than that from the use of zinc.

I have on hand, at present, four patients with chronic dacryocystitis at the Vanderbilt Clinic, whose comfort has been greatly increased and whose lives have been made more tolerable by this treatment. Of course they have not been cured, for there is no cure for this condition.

I have been accustomed to apply the bluestone secundum modum three times a week until inflammatory symptoms have disappeared and then according to circumstances. being guided by the wishes of the patients who return when they feel the need of it.

Any remedy which ameliorates this uncomfortable condition should be accepted. I feel quite certain that any surgeon who uses it in these cases will obtain the corroborative testimony of the patient concerning the beneficial results.

I have also used sulphate of copper in acute attacks of pink-eye with most satisfactory results—a rapid diminution of the inflammation and a cure certainly as rapid as that under any other form of treatment. Of course bluestone is indicated in the follicular form of conjunctivitis which is not trachoma, but that disease scarcely comes within the limits of this paper. I am, therefore, compelled to regard bluestone as indicated in all forms of chronic conjunctivitis and in those other classes of cases which I have outlined.

Before closing these references to the use of bluestone I wish to indicate certain conditions of the conjunctiva, which I am not aware have been described specifically, but which have probably come under the designation of conjunctival catarrh and chronic conjunctivitis. I refer in the first place to the condition accompanying recurrent attacks of superficial keratitis which I have here described as villous or velvety conjunctivitis. I have seen another form of conjunctivitis which may very aptly be described as granular, inasmuch as there is the appearance of grains on the conjunctiva, resembling the fine grains of sand on the finest grade of sandpaper. Bluestone is certainly indicated in these cases.

As an instance; A boy ten years of age, suffered from blepharospasm and slight headache. He had an error of refraction which was corrected. Fowler's solution of arsenic was given. The upper lid presented the characteristic appearance of "sand conjunctivis;" the eyes felt heavy and gritty. This form of conjunctivis persisted and it was months before he recovered; in fact, on examination some short time ago there were still some slight evidences of the sandy appearance. I have frequently found this condition associated with anæmia; the upper lids are far from presenting the red look of ordinary conjunctivitis; in fact the conjunctival surface is pale.

I do not consider it necessary to carry these remarks further. I have at least outlined my views in the cases detailed.

And now a word concerning the application of the bluestone. The ordinary stick of bluestone which is found at opticians', the round pointed stick, should not be used; the point is apt to be broken and will likely wound the conjunctiva. The stick should be ground in the form of a parallelogram and then inserted into a porte-crayon.

In making this application the surgeon should sit in front of the patient, the patient's face being toward the light. A metal probe should be wound with cotton and laid in a basin of water which the patient holds in his hands under his chin. The patient is directed to look down and the upper lid is turned. The stick of bluestone is then run underneath the upper lid between it and the ball of the eye, so that that portion of the upper lid is reached which is next to the ball. Except in severe cases of trachoma I never apply the bluestone to the outer surface of the upper lid. This, in my opinion, should not be washed off with water. The upper lid is now drawn gently down and the bluestone is stroked along the cul-de-sac of the lower lid. The surplus bluestone is now washed off with water, and is removed from the cul-de-sac of the lower lid by use of the cotton-wrapped probe.

I desire to lay stress upon the necessity of applying the bluestone to the upper lid on the under surface between it and the ball; unless this is done, in my experience the results are not so good.

I am opposed to the use of camel's hair brushes. While I am not absolutely able to attribute any case of infection to the use of brushes that have been used in other cases, such a possibility appears to be most reasonable. Brushes are rarely disinfected in bichloride; they are cleansed in hot running water. A brush is a dirty thing in any case and cannot be thoroughly disinfected. Although their use is countenanced in clinics, I cannot conscientiously recommend them.

I may sum up my conclusions in this matter as follows. Copper sulphate in the form of the solid stick is indicated:

1. In all acute attacks of inflammation of the cornea in which there is thickening with a succulent, velvety appearance of the upper lid.

2. In all recurrent attacks of superficial keratitis in which the same condition of the upper lid prevails.

3. In infiltrations of the cornea which are the result of preceding inflammations, associated with the same condition of the upper lid.

4. In maculæ of the cornea in children and adults which have occurred a reasonable time after an inflammation, whether the upper lid presents the characteristic appearance or not.

5. In chronic conjunctivitis attended by thickening of the lid associated with blepharitis.

6. In chronic dacryocystitis (particularly in those cases in which the canaliculus has been slit) attended by chronic conjunctivitis.

39 West Thirty-sixth street.

Deaths Due to Wild Animals in India.—A satisfactory decrease in the number of people and cattle killed by wild animals in the Punjab is shown by the report for 1900. The ubiquitous snake is, of course, far and away the worst of these ills, but in a province where considerably more than half a million people must inevitably die every year, in the ordinary course of nature, it is reassuring to find that only 893 people received their quietus from snake bite. It is curious to note that more deaths from snake bite occurred in houses, than either in the fields or in the jungle. The only other human deaths from wild animals were those caused by mad dogs and mad jackals which numbered 29. Regarding cattle, 762 were killed by leopards, and 94 by wolves It seems strange that no mischief should have been caused by tigers or bears—perhaps they are being killed off too fast During the year in question, 1,374 wild animals were slaughtered, including 11 tigers, 186 bears, 184 leopards, and 99 wolves. Moreover, 13,272 snakes were killed.—*Indian Lancet.*

NEEDED REFORMS IN THE MANAGEMENT OF YOUTHFUL AND INSANE CRIMINALS.*

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Some one has said "the prisoner is a moral and physical patient, more or less curable, and we must apply to him the great principles of the art of medicine. To a diversity of ills we must apply a diversity of remedies." Thus it is to the physician and not to the moralist and lawmaker that society will have to look for the repression and correction of vice and crime.

There are two great causes which make every man what he is, viz., heredity and environment. That the moral disposition for good and evil, including criminal tendencies, love, hatred, courage, and cruelty, are transmitted from the parents to their children, or from one generation to another, has been proved, and is as firmly believed by all scientific men as the fact that parents transmit to their children the physical qualities of beauty, color of eye or hair, and shape of nose. As there are exceptions to the physical transmissions, so there are exceptions to the moral transmission of qualities. Occasionally we find a son or daughter totally unlike either father or mother in physical appearance, while on the other hand we find one child, the so-called "black sheep of the flock," who evinces marked criminal tendencies. The question naturally arises, why this difference? Why does not the law of heredity hold good? My answer to this would be that these are apparent exceptions and that from some former generation this moral obliquity comes, latent it may be for several generations, but retaining its potential energy and perhaps nurtured by external influences, until finally it makes its appearance in some unfortunate one, handed down to him as a legacy from an erring ancestor. The mental and moral deficiency in the parents does not necessarily manifest itself in the children in the same form. In one generation we find insanity, in another epilepsy or some other neurosis:; some have strong criminal tendencies, or are defective in moral sense—in short, they are degenerates. As Maudsley so aptly expresses it, "there is a destiny made for a man by his ancestors, and no one can elude, were he able to attempt it, the tyranny of his organization."

There are many who recognize hereditary influence in animals, but fail to recognize it in men. Occasionally we find in a litter of puppies that there is one which differs entirely from the parents and others either in color or mental qualities. When we wish to buy a horse, a cow, or a dog, we are governed to a great extent by the qualities of their parents —in other words, their pedigree is the controlling influence. The history of a remarkable family, known as the "Jukes," has been traced through seven generations, including 709 persons, every one of whom was a thief, robber, murderer, prostitute, or lunatic.

When I speak of environment, I use the term in its broadest sense, including education in general; mental and moral, religious and social, physical and political conditions. Hereditary influences are coeval with the beginning of mankind, and will be felt to the end. Environment and education are the powers and circumstances which are to a greater or lesser extent modifying heredity in the present and future generations. By proper environment and education along with social reforms, ancestral tendencies to vice can to some extent be overcome, and much can be done to prevent the increase in our defective and degenerate classes. With every mental act and every deed there is a decomposition or molecular change in some of the brain cells, followed by rapid repair; but this repair is not an exact reproduction of the brain tissue—a modification is produced in its substance, the character of the modification depending upon the quality of the thought or act performed; that is, if any given act or deed is good, that modification which takes place in the reproduction of the brain tissue is such that this same portion of the brain will in the future more easily generate thoughts and deeds of even a higher standard. On the other hand, if any given thought or deed is evil, the modification which takes place is of a different character, and in this case we have brain tissue which, should occasion arise, is more likely than before to generate thoughts of a lower standard. Thoughts and deeds of a good or evil character are produced by education and environment, being of course modified to a great extent by hereditary influences; and it is in this way that proper education and surroundings elevate the functions of the brain so that it will generate thoughts and deeds far nobler, less selfish, and more moral than it was wont.

The object of all law is to protect society and to prevent crime. It is the criminal whom we should consider and not the crime alone—the crime is merely one symptom of a defective organization. No two criminals are, perhaps, exactly similar, hence each should be dealt with differently. We should examine each criminal just as we examine a man with physical disease, observing his heredity, his physical and psychological characteristics, and his environments, taking a complete clinical history of him so far as possible, to determine whether his defect is congenital or acquired, and whether it is capable or incapable of rectification and improvement.

Prof. Ferri, in his work on "Criminal Sociology," makes the following classification of criminals:—"1. Criminal madmen; 2. Born criminals; 3. Criminals by contracted habit; 4. Occasional criminals; 5. Criminals of passion."

The class of "criminal madmen" consists of those who commit crimes while insane, and includes the subjects of homicidal mania, moral insanity, and some cases of paranoia. They are, as a rule, hereditary, though latent until the periods of puberty and adolescence, or later in life. These cases shade imperceptibly into the "born criminals," who are degenerates—true moral imbeciles; their moral insensibility is such that they have no self-control against crime; their crime is a neurosis. "They are like a painter in his studio dreaming of his next masterpiece," and are unaffected by punishment, which is a natural risk of their occupation, just as miners or those who handle dynamite do not reckon the dangers to which they are exposed, and are uninfluenced by the terrible accidents which so frequently befall their fellow workmen. The criminal insane and the born criminal are not *morally* responsible, inasmuch as they are congenitally defective, and hence not responsible for their degeneracy. Yet these two classes as well as all classes of criminals are *legally* responsible, for social defense requires that they be placed where they cannot commit crimes, and for so long a period as they would be dangerous to society. The only question would be, where?

The "criminal by contracted habit," as a rule, commits his first crime in youth, almost invariably

*Read before the Medical Association of the State of Alabama at its annual meeting, April, 1901.

against property and through moral weakness, being induced thereto more by environment than by hereditary tendencies. These cases are liable to relapse if their environments are unfavorable or if associated with hardened criminals. The "occasional criminal" commits crime on account of his physical and social environment, and does not relapse, if temptations are removed. The "criminal of passion" as a rule commits a crime against the person, done either in anger or in defense of honor, usually not premeditated, but with a precise motive and openly, and followed by remorse. These cases rarely relapse. Prof. Ferri says that "the true difference between the born and the occasional criminal is that, with the former, the external cause is less operative than the internal tendency, because this tendency possesses, as it were, a centrifugal force, driving the individual to commit crime, whilst, for the occasional criminal, it is rather a case of feeble power of resistance against external causes to which most of the inducement is due." And again, he says, "with the born criminal it is, above all, the lack or the weakness of moral sense which fails to withstand crime, whereas with the occasional criminal the moral sense is almost normal, but inability to realize beforehand the consequences of the act causes him to yield to external influences."

In the management of youthful criminals, we must recognize the fact that we have different types—one class, however, shading almost imperceptibly into the other; and it is evident that the treatment should not be the same for each class. Furthermore, the *criminal* should be considered and not the *crime*, for crime is a symptom of a condition—an act, a transgression of the laws, by an individual, who is a degenerate, either insane or a moral imbecile, or who is impelled by social environments, or by habit or by passion.

The "born criminal" we cannot hope to reform. Individuals of this class, no matter what their crime, if it can be shown that they are born criminals, as indicated by their frequent relapses and defective moral sense, should be confined indefinitely and forever. They are unable to adapt themselves to their social environments, and should be removed. They should be kept separate from those who can be reformed, for there is no doubt that, although young, they will have a bad influence over other criminals. Much can be done in the way of reformation of the "criminal by contracted habit" and the "occasional criminal."

When a person is placed on trial and all evidence pro and con has been given, the duties of judge and jurors should cease when the latter have rendered their decision as to the guilt of the accused. If the person has been found guilty, the verdict in all cases should be "To be confined until reformed." What good is accomplished by sending a prisoner up for thirty days, or to the penitentiary for three months? The young man and the occasional criminal come in contact with the habitual criminal, and there can be no question as to the results. They are turned loose upon society more degenerate morally, more hardened, and more adept in crime than they were when admitted, perhaps again to fall into crime. All transgressors against the law should be given *indeterminate* sentences, and as far as possible classified according to their moral responsibilities. Every one should be compelled to work, and receive instruction in branches of literature or rudiments of learning, and in ethics, philosophy, and physical culture, according to his requirements and natural ability. The duration of his confinement should depend on his moral character and disposition to work. When the authorities of the institution, who must be competent judges, decide that any one is entitled to a release, such a person could be given a parole and be required to report by letter to the authorities at specified intervals. Any violation of parole should, without trial, subject him to further incarceration. The Elmira Reformatory in New York State, which was opened in 1876, has practically this system. What are the results? Eighty per cent. never relapse into crime, and the average time of detention is twenty-two months.

The question of unfixed or indeterminate sentences is thoroughly practical and scientifically correct for adult as well as for youthful and insane criminals; for, as Villert says, "when the measure of punishment is fixed beforehand, the judge is like a doctor who, after a superficial diagnosis, orders a draught for the patient, and names the day when he shall be sent out of the hospital, without regard to the state of his health at the time." For economic reasons, also, the indefinite sentence is preferable. In New York State it is estimated that the average detention of the inmates of the Reformatory, where there is an indeterminate sentence, is twenty-two months; whereas, of those committed to the penitentiary for the same crimes and for fixed periods the average imprisonment is five years—the former being an immense saving to the State.

A penal agricultural colony for the detention of certain classes of young criminals is one of the best methods for social defense, as well as a means for their reformation and change of environment. Outdoor labor tends to secure physical and moral health, and every degree of labor from light to severe occupation can be obtained. This method would be specially applicable to those who have committed their first offense and are not too defective morally. It would avoid the bringing together of all classes of criminals in places where many of the most promising ones are bound to be made worse by association with the born and incorrigible criminal.

For some offenses, such as bodily injury, blows, threats, and slander, committed by criminals of passion or occasional criminals (the former are not criminals in the strict sense of the word) there should be a reparation of damages by fines, reduction of wages, or forced labor. This reparation of damages should be made a penal substitute—to obtain which it should be unnecessary to enter the civil courts.

As there is no distinct line of demarcation between sanity and insanity, so the type of some criminals merges into that of the insane madman. As Maudsley expresses it, "there is a borderland between crime and insanity, near one boundary of which we meet with something of madness but more of sin, and near the other boundary of which something of sin but more madness. A just estimate of the moral responsibility of the unhappy people inhabiting this borderland will assuredly not be made until we get rid of the metaphysical measure of responsibility, and proceed by way of observation and induction to sound generalization concerning the origin of the moral sentiments, the laws of their development, and the causes, course, and varieties of moral degeneracy."

In the class of criminal madmen, I would call special attention to the subjects of *paranoia*, which is defined by M. Allen Starr as "a chronic form of delusional insanity, characterized by fixed and systematized delusions, which dominate but do not impair the intellect." The majority of the doubtful cases of the criminal insane are paranoiacs. Guiteau was an example of this unfortunate class, whose legal murder was a blot upon science as well as upon humanity.

I am of the opinion that the criminal insane should be confined in separate asylums, on account of the demoralization which this class exerts over the harm-

less insane; and, because dangerous, they should be more securely confined; for it is a fact that the ordinary insane hospital is not sufficiently secure for the confinement of many insane criminals. The management and discipline of the "criminal madman," furthermore, are necessarily different from those of the harmless insane. I believe too that the criminal lunatic asylum is the place for those unfortunate degenerates who inhabit the "borderland" between crime and insanity. Whether sane or insane, if they are dangerous to society, social defense demands that they be confined. The criminal insane asylum will prevent the hue and cry which is raised whenever a criminal is "acquitted on the plea of insanity." There should be no acquittal—if he is insane or if he has no moral sense, no matter how slight the crime, and if he is dangerous to society (and he is), he should be confined until he has recovered or is no longer dangerous, which in many cases would be for life. This class of cases needs caring for more than the harmless insane.

There is another class of evil-doers, who are no more responsible for their condition than they are for the color of their hair or shape of their noses, or than the lunatic is responsible for his insanity. I refer to the dipsomaniac or the periodical drinker. This condition is an inherited disease—a neurosis. The father or mother or some ancestor was neurotic, or insane, or a drunkard. It is his inheritance, his birth-right. If he had not been an inebriate he might have been insane or a criminal. If he had been insane, we would confine him in a lunatic asylum; if a criminal he would be sent to the penitentiary; but if, perchance, inebriety is his inheritance, we do nothing either to protect him or society, unless he infringes upon the majesty of the law, and then he is treated as any other criminal. There is great need of legislation along this line. The physician or family should be enabled to control the cases legally. Moral, social, and religious influences and detention where they cannot obtain alcohol, do more to cure these cases than medicine. The State, in order to care for chronic alcoholics, might tax the saloons enough above the present rate of taxation to provide the necessary funds. There is need, also, for legislative enactment for the care and supervision of the children of criminal and drunken parents, whose environment from infancy is such that when they have reached maturity, they are too frequently hardened criminals. There is no doubt also that the press publication of details of murder is itself a great source of crime, by suggestion; and such should be restricted by law.

The points which I wish to emphasize cannot be better expressed than in the words of Mr. Arthur MacDonald in his work on "Criminology:" "*First.*—It is detrimental financially, as well as socially and morally, to release prisoners when there is a probability of their returning to crime; for in this case, the convict is less expensive than the ex-convict.

"*Second.*—The determinate sentence permits many prisoners to be released, who are morally certain to return to crime. The indeterminate sentence is the best method of affording the prisoner an opportunity to reform, without exposing society to unnecessary dangers.

"*Third.*—The ground for the imprisonment of the criminal is, first of all, *because he is dangerous to society.* This principle avoids the uncertainty that may rest upon the decision as to the degree of freedom; for upon the last principle some of the most brutal crimes would receive a light punishment."

Whatever the remedy of crime, the cause must be studied first; and let us as physicians put our shoulders to the wheel, and by virtue of our knowledge of the laws of heredity, and by virtue of our studies of the physical and psychological state of the criminal, and by virtue of our knowledge of the degrees of responsibility, obtain just and scientific laws for the management and betterment of these unfortunate people. Let us study the causes and the prevention of crime in a philosophical manner, that the destiny of future generations may be changed.

Epigastric Pain.—H. W. Bettmann calls attention to the fact that paroxysmal pains in the epigastrium, variously called gastralgia, cardialgia, gastrodynia, and gastrospasm, are frequently caused by gallstones and cholecystitis. The special features of paroxysmal epigastric pain due to gallstones are these: the attacks may occur independently of the taking of food; they often occur at night, four to six hours after the last meal; they are very likely to follow the ingestion of acid drinks or alcoholic beverages; they are often accompanied and followed by tenderness over the gallbladder; between the attacks the gastric functions and the gastric secretions may be perfectly normal. This clinical picture is almost pathognomonic of gallstones. Many patients affected with gallstones complain for months of epigastric pains, coming on daily after meals and of variable intensity and duration. It should be laid down as a clinical rule that gallstones should be suspected whenever patients complain of regularly recurring or paroxysmal severe epigastric pain, coming on several hours after eating, and when a careful examination of the secretions and digestive functions of the stomach reveals no abnormality.

It cannot be too strongly asserted that when several examinations of the stomach fail to reveal any abnormality of function we should seek elsewhere than in the stomach for the prime cause of the symptoms. Persistent epigastric pain may come from pelvic lesions and occasionally from eye strain. It is found in young chlorotic girls, suggesting the existence of gastric ulcer. The special features are the chlorotic background, the absence of nausea or vomiting, the localization of the pain in the median line, normal or diminished acidity of the gastric juice, spots of marked tenderness corresponding to the seat of pain, and, most important of all, the rapid moderation or disappearance of the pain on the administration of Blaud's pills and Fowler's solution.

Still again, epigastric pain is often found in elderly people who complain of a crampy feeling after meals when any exercise is indulged in. Even slow walking suffices to arouse the pain, which ceases as soon as the patients stand still or sit down. The peculiarities of this symptom are as follows: it affects only those who are advanced in years; it is most troublesome during the two or three hours which follow the ingestion of food; it is not accompanied by local tenderness, valvular lesions of the heart, or dyspnœa; the digestion is very slightly if at all impaired; it is a very obstinate symptom, resisting all methods of treatment and lasting for months and years. Arsenic, potassium iodide, and nitroglycerin are alike unavailing. It does not affect the general health, but remains as a very annoying symptom. Van Valzah and Nisbet ascribe this symptom to the gastric localization of arteriosclerosis, and liken it to the ordinary muscle-cramps of this condition.—*Cleveland Journal of Medicine.*

Unusual Dosage of Diphtheria Antitoxin.—H. L. Nietert reports the case of a young woman of twenty-one years, suffering from diphtheria, to whom 25,500 units of antitoxin were given without any ill effects. The serum was ineffective, probably because there was streptococcus infection in addition to the diphtheria infection. An abscess of the jaw was found to contain the diphtheria bacillus. The patient's septic condition finally yielded to venesection and transfusion of saline solution and recovery was uneventful.—*St. Louis Medical Review.*

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KOCH'S ALLEGED DISCOVERY.

THE cable reports that Professor Koch, of Berlin, has presented a communication to the British Congress of Tuberculosis, asserting the absolute non-identity of human and bovine tuberculosis. He asserts, it is reported, that he has been unable to induce tuberculosis in animals by inoculation with human tubercle bacilli, and concludes from that that animal tuberculosis is not communicable to man. The most important deduction from this fact, if it were a fact, would be that there was no danger to man from tuberculous cattle, and that the feeding of milk from such diseased animals to babies would be harmless. It is a pity that Koch's true standing as a scientist is not so well appreciated by the public as it is by the medical world, for with the belief in his authority still extant among the laity, the publication of these views may do infinite harm. How great this harm may be, if Koch is wrong, can be judged by the headlines in *The Herald*, announcing the alleged discovery: "Professor Koch's New Discovery—Bovine Tuberculosis not Transmissible to Man, and Very General Fear Unfounded—No Harm to Use Milk or Meat—Diet from Infected Cattle, German Bacteriologist Holds, Can be Consumed with Impunity."

Of course, we cannot discuss Koch's paper from the imperfect abstracts of it cabled to this country, but we are justified in two comments upon it. In the first place, Robert Koch is not the authority he gave promise of being earlier in his career, and there is no longer reason to accept as true any assertion which he may choose to make, simply because he has made it. The keen striving after exactness of the scientist has been dulled in him more or less, as was shown in the matter of tuberculin and of T. R., and in that of his assertions regarding malaria. He has lost the caution of the real scientist and has put on the assumption (the cocksuredness, we are tempted to say) of the poseur. He asserts with positiveness what men like Adami and Theobald Smith suggest with caution.

And this leads us to the second remark we have to make on this publication. This alleged discovery of Koch is not original with him, any more than was that of the agency of the tick in the spread of Texas fever. He was preceded in the latter by Theobald Smith, and he is preceded in the former by the same investigator. In 1898 Smith presented a communication to the Association of American Physicians, in which he detailed a number of experiments showing marked differences between the bacilli of bovine and those of human tuberculosis. These differences were morphological, cultural, and in the results of inoculation, and were sufficient to warrant the belief that the tw diseases were distinct, though possibly allied affections. Sputum bacilli, he said, cannot gain lodgment in cattle through the ordinary channels, but, owing to the impossibility of making inoculation experiments in the reverse order, from cattle to man, the question of the transmission of bovine bacilli to the human must, for the present, remain undetermined. However, influenced apparently by the few seemingly indubitable instances of the transmission of tuberculosis from animals to man, he expressed the opinion that "the occasional entrance of bovine bacilli into the human body might open the way for the introduction of a virus of a higher level." Adami, also, while not denying the possibility, and, indeed, arguing that it should be accepted for prudential reasons, yet admits that the evidence of direct transmission from animals to man "is singularly slight." Others, among whom are Frank S. Billings and Edward Moore—two acute observers who have enjoyed exceptional facilities for the study of bovine tuberculosis—deny that man is susceptible to this disease.

This question, from its very nature, is a difficult one to solve, but it is of the greatest importance, economical as well as nosological, and it must be determined absolutely within a very short time. If the assertion of Koch shall have the effect of shaking the firm belief to the contrary, which is now held by the vast majority of the medical profession, and of spurring on to greater efforts and more searching investigation the few who are at present studying the subject, it will have served a useful purpose. But it is unfortunate that he should have communicated it prematurely to reporters of the secular press, and so gained the wide audience of an impressionable laity before he presented it to the scientific body to which he was accredited. It was unprofessional and may be productive of incalculable harm.

THE NATURE AND THE TREATMENT OF PERNICIOUS ANÆMIA.

IT cannot be said that a satisfactory answer has yet been given to the question as to whether so-called progressive pernicious anæmia is a protopathic or a deuteropathic disorder. While often no underlying cause can be discovered, at times the characteristic symptoms and blood-changes are observed in connection with definite etiological factors, such as intestinal parasites, atrophy of the gastric tubules, etc. It is now pretty generally believed that the disorder is dependent essentially upon excessive blood-destruction, with deficient blood-regeneration, but the influence or influences responsible for these changes are as yet not known. It has even been suggested that the affection is of infective origin, and in this connection the opinion of Wm. Hunter that the infection may be derived from the alimentary tract is worthy of serious consideration.

A good deal of study has been devoted to the number and the characteristics of the blood-corpuscles and to the percentage of hæmoglobin in cases of pernicious anæmia and comparatively little to the chemistry of the blood. It has, however, been noted that the dry residue of the blood is greatly reduced, about one-half, and that the amount of water present is distinctly increased, while an excessive amount of iron has been found in various internal organs, such as the spleen, the bone-marrow, the lymphatic glands, and espe-

cially the liver. Th. Rumpf (*Berliner Klinische Wochenschrift*, No. 18, 1901) has observed, in addition, that the blood is rich in chlorine and deficient in potassium, iron, and fat. It was found further that the amount of water in the substance of the heart in a fresh state exceeded, while that in the liver, the spleen, and the brain was less than the normal. The dry residue of the heart, the liver, and the spleen was considerable, while the blood, the heart, liver, spleen, and brain contained minimal amounts of fat, and the amount of sodium chloride in the heart, the liver, the spleen, and the brain was large. The amount of potassium was above the average only in the liver, but less in the remaining organs. The amount of iron in the liver and the spleen was much greater than normal.

It is pointed out that if pernicious anæmia is dependent upon excessive hæmolysis and insufficient hæmogenesis, and if the former is due to the development of toxic substances, it is possible that these are in some way related to the potassium present in the blood-corpuscles, the withdrawal of which must be looked upon as a cause of the blood-disintegration. A similar withdrawal or interference with the assimilation of potassium may take place elsewhere. Accordingly the administration of potassium-salts in readily assimilable form constitutes a rational therapeutic procedure. It is true the pill of Blaud, containing potassium carbonate and ferrous sulphate, has long been employed in the treatment of anæmic states, but by this means a combination—potassium sulphate—is formed that is rapidly eliminated. Rumpf, however, has for a number of years administered potassium carbonate, potassium tartrate, or potassium citrate in doses of from 7½ to 10 grains under such conditions, in conjunction with an active preparation of iron, with most satisfactory results.

ANTI-TYPHOID INOCULATION.

Inasmuch as typhoid fever is a self-limited disease, and one attack affords relative protection from subsequent attacks, there would seem to be ground for the hope that immunity may be conferred by preliminary treatment with typhoid-bacilli or their products. The reports as to the results of such measures, particularly in the case of British soldiers sent to South Africa, are as yet somewhat conflicting, although the good effects appear to be predominant. According to a recent statement by Dr. A. E. Wright (*British Medical Journal*, May 4, 1901), based upon statistics furnished by Col. W. J. Fawcett, principal medical officer in Egypt, there were, during the year 1900, among an average annual strength of 2,669 uninoculated British troops in Egpt and Cyprus, 68 cases (2.5 per cent.) of typhoid fever, with ten deaths (0.4 per cent.); and among an annual average strength of 720 inoculated troops, but one case (0.14 per cent.) of typhoid fever, and this terminated fatally. Colonel Fawcett adds further that the figures do not fully disclose the measure of protection afforded by the inoculation, inasmuch as the number of uninoculated included soldiers inoculated in previous years; so that the number of uninoculated is really smaller, and that of inoculated actually larger than is apparent. On the other hand, the number of cases and of deaths in both sets of troops is entirely accurate, none of those inoculated in previous years having contracted typhoid fever. Further, in the single and fatal case occurring in the inoculated, the disease developed on the twenty-third day after inoculation, therefore before sufficient time had elapsed for protection to have been established.

STRONG DRINK AND CRIME IN THE GERMAN ARMY.

The misguided creatures who, through their action in abolishing the army canteen, have driven hundreds of our soldiers to drunkenness might pause a while in their hour of exultation and study some statistics cited by a writer in a recent issue of the *Kreuz Zeitung* of Berlin. According to this showing, in 120 army prisons throughout Germany forty-six per cent. of all the murderers committed their crimes while under the influence of drink. Sixty-three per cent. of the cases of manslaughter, seventy-four per cent. of serious injury to the person, and seventy-seven per cent. of criminal immorality are due to the same cause. In the navy, out of 1,671 punishable cases during the last six years, seventy-five per cent. of the most serious cases have been due to drunkenness.

This overmastery by strong drink comes not from the use of beer and light wine, such as was formerly obtainable in the "post exchange" in our army but from indulgence in "schnapps." This is the German equivalent of the whiskey served to our soldiers in the hundreds of dram shops which form a cordon around the army posts, and which were established there as a direct and logical result of the action of Congress influenced by the W. C. T. U. and other well-meaning, but sometimes pernicious, organizations.

News of the Week.

Unseasonable Diseases.—Smallpox, which is usually regarded as a winter disease, has prevailed to a greater extent in this city since the mild weather began than during the winter. During May and June there were over eight hundred cases, while from the middle of December to April 30, there were less than seven hundred cases reported to the Health Department. Owing to this rapid increase, with which the Health Department is evidently unable to cope, the Board of Estimate has authorized a bond issue of $65,000 in the hope that with this amount more can be done in vaccinating the well and isolating the sick. Another disease which is distinctly one of the colder season, especially of early spring, is pneumonia. But there have been many cases of that affection in New York during the past month, the various hospital records showing an unusual number of cases even now under treatment.

The Ontario Medical Association, at its recent annual meeting at Toronto, elected the following officers for the ensuing year: *President*, Dr. N. A. Powell, of Toronto; *Vice-Presidents*, Drs. R. Ferguson, of London, R. W. Garrett, of Kingston, L. C. Prevost, of Ottawa, and J. L. Turnbull, of Clinton; *General Secretary*, Dr. H. C. Parsons, of Toronto; *Assistant Secretary*, Dr. George Elliott, of Toronto; *Treasurer*, Dr. A. R. Gordon, of Toronto.

Mosquitos are more than ordinarily numerous this season in certain parts of New York and of the resorts in its neighborhood, and the opportunities for waging a crusade against them according to modern methods are ample. Prof. John B. Smith, the New Jersey State Entmologist, is credited with the statement that many mosquitos in that State

breed in running water instead of stagnant pools, and if that is the case it is difficult to see how their eggs and larvæ can be destroyed except by increasing the number of their natural enemies, such as the sunfish and dragon flies. The first skirmish against them is reported to have resulted in a victory for the mosquitos in South Orange. A determined effort has been made by the Village Improvement Society there to reduce the number of those pestiferous insects by oiling the surface of all bodies of standing water, but hitherto the results have been unappreciable. It is said that it is impossible to gain the cordial co-operation of all the citizens of the place, and the men who refuse to oil their own waste waters breed mosquitos enough to supply the entire village. Some of these opponents of progress, in order to enlist the support of the people at large, have invented and telegraphed to the New York papers an ingenious tale which seems to have obtained credence among many of the simple Jerseymen. They say that another danger has been added to country life since the oil was spread upon the mosquito-troubled waters of South Orange. The mosquitos absorb quantities of the oil, and when they gain entrance to a house, the occupants have to be very vigilant lest the insects fly into a lamp or gas jet and catch fire! These veracious scientists affirm that this has happened on more than one occasion, and the blazing mosquitos have set fire to curtains and draperies before the insects were consumed. In New Orleans, much is hoped from the plan of sprinkling the streets with oil instead of water. The object of this is primarily to lay the dust, but as the ever-present mosquitos in that city are supposed to lay their eggs in the drains, it is thought the oil escaping into them will have a depressing effect on the larvæ.

Beer vs. Water.—It is said that Dr. Tanner, of fasting fame, now sixty-eight years old, has challenged the brewers of Denver to a fasting contest. Six men are to drink beer only and he is to drink water. The brewers have agreed to the contest.

Colorado State Medical Society.—At the thirty-first annual meeting of this society, the following officers were elected: *President*, Dr. R. W. Corwin, Pueblo; *First Vice-President*, Dr. W. W. Grant, Denver; *Second Vice-President*, Dr. P. J. McHugh, Fort Collins; *Third Vice-President*, Dr. L. J. Forhan, Trinidad; *Corresponding Secretary*, Dr. J. M. Blaine, Denver; *Recording Secretary*, Dr. Minnie C. T. Love, Denver; *Assistant Recording Secretary*, Dr. J. T. Melvin, Saguache; *Treasurer*, Dr. William J. Rothwell, Denver. *Board of Trustees*, Drs. Hubert Work, Pueblo; S. E. Solly, Colorado Springs; J. T. Eskridge, A. Stedman, W. E. Wilson, E. J. A. Rogers, and J. N. Hall, Denver.

Northwestern University Medical School.—N. S. Davis, Jr., has been elected Dean, and Arthur R. Edwards Secretary, of the Faculty of this school, otherwise known as the Chicago Medical College. Wesley Hospital, in close connection with the College, has been informally opened to the profession, and after complete equipment the formal opening will take place. The hospital will accommodate three hundred patients. Plans are completed and the money is raised for an amphitheatre and operating rooms at Mercy Hospital, with a seating capacity of four hundred. Drs. C. L. Mix and P. T. Burns have been appointed Assistant Professors of Anatomy.

The Havana Health Report.—The report of Major Gorgas, Chief Sanitary Officer of Havana, for the month of June, states that there were no cases of yellow fever in that city during the month, this being the first June since 1761 which has been free from the disease. The last death from yellow fever occurred on March 16. Since the middle of February, the whole management of yellow fever has been based upon the supposition that the mosquito is the medium of its transmission from person to person, the theory originally brought forward and elaborated by Dr. Charles Finlay of Havana, and finally entirely established by the beautiful and complete experiments of the Yellow Fever Comission, of which Major Walter Reed was President. When the results of these experiments were made known, the Military Governor, General Leonard Wood, directed that every effort be made to carry out disinfection on the lines indicated by this discovery, and the result of four months' work has been to strengthen the conclusions reached by the Board. During the past three months yellow fever was introduced into Havana from without three separate times, but each time the disease was recognized, and its spread prevented. Soon, if this remarkable state of affairs continues, Havana will turn the tables on the rest of the world and quarantine against New York and other sources of infection. Indeed, Major Gorgas seriously proposes this measure in the case of smallpox. There has been no case of that disease in Havana since July, 1900, but prior to the American occupation this was one of the principal causes of death in Havana, and all reasonable precaution should be taken to keep it out. With smallpox so general in New York and New Orleans, every person coming into Havana from these points is a possible conveyor of the disease, and Major Gorgas therefore has requested the Governor General to require all passengers from these points to show evidence of immunity either by successful vaccination or having previously suffered from the disease before they are permitted to land on the island.

The Streets of New York are getting very dirty again, as one cannot fail to observe who has occasion to traverse those lying at any distance east or west of the main arteries of travel, or even Fifth Avenue. Recently a number of physicians and other residents on the east side presented a very strongly worded protest to the Commissioner of Street Cleaning against the neglect of the department in disposing of garbage during the hot weather. It is little short of infanticide to neglect the cleaning of the streets in summer in the tenement-house districts—and the cry of the innocents is one that even a political office holder cannot afford to disregard.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical corps of the Navy for week ending July 20, 1901: July 17—Asst. Surgeon F. M. Bogan, detached from the Scorpion, when put out of commission, and ordered to the Machias. P. A. Surgeon C. P. Bagg, detached from the Culgoa and ordered to the Yorktown. July 18—Surgeon C. J. Decker, detached from the Newark, when put out of commission, and ordered home to wait orders. Asst. Surgeon W. H. Bucher, detached from the Naval Hospital, Norfolk, Va., and ordered to the Dixie. July 22. Asst. Surgeon P. E. McDonnold, ordered to duty at the Naval Museum of Hygiene, Washington, D. C. July 25.

The New Jersey State Dental Society held its thirty-first annual meeting last week at Asbury Park, under the presidency of Dr. F. Edsall Riley, of Newark. The election of officers resulted as follows: *President*, W. M. Fish of Newark; *Vice-President*, Frank Hindle of New Brunswick; *Secretary*, Charles A. Meeker of Newark, *Treasurer*, Henry A. Hull of New Brunswick. The association will meet again in Asbury Park next year.

Camp for Tuberculous Patients.—The officers of the Free Hospital for Poor Tuberculosis Patients at Philadelphia, who have in view the erection of buildings at White Haven, Pa., have arranged to establish immediately a camp on the 215 acres of high land purchased recently as a site. The privileges of the camp will be available only to male patients strong enough to rough it a little, and not requiring special medical attention. The camp will, however, be visited periodically by a physician from Philadelphia, while the services of a local physician will be available for any emergency.

The Plague.—Mail advices from the East bring news of a steady increase in the number of deaths from plague in Hong Kong, and report that the percentage of Europeans who have succumbed to the disease is much higher than on any occasion of former epidemics. The latest advices recorded the mortality in Hong Kong from plague at forty-five deaths every twenty-four hours, and the number of new cases at fifty a day. This disease appeared again at Oporto, the latter part of June. The Orient Line steamship, *Ormuz*, from Sydney for London, landed at Plymouth, July 22, two persons, supposed to be suffering from bubonic plague. One case developed after the ship had left Marseilles. A sailor on the steamship *Hohenfels*, which arrived at this port from Calcutta a few days ago, was detained at quarantine because of a suspicious illness accompanied by a glandular enlargement of the groin, and a bacteriological examination proved the case to be one of plague.

Danger in Incandescent Lamps.—At an inquest held recently in Providence, R. I., it was learned that death had resulted from touching an incandescent lamp which seemed to be out of order. Experts testified that in small towns where the current was sent through a small wire the house-converter might become deranged, when the wires would receive the entire 2,000-volt current, instead of the 104 volts intended for the house. This is said not to be possible in the larger cities, where a current of low voltage is distributed by means of copper cables, and a converter is not necessary.

Trouble at the New Jersey State Hospital.—The employees at the State Hospital at Trenton have signed a public protest against the food supplied to them and the patients in that institution. They complain that they receive nothing but canned meats and vegetables, and that it is impossible for them or the patients to obtain proper nourishment. One of the Board of Managers asserts that the complaints are ill-founded, and that the trouble arises from the want of harmony between the conflicting medical and political authorities of the hospital.

Inspecting Proposed Sites for the State Hospital for Consumptives.—Governor Odell and the commissioners were in the Adirondacks last week inspecting the Lake Clear, Raybrook, and Dannamora sites for the tuberculosis hospital. It is expected that a decision respecting the best location will soon be arrived at.

Dr. Edward S. Brush has been nominated by the Republican party for Mayor of Mount Vernon, N. Y., Dr. Brush was the first mayor the city of Mount Vernon ever had. He was elected in 1892, and there has been a general demand for his renomination ever since, but he has always declined.

Complaints Against a Tunnel.—District Attorney Philbin went before the Grand Jury of this county a few days ago, and presented a complaint against the New York Central Railway tunnel, beneath upper Park Avenue. He requested the Grand Jury, if it found the facts in the complaints sufficient, to make a thorough investigation. A number of residents in the neighborhood of the tunnel have complained that the gases and vapors that arise from the tunnel are a menace to health and constitute a public nuisance, and others who are obliged to pass through the tunnel daily in the cars of the company have complained that the asphyxiating gases cause not only discomfort but veritable injury to health. Should the Grand Jury decide that the tunnel is conducted in such a way as to constitute a public nuisance, indictments will be found against the company.

A Death Under Ether occurred one day last week at the Manhattan Eye and Ear Hospital in this city. The death was that of a child, three years old, who was undergoing a second operation for strabismus. The first operation had been performed early in June, and there had been no untoward symptoms while the child was under the anæsthetic at that time.

Another Swindle in Brooklyn.—The Borough of Brooklyn has afforded of late a more or less profitable field for the operations of various individuals and gangs of swindlers. The latest to come to the public notice is an impersonator of Dr. Ray, the physician in charge of the smallpox hospital on North Brothers Island. The man goes to the families of smallpox patients whose names he gets by reading the news papers, and representing himself as the physician in charge or his representative, tells them that he can get better treatment for their friends and relatives if they will pay him. In this way he is said to have fleeced a number of the citizens of Brooklyn.

Florida Yields Jurisdiction of Quarantine.—The State of Florida has yielded to the Federal Government its jurisdiction in quarantine matters, Three quarantine stations now controlled by the State will be released to the Treasury Department, and officers of the Marine Hospital Service will be placed in charge.

The Onondaga County Medical Association was organized on Thursday evening, July 18th, at the house of Dr. Henry D. Didama, of Syracuse. By-laws were adopted, and the following officers were elected to serve until the annual meeting, which will be held on the third Monday in February: *President*, Henry D. Didama; *Vice-President*, Adelbert D. Head; *Secretary*, Bernard S. Moore; *Treasurer*, Alexander J. Campbell; *Member of the Executive Committee*, Amos S. Edwards; *Fellow*, Wm. J. Ayling; *Alternate Fellow*, Charles B. Gay, all of Syracuse. The next meeting of the Association will be held on the third Monday in August, the place to be decided by the Executive Committee.

The British Congress on Tuberculosis was opened on Monday of this week in St. James' Hall, London, by the Duke of Cambridge in behalf of the King. Lord Lansdowne, in a brief address, welcomed the foreign delegates in behalf of the British Government, and Lord Lister followed with a welcome on the part of the medical profession of the United Kingdom. A telegram of greeting from King Edward was read, and just before the adjournment of the session the Duke of Cambridge announced that a gift of £120,000 ($600,000) would be forthcoming for the purpose of establishing the first public tuberculosis sanatorium as soon as the recommendations of the congress concerning its establishment had been formulated. On Tuesday, Professor Koch, of Berlin, read a paper in which he

announced his conviction that bovine and human tuberculosis were two distinct diseases He also expressed his adherence to the now nearly universal belief that tuberculosis is not inheritable. The chief source of contagion, he thought, was through the sputum, and he spoke in complimentary terms of the work in restricting the disease done by the New York City Health Department under the direction of Dr. Herman M. Biggs. He said there was reason to hope for the ultimate extinction of tuberculosis. On Wednesday, a paper was read by Professor Brouardel, of Paris, in which he dissented from the views of Koch regarding the non-communicability of bovine toberculosis to man. The main reliance in the prevention of the disease lay in hygiene, he said, and too much praise could not be given to those in America who were making such strenuous efforts to prevent spitting in public places; once this practice was abolished, tuberculosis would rapidly decrease. Dr. G. A. Heron, of London, read a paper on tuberculin which he regarded as an invaluable aid to diagnosis, and an almost certain remedy in the early stages of tuberculosis. On Thursday King Edward received the foreign delegates at Marlborough House.

The Stillman Infirmary is the name of a hospital for the benefit of members of Harvard University, recently erected on Mount Auburn Street by Mr. Stillman, president of the National City Bank of New York. The infirmary contains private rooms and wards, a kitchen, a laundry, a dining hall for servants, nurses' quarters, and other accommodations. The building is of red brick and limestone.

Objections to Peripatetic Sunbathers.—The inhabitants of a village on Long Island are up in arms against the proprietor of a local sanatorium, who has advanced views of the healing powers of air and sunlight. His patients, it is alleged, go about the village and surrounding country clad only in bathing suits or less, and those among whom they go object that the costume is too light even for summer wear, and they insist that that particular therapeutic method is one that should be carried out in the seclusion of the sanatorium grounds.

A Maternity Hospital at San Juan.—The Women's Aid Society of Porto Rico has issued an appeal for funds to establish a maternity hospital at San Juan. The municipal authorities there have given a site, but only $6,000 has been raised toward the erection of a building. The need for a lying-in hospital is so great, however, that the building committee have decided to go to work and erect the structures that are absolutely necessary, hoping to complete the entire hospital at no distant day. The first building will consist of a maternity ward, a nursery, bathroom, dispensary, and administration offices.

A Divine Healer Out of a Job.—Francis Schlatter, who enjoyed some notoriety a few years ago in the West and drew large crowds by reason of his powers of "healing," has come to grief in Washington, where he was recently committed to the workhouse for thirty days for vagrancy.

The Harvard Medical School, three of the five buildings of which will be erected by Mr. J. Pierpont Morgan of this city, will be located in Brookline. It will cover twenty-six acres of land, part of which will probably be used for a dental college and a hospital. The buildings will cost at least $2,000,000, and will bound three sides of a courtyard.

Politics and Charities.—Miss Julia C. Lathrop, of the Illinois State Board of Charities has resigned from that body, because of the election of a politician to the office of secretary. In a letter to Governor Gates explaining her action, she says that the new secretary represents all the standards and conditions of the previous administration, which a spasmodic attempt had been made to correct, and that his election is tantamount to a public declaration that politics will have full power to interfere with the management of the State institutions.

The Smoke Nuisance.—Even in the worst of sultry humid days and nights there are lawbreakers who persist in polluting the air with the murk and the reek of big black clouds of foul smoke from soft coal. These sooty and fuliginous offenders should be confined to cells. Fines don't scare them into mending their ways. Only imprisonment will teach them the lessons which they need. Pure air is so precious, especially in hot weather, that the owners of chimneys which belch out the vilest fumes and the inkiest of smut from furnaces stuffed with bituminous fuel should be arrested, arraigned, and put in jail.—*The Tribune.*

The Manufacture of Formaldehyde.—Some capitalists in Buffalo are promoting a scheme to establish a factory in that city to compete with German manufacturers in the making of formaldehyde.

Obituary Notes.—Dr. R. N. Cooley, of Hannibal Center, N. Y., died at his home in that place, on July 17, at the age of seventy years. He was a graduate of the Castleton (Vt.) Medical College in 1859, and was one of the oldest medical practitioners in Oswego County.

Dr. Samuel Caley, a homœopathic physician in Mount Holly, N. J., died suddenly of heart disease on July 17. He was a graduate of the Hahnemann Medical College of Philadelphia in 1878.

Dr. William H. Gobrecht died at his home in Washington, on July 19, at the age of 72 years. He had been an invalid for some time and his death was accelerated by the heat. He was a graduate in medicine of the University of Pennsylvania, and was for several years a demonstrator of anatomy there. He served during the war on the staff of Gen. Hancock. For ten years after the war he was a demonstrator of anatomy in the University of Ohio. He was author and editor of several works on anatomy and its practical applications.

Dr. George A. Blanchard died from typhoid fever, at Scranton on July 19. He was Assistant Surgeon to the Thirteenth Pennsylvania Regiment and had served during the Spanish-American War. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1895.

Dr. J. R. Caldwell, late quarantine physician at the State Quarantine Station at Marcus Hook, Pa., died July 20. He served with distinction during the Civil War.

Dr. Lawrence Wolff died at Philadelphia on July 21 at the age of fifty-six years. He was born in Ausbach, Bavaria, coming to this country at the age of fifteen years. He was graduated from Jefferson Medical College in 1880 and for eight or nine years was demonstrator of chemistry in that institution. He was for a time one of the visiting physicians to the German Hospital and also Clinical Professor of Medicine in the Woman's Medical College.

Dr. John F. Trenchard died at Fairton, Cumberland Co., Pa., on July 12, at the age of 81 years. He was a graduate of Jefferson Medical College, in the class of 1847. He had only recently retired from practice, in which he had been engaged for many years in Philadelphia.

Progress of Medical Science.

The Boston Medical and Surgical Journal, July 18, 1901.

Ovarian Cyst with Twisted Pedicle.—Charles L. Scudder reports the case of a fluctuating and tender tumor in the lower right abdomen of a woman of twenty-two years who had had a miscarriage a few months previously. The menses were regular, there were pain, slight fever, and slow abdominal enlargement. Operation showed a cyst of the right ovary, with its pedicle twisted twice to the right. Flakes of fibrin were found about the pedicle; the surface of the tumor was dark and rough in appearance. The cyst was removed and recovery was uninterrupted.

Advantages of Sanatorium Treatment of Pulmonary Tuberculosis.—Henri T. Fontaine considers that the hygienic dietetic treatment can be carried out much more thoroughly in closed resorts than in open ones or in private practice. There is constant supervision by the physician, who can prescribe the amount of exercise and rest necessary, and superintend food, toilet, ablutions, breathing exercises, and amusements. Great courage is gained in a sanatorium in regard to fresh air, both from the advice of the physician and the example of other patients. Rest can be combined with the fresh-air cure in a way impossible elsewhere. Expectoration and destruction of the sputum can be properly regulated, and all table utensils thoroughly steamed and scalded. The mental atmosphere also is good, for, contrary to the usual idea, the tone of such a place is cheerful, since every one is trying and expecting to get well, and symptoms which at home would cause alarm, are treated with levity or not discussed at all.

The Alleged Increase of Cancer in Massachusetts.—William F. Whitney says that if death from cancer should go on at the apparent geometrical rate of increase of the past fifty years, in two and a quarter centuries every person over thirty years would die from that disease. This rate, however, is probably only arithmetical and due to better diagnosis and registration, and until the ratio of deaths over thirty years has reached 8 to 9 per cent., which is shown by autopsies to be the true rate for cancer, it is not justifiable to speak of the increase as inherent in the disease itself. Comparison with other States and countries shows the rate for Massachusetts to be about the same as theirs, with greater variation between the males and females than is the case in Austria, which is remarkable for the correspondence between the two sexes. In the distribution in the New England States there is no geographical feature that explains the slight variation which is easily within the limits of better registration.

Medical News, July 20, 1901.

A Study of Sixteen Hundred and Fifty Blood Examinations for the Widal Reaction, with Special Reference to So-called Partial Reactions.—Robert J. Wilson bases his conclusions as to partial reactions on the hospital cases of which fairly accurate histories were kept. Less than seven per cent. of the partial reactions were found in typhoid infections. These reactions occurred with greater frequency in both tuberculosis and malaria than they did in typhoid. The writer concludes that these cases where the Widal reaction has been present are only further evidences of the already known practical value of the reaction; and that the so-called partial reactions are valueless so far as the clinician is concerned.

A New Method of Determining Approximately the Amount of Hydrochloric Acid in the Gastric Contents.—Max Einhorn describes this procedure as follows. A minute quantity of stomach contents is placed by means of a glass rod upon a strip of dimethylamidoazo-benzol paper (one-half by eight centimeters). If the paper turns red one drop of the contents is diluted with two drops of water in a small porcelain dish. A glass rod is dipped into the mixture and the test paper again touched. If it still turns red, one or two more drops of water are added and the procedure is repeated as before. This is done until only a slightly red or almost no red color is produced by the mixture upon the test paper. In this way the amount of dilution required for a trace reaction with the test paper is determined. It is clear that the more HCl there is in the stomach contents the more the latter can be diluted, still giving a trace reaction with the dimethylamido azo-benzol paper.

Local Treatment of Female Diseases, and Its Abuses.—A. L. Beahan believes that the most dangerous procedures are perhaps intra-uterine examinations, operations, and applications. The most dangerous instruments used in treating these diseases are dilator sound, and curette. The sound should never be used. The curette is useful when the uterus has failed to expel part or the whole of the products of conception, or when later the uterus does not contract because of fungous granulations of the membrane of uterine cavity. The curette should be used with great circumspection and after a careful eliminating diagnosis. Its use should rank with major operations and similar careful preparation should be made for its performance. Large, smooth, loop curettes should be employed to remove placental débris. The employment of pessaries has been much abused. Electricity as usually applied seems futile. The principles of practice must recognize the causes involved in producing female diseases, such as constipation, the results of abnormal confinements, of repairs not made in season, and of sexual infections. Calomel and salines indirectly lessen pelvic engorgement. Hot-water douches in the recumbent posture, followed by soothing alkaline or stimulating astringent solutions of moderate strength, are useful, except in tubal and ovarian diseases, but if pain occurs when they are administered it is proof of harmfulness. Local treatment will seldom be required. The use of tampons of cotton or wool with glycerin are valuable, but should be used only when the patient is confined in bed. Great care should be used in this procedure. A torn cervix should be repaired by the Emmet method. Perineal laceration should be repaired by the American or Emmet method of elevating the perineum and anchoring it well up. The close study of many female diseases will limit the range of usefulness of "treatments," but enlarge the sphere of surgical relief and improve the care of remote and general disturbances.

Disinfection Within and Without the Body in Diphtheria.—M. A. Veeder calls attention to the fact that the Klebs-Loeffler bacillus can live perhaps from year to year in underground drains. When incapable of being flushed adequately these can be sterilized by the aid of chlorine gas. In the treatment of cases he holds a square of antiseptic gauze over his mouth and nostrils with the left hand while the right is free to use the tongue depressor or swab. Both hands and the face of the physician should be wet with the sublimate solution before and after the examination, and the gauze may be burned after being used. This, together with frequent spraying and cleansing of the mouth, throat, and nostrils, and bacteriological testing, affords very complete security against either giving or receiving infection. Lead pencils should be forbidden diphtheria patients, since they are apt to put them in the mouth. Teeth having cavities should be plugged with a pledget of cotton, saturated with some disinfectant solution, before and after meals. The mouth and nostrils should be constantly sterilized as far as possible. Peroxide of hydrogen made alkaline by lime-water or by equal parts of Dobell's solution, is very good. Chlorine water, with a little tincture of iron, is very efficient. A soft camel's hair toothbrush, kept in a two per cent solution of carbolic acid, and used with a lather of castile soap, is of great service; dental floss used between the teeth assists in keeping them clean also. These measures should be persisted in until the mouth is perfectly normal again.

Static Electricity in the Treatment of Sprain.—Leonard C. Stanford describes this treatment. The electricity is generated from a large Holtz machine. The patient is placed on an insulated platform, which is connected with the negative pole of the machine by a brass rod. An electrode, connected with the positive pole by a brass chain, gives off the spark after the circuit has been completed; the length of the spark is from two to four inches. The application is made over and around the painful areas by the positive electrode. It lasts from ten to fifteen minutes, occasionally broken by a short intermission. For sprains with little or no effusion this treatment is very satisfactory. When effusion is present there seems to be little effect besides relief of the pain. Injuries of long standing are not generally so favorably influenced as those of the acute variety. Care in the administration of this treatment should be exercised, as occasionally an unpleasant reaction follows.

New York Medical Journal, July 20, 1901.

Common Law Rights and the Physician's Prescription.—J. W. Jervey's views are expressed in the following propositions: 1. The patient has no legal nor other right to demand a written prescription or written directions from the physician. 2. It is right and wise that the druggist demand and procure from the physician his written orders for the compounding of prescriptions. 3. The physician has the undoubted right to designate what pharmacist shall fill his prescription. 4. The written prescription is simply an order from physician to pharmacist. It is, through courtesy, and by virtue of custom and convenience, handed to the patient for transmission, but the latter has not, at any time, the slightest right of possession in the instrument. 5. The druggist has at least the right

of permanent guardianship (perhaps of outright possession) of the prescription, and he must keep it on file for reference and for any form of proper investigation. 6. There can be no right, extenuation, or excuse for a copy of a prescription, with physician's name attached, to be taken by druggist, patient, or any one else, without the authority of the physician. 7. The careful physician should invariably retain a carbon-paper facsimile copy of every prescription he writes. 8. The druggist has a legal right to utilize any formula that is uncopyrighted that may fall into his hands but he cannot, unauthorized, use the name of its author in connection with it. In most States, however, statutes would bar his selling intoxicants or other poisons except by direct order of a physician. 9. If a druggist refills a prescription without the order of the physician who wrote it, he does so on his own responsibility, and he has no legal or moral right to leave or place the physician's name on the container.

A Case of Traumatic Rupture of the Intestine.—F. T. Wright reports the case of a man of fifty-seven years who had, two hours before being seen by the physician, fallen into a hole by the side of a railroad track, and in falling had struck his abdomen against the end of a platform. Immediate examination revealed only evidences of general abdominal contusions and soreness. There was a left-sided, incomplete inguinal hernia, easily reducible, which gave no special symptoms. The next morning the condition was about the same, though the abdomen was somewhat more rigid. He went along for two or three days without much change, but on the fourth day a change of symptoms suggested that there was some bowel obstruction. The patient was apathetic, with a temperature of 97° and pulse of 96. The abdomen was excessively distended, and there was marked tympany. Pain was only moderate, but there was considerable tenderness on palpation on the left side just below the umbilicus. The abdomen was opened, and a bad condition of general peritonitis found. A search among the coils of gut revealed a longitudinal rent one-third of an inch long, situated about two feet above the cæcum, on the aspect of the bowel opposite the mesentery. The patient succumbed before the operation was completed. The author suggests that the case illustrates the need of carefully inquiring into the nature of the injury in these abdominal cases, the advisability of carefully watching the leucocyte count (which was done in this case), the extreme degree of peritonitis which may accompany very mild general symptoms, the necessity of early diagnosis and prompt intervention, and lastly, the difficulty of making a diagnosis, as to etiology, in cases of obstruction.

Journal of the American Medical Association, July 20, 1901.

Types of Membranous Pharyngitis.—W. E. Casselberry calls attention to the different micro-organisms capable of giving rise to deposits of false membrane upon the pharyngeal mucosa and to the necessity of a bacteriological diagnosis if one would arrive at positive conclusions as to the nature of a given case.

Œdematous Laryngitis.—J. S. Gibb makes the following division of cases: 1. Those in which there is no true inflammatory condition, but simply a transudation of serum into the submucous tissues. These cases are seen in affections of the kidneys, liver, and heart. 2. Acute catarrhal cases seen in a mild degree in all forms of acute catarrhal laryngitis. These are transient and pass away with the exciting cause. 3. Secondary septic processes complicating the zymotic diseases. Here we may have a temporary œdema or a prolonged condition leading to abscess formation. 4. Cases in which the infection occurs immediately from some source in the pharynx or larynx. These are sometimes called acute infectious œdema. The history of these is essentially one of sepsis. The initial influenzal or catarrhal attack may not be severe. The local inflammatory condition and accompanying dyspnœa are rapidly followed by pulmonary and general infection and sepsis. The majority perhaps of these cases as observed in recent years are due to influenza.

The Relation of the Middle Turbinate Body to Chronic Nasal Disease.—L. H. Baker calls attention to the fact that a portion of the middle turbinate should be removed whenever its retention leads to imperfect drainage from the accessory sinuses, or when we need to secure free access to the soil from which nasal polyps spring. The same operation may be indicated for the relief of fetid crusting of discharges on the upper portion of the nasal chambers in non-specific cases, or for the removal of the so-called "bullous hypertrophy" of the turbinate itself. Again, removal is indicated when the bone impinges on the sensitive areas of the septum and causes various nervous disturbances such as sneezing, coughing, asthma, headache, vertigo, even chorea and epilepsy. Finally, vasomotor rhinitis is often relieved by removal of the tip of the turbinate body. The author operates under cocaine and adrenalin, using Holmes' scissors and a snare. Packing with iodoform gauze is kept up for a day or two and is then discontinued. For home use, borax solutions are advocated, and insufflations of a lead iodide compound.

The Treatment of Laryngitis.—O. T. Freer says that all local remedies can be used by spray better than by other means. Protargol and the astringents are preferable when there is a decided amount of purulent secretion. The author has not obtained as good results with remedies of the thymol, eucalyptol and menthol group as with astringents. For acute submucous laryngitis, cold applications externally afford great relief. For laryngitis sicca we may use the protargol class of remedies, but they must be applied through a long spray tube, in fact we must treat the trachea as well as the larynx. For the hemorrhagic variety, tannic acid is recommended. In chronic laryngitis, the first thing to do is to cleanse thoroughly the parts and then to remove all causes of irritation which exist in the passage higher up. Alcohol should be given up and rest for the voice is often necessary. Every effort should be made to bring the general physical condition up to par. In the milder cases weak metallic solutions are of service. Ichthyol is recommended for laryngitis sicca. It is a non-irritating antiseptic causing contraction of vessels and paling of inflammed tissues.

Simple Gingivitis, Its Etiology and Treatment.—G. T. Carpenter says that among the local causes are irregularities and mal-occlusion, imperfect contour or loss thereof, improper use of the teeth causing lack of tone to the gum, inorganic substances used as tooth powders causing unnatural or insoluble deposits under the gum margins, with irritation, injudicious use of toothpicks, floss, rubber bands, etc. Constitutional causes include all cachexias and improper nourishment. Treatment may be laid down in the following propositions: Correct all malocclusions and restore perfect contour to crowns. Remove all local irritants and deposits, and make a light application of tincture of iodine to the affected parts and give instructions to prevent irritation and abuse of the gums; change the diet from mashed vegetables of all descriptions or soaked or cooked in milk to that of dry or Swedish toast, or whole wheat, to be ground thoroughly fine with the teeth, incorporated with the saliva and swallowed. This treatment should be followed, especially with children suffering from gingivitis. Corn meal makes an excellent dentifrice.

The Tongue as a Breeding Place for Bacteria.—H. M. Fletcher calls attention to the fact that of the seven nutrient media for bacteria in the oral cavity as mentioned by Miller, five are always present on a coated tongue, namely, normal saliva, buccal mucus, dead epithelium, particles of food and exudations from diseased gums. Hence any lack of oral hygiene at once leads to excessive germ growth in the mouth. Such systematic disorders as tend to produce fever have their effect upon the mucous membrane, among the first of which is the "dry stage." In this stage the mucus is thicker, less abundant and dries quicker. This is as true of the dorsum of the tongue as of any other mucous membrane, hence the coating is usually pronounced and well formed by the time the physician is called to see the patient. The mucus which cements the layer of sordes upon the tongue and lips is not soluble in water, ether, alcohol, chloroform, or dilute mineral acids, but is soluble in alkaline solutions, and since nearly all of our food is either acid or neutral, and not one in a thousand thinks of scrubbing the tongue as a matter of cleanliness and protection, it certainly is a source of danger and infection, and an undoubted condition for perpetuating disease, especially with invalids. In order to test the solubility of mucos in alkaline solutions, try scrubbing the tongue with a toothbrush filled with powdered biborate or bicarbonate of sodium, and notice how the coat disappears. (Biborate is the least disagreeable.) Protrude the tongue and scrub it from back to front until the coating is removed. When the tongue is to be examined for diagnostic purposes this should be done so that the real color and condition of the tongue can be examined. Then the diagnostic features will be visible and of undoubted value. The use of the brush is much better than to scrape the tongue with a hard instrument.

The Gynecological and Obstetrical Significance of Girlhood.—H. P. Newman finds in the forcing period of modern educational methods an explanation of much of the trouble that threatens the maternal functions of the girls of to-day. The disturbance of the process of development of the generative organs, which is the chief concern of Nature in the pubertal period, the forced activity of other organs through misdirected or ill-timed educational methods result in a thwarting of the growth in the pelvic regions, and a condition there which is pathognomonic. In gynecological parlance we speak of it as infantile uterus

or the puerile or juvenile cervix according to the degree of arrest of development. This typical maldevelopment of the cervix plays a disastrous rôle in the future history of the woman. Pain itself, not always pronounced in the beginning, gradually becomes a feature of the moment. Recurring monthly, this influence is baneful and like all chronic suffering, exhausting and devitalizing. The congestion incident to this state of things becomes more persistent as time goes on, until a passive congested state is continuous throughout the intermenstrual period. There is general lowered vitality and less resisting power, so that even should pronounced infection with inflammatory exudate be wanting, a low form of white-cell proliferation occurs, and the newly-formed connective tissue hardens, contracts, and, by constricting the lumen of the cervical canal, renders this important organ unfit to perform its functions. Out-door life should be rigidly insisted on for the girl as for the boy. The dress should be as free and unconfined as his. Forced mental development at the expense of the physical should be discouraged. In fact, due observance should be given to the hygiene and sleep, diet, dress and exercise. Pain should be relieved, not necessarily by drugs, but by sitz-baths, topical applications, heat, etc., or, if due to mechanical causes in the organs themselves, recourse should be had promptly to surgical intervention.

Philadelphia Medical Journal, July 20, 1901.

A New Method of Making Tannin Available as an Intestinal Astringent.—Albert C. Barnes and H. Hille have found that by the synthesis of nucleinic acid and albumin there results an entirely new body, which chemical analysis shows belongs to the nucleo-proteid class of bodies. Under certain conditions, this body enters into chemical combination with tannin and forms a yellowish-brown tasteless powder containing fifty per cent. of tannic acid. This substance is insoluble, does not precipitate albumin, pepsin, or peptones. Experiment has proved that seventy-five per cent. of the tannin nucleo-proteid passes through the pylorus chemically unchanged, and it must be, therefore, practically free from astringent action upon the stomach. It has also been shown that this tannin nucleo-proteid but very gradually evolves tannin from its combination. Thus, as the remedy passes downward through the intestines, the astringent is brought into contact with the entire intestinal canal. The astringent action of tannin is more complete when but small quantities come in contact with any one part of the intestinal mucous membrane, while larger quantities produce local irritation. This new remedy should be successful in the treatment of diarrhœa and of various diseases of the intestines associated with diarrhœa.

Some Observations Respecting the Value of the Present Methods of Medical Education.—Augustus P. Clarke thinks that it is now imperatively demanded that there be established proper courses for medical students; courses that while duly fitting the student to enter upon the successful study of medicine, will admit of more expedition, be more conservative of his energies; courses that will have an alluring influence and that will lead the student along and beget in him the true spirit of scientific investigation, and, above all, afford the opportunity of allowing him to engage earlier in the more direct work to be carried on during his life. Many expedients have to be resorted to in the present methods, in order that the student may compass what is expected of him. The hobbies and pet theories of individual professors or instructors have to be studied or more or less considered—a partial comprehension of these may serve as a substitute for the real marks of scholarship. French, German, or other modern language should be acquired. Too much time should not be given to the ancient tongues. Four full years should be devoted to the study of medicine before the medical degree is given. Co-educational schools should be encouraged. Didactic courses cannot yet be dispensed with. Much original work should be done in examination and in the diagnosis of disease. The student should be able to write a good paper exemplifying a genuine scientific mode of observing facts and a ready and rational method of making a deduction. The student's standing, habits, and manner of pursuing work should be carefully observed by his instructors. His failures should bring to him kindly and wise criticism. The aim of the medical school should be to ground the student in all of the essential principles underlying the healing art, for the expertness of the specialist can be gained only by much post-graduate work, and by frequent contact with experts of the individual line to be pursued.

American Medicine, July 20, 1901.

On the Evils Arising from the Failure to Recognize the True Nature of Neurasthenia and Some Causes of This Failure.—W. W Johnston gives a brief sketch of Darwin's life after the age of twenty-two. He shows the serious evils which follow the neglect to insist upon an entire abandonment of all work in the earlier stages of neurasthenia. No matter how serious are the symptoms presented in a case of neurasthena, cure is the usual result if the treatment is radical enough and continued for a sufficient length of time. However, some cases are not curable by any mode of treatment. Incurability does not belong to the early stages of the disease, but to the later periods when the disease has continued for years without proper treatment. Patients themselves are often unwilling to admit the true nature of the disease. Again, there is a general want of appreciation of the symptoms of this disease among young physicians. More exact instruction in the diagnosis and treatment of neurasthenia should be given. There should be special institutions, sanatoriums, properly constructed and equipped with every device to secure rest, quiet, and seclusion, for the treatment of this disease. Forms of mental disturbance should not be treated under the same roof. The institutions should be for neurasthenics only, and ought to be managed by men specially trained for this work.

The Lancet, July 13, 1901.

A Case of Renal Colic with Unusual Symptoms.—C. Corben and J. Cropper report the case of a married woman of thirty years, who on the occurrence of renal colic presented many of the symtoms of appendicitis. In subsequent attacks the pain radiated upwards and backwards over the right scapula, and there was a good deal of catching of the breath as in pleurisy. Later cough and hæmoptysis appeared. The passage of several fragments of urate calculus cleared up all the symptoms.

A Case of Meningitis, Probably Influenzal in Origin.—A. F. Perigal reports the case of a well-built man of twenty-four, who was admitted to hospital with symptoms of a severe attack of influenza of twenty-four hours' duration. He complained of pain in the back, legs, head, and especially behind the eyes. At the end of a week he was doing well in every way (although headache continued) when his temperature suddenly rose and diarrhœa set in, lasting a week. Widal's reaction was negative, and there were no distinct typhoid symptoms. In the third week his temperature rose to 105°, and he developed a hard red erysipelas-like swelling on the right cheek, which spread around the right eye and over the nose. He became very restless and was semi-comatose, throwing his hands above his head. When roused and questioned he appeared fairly intelligent, but answered gutturally. After sleeping a few hours he awoke with right hemiplegia and aphasia. The symptoms gradually passed into a meningitis type and he died in the fourth week. The autopsy revealed general meningitis. The interest in this case, says the author, lies in the early symptoms and their sudden onset in a strong, healthy subject, also in the fact that there were other cases of influenza in hospital at the time. Was this a case of influenza terminating in meningitis, or were the early symptoms those of commencing brain affection? Again, supposing the swelling of the face was true erysipelas, would this, considering the possibility of influenza, have been likely to cause meningitis, which apparently is a rare complication of erysipelas?

The Treatment of Bronchiectasis and of Chronic Bronchial Affections by Posture and by Respiratory Exercises.—W. Ewart says that the principle involved in postural treatment is the simple one of gravitation. The foot of the bed is raised and kept at a height of say fourteen inches or so from the floor. This allows of easy expectoration, and will often relieve spasmodic cough when all drugs are unavailing. The immediate result is great sense of relief, a diminution in the frequency and severity of the cough, a lessening of the sputum, a complete cessation of the gush of expectoration, and presumably the liberation of the affected pulmonary areas from entangling slime and from any further plugging with mucopus. The results are due (1) to the mechanical advantage of gravitation, and (2) to the stimulus to cough set up by the progress of the secretion as it reaches healthier and more excitable mucous surfaces; while other advantages are (3) that portions of the lung previously kept airless are enabled to expand, and (4) that the slanting posture, by carrying the weight of the abdominal organs upwards against the diaphragm, facilitates expectoration. A further advantage is that the time of day for emptying the chest can be selected. The various evils of accumulation are obviated or remedied. Local putrid fermentations, ulcerations, and infiltrations, collateral septic bronchopneumonic infections, and general septic contaminations are all guarded against. Cylindrical bronchiectases are more quickly relieved than the saccular. It is obvious that pulmonary abscesses and empyemata possessing only narrow fistulous communications with the bronchial system are susceptible only of partial benefit.

When there is no advanced fibrosis—that is, in all early cases, particularly before middle age—the best curative treatment appears to be a combination of the postural method with well-planned respiratory exercises, whereby more and more of the previously hampered lung substance is restored to activity, and most of the space usurped by the dilatations may gradually be reclaimed by healthy pulmonary tissue.

British Medical Journal, July 13, 1901.

On the Evolution Myelopathic Albumosuria.—T. R. Bradshaw concludes that: The presence of the albumose in the urine is the earliest symptom of the disease, and may be observed for many months before there are any other indications of failing health, or any local signs of alterations in the skeleton. To generalize from the only case in which the point has been investigated, the albumose is first excreted in small amounts; but owing to the fact that at this stage the subject of the disease does not suffer any inconvenience from it, he is not likely to consult a physician, and so the urine is generally not examined until the albumose has risen to a large amount.

Infection by the Urine in Convalescence from Typhoid Fever.—T. Clifford Allbutt calls attention to this important subject. He speaks of a case recorded by Dr. Cushing in which the bacilli are said to have lived in the urine for a period of no less than five years! The bacilli in the stools, however, certainly do not survive long into convalescence, even if until convalescence. It has been demonstrated that tubercle bacilli are usually excreted by the kidneys without the formation of "tubercle" in the organ. And it is declared that typhoid bacilli, thus excreted, may come through in millions, and for a period long enough to poison a county. All physicians should see that the disinfection of the urine is carried out systematically in every case before the patient is allowed to mix again freely with his kind

Experimental Malaria: Recurrence after Nine Months. P. Thurburn Manson, as a result of the bites of mosquitos fed in Rome on a case of benign tertian ague, developed a double tertian fever. The first symptoms appeared after an incubation period of between ten and sixteen days. The illness lasted four days, when the presence of the parasite having been fully confirmed, ten grains of quinine were given. This drug was given from time to time for the next three months. The writer kept in normal health for nine months when prodromal symptoms of illness developed, and a definite malarial paroxysm again occurred. This attack proved to be simple benign tertian malaria, the original infection being of the double tertian type.

A Curious Method of Opium Poisoning.—J. A. Henton White reports the case of a baby of three months, who was brought to him very pale and cold, the pupils minutely contracted and in a stupid condition, from which it could be roused only with difficulty. The mother had put a pledget of cotton-wool, soaked in laudanum, in her tooth which was aching, and had then moistened the nipple of the baby's bottle several times in her mouth. The baby's stomach was washed out with very weak Condy's fluid, and a drop of liquid extract of belladonna was left in. The child was also given a small enema of black coffee, and it was roused and kept awake. The child showed the effects of the belladonna, and was given a warm bath. The next day it was quite well.

A Case of Ruptured Uterus in a Multipara.—J. Pollock Simpson reports this case: The patient was a woman, thirty-three years old, who while she was in labor cut off the forearm of the child. This part was presenting. Post-mortem examination showed the child and placenta in the peritoneal cavity, with the exception of the stump of the right arm and the head, which were in the cavity of the uterus. The peritoneal cavity was filled with blood-clot and fluid blood. The rupture, about four inches in length, was on the left side, just at the point where the peritoneum is reflected to form the broad ligament. The edges of the tear were uneven, but did not involve the fundus nor the vaginal portion. The uterine tissue appeared healthy as also did the other organs of the body. The writer has the following theory, as to the cause of the rupture: The head of the child was lying in the left ilio-hypogastric region with its back to the outlet of the pelvis; this being so and the body being doubled on itself, the feet would be in the region of the left sacro-iliac synchondrosis. When the mother amputated the arm it produced strong reflex action in the child, causing it to plunge with its feet against the uterine walls, which would be in a relaxed and weakened condition, causing rupture at this point. Thus it escaped feet first into the peritoneal cavity, and dragged the placenta with it.

Leucoma or Leucoplakia of the Vulva and Cancer.—H. T. Butlin states that white areas of more or less horny epithelium occur on the vulva just as they do on the buccal mucous membrane. He reports three cases. The first was an unmarried woman, forty-four years old. A large part of the surface of the greater and lesser labia were covered with numerous white areas, some of which were quite thin and bluish white; others, thick and opaque. Later, there developed an indurated ulcer at the upper part of the right labium majus in the midst of the white plaques. This ulcer had all the appearance of epithelioma in an early stage. She did not have this removed, and in about six months she died. The cause of death would seem to be pernicious anemia in connection with malignant disease of the vulva and probably of the glands. The second patient, a widow aged seventy-three, was suffering from a circular ulcerated epithelioma of the right labium majus. The ulcer was situated in a plaque of very thin white leucoma, and there were similar areas covering all the upper part of both labia on both sides, and the central part of the vulva about the orifice of the urethra and the clitoris. Microscopic sections showed the ulcer to be sequamous-celled carcinoma. The third patient was an unmarried woman of sixty-six years. A large part of the left labium majus had been removed for what was reported to be an epithelial cancer. She was at this time suffering from secondary affection of the glands in the groin, the pelvis, and abdomen, quite beyond the reach of any operation. The right labium majus was covered with thick white areas of leucoma of the mucous surface. The plaques in these cases form only on the mucous surface, not on the skin. They are precisely similar in appearance, feel, and variety of form to the white plaques which form upon the mucous surface of the mouth. In more than one instance, the vulva and the mouth have been attacked in the same patient. There is reason to believe that it is the same disease in both situations. If so, the influence of tobacco and of the direct contact of alcohol in producing the disease loses some of its importance. Syphilis was not suspected in these patients.

Berliner klinische Wochenschrift, July 1, 1901.

The Home Treatment of the Mentally Diseased.—C. Moeli says that home treatment in mental cases may be carried on either entirely independently and without any institutional connection, or as a grouping together of the households of patients in some definite locality around an institution intended for exceptional cases as a centre, or lastly, in direct connection with the ordinary asylum treatment. These forms, in a way, represent the transition from strict asylum seclusion to complete independence, and are well adapted, in suitable cases, to promote recovery through the more interesting and healthful life they afford, and are also adapted to dispel popular prejudices concerning mental invalids.

Vegetarian Diet for the Masses and the Capacity Balance.—Baelz gives the results of observations he has made on the Japanese, among whom the lower classes are almost entirely vegetarians. They are so, not from choice or principle, however, but from necessity, since whenever they are able they buy a little meat or fish, and regard it as a great luxury. Their main article of diet is not rice, as usually supposed, because this is too expensive, and is used mainly by the well-to-do, but barley and buckwheat and the soya bean, which contains twice as much albumin as the best beef, and costs one-quarter as much, while in addition it contains twenty per cent. of fat. The fallacy of Voit's dictum that 120 gm. of albumin daily are necessary for an adult is shown, for, as evidenced by the habits of the Japaness for generations, it is twenty to thirty per cent. too high, while it is demonstrated that a race may live on an almost exclusively vegetable diet and yet be capable of vigorous and protracted labor. The prevailing type of metabolism investigation, in which purely arithmetical results of analysis of the income and outgo are made, is unreliable and does not give a true idea of the values of diets, etc., for different conditions may produce almost identical results in figures. The disposition of the individual and, therefore, his capacity for work may vary widely, and therefore the author proposes a new method of conducting such experiments, which shall include a study of this factor, and suggests the designation of "capacity balance" for its results.

Münchener medicinische Wochenschrift, July 2, 1901.

The Injection Treatment of Syphilis.—M. Stern, in a very thoughtful article recommends hypodermatic mercurial injections as affording a valuable form of treatment in many cases. They are especially useful when other affections of the skin or digestive tract make the administration of mercury by inunctions or in pill form unadvisable, and in grave cases where important organs are attacked and quick energetic therapy is required. In addition, by this means a doubtful diagnosis may often be speedily cleared up, and cases that have resisted other

treatment or relapsed may respond to injections. In addition, much better results frequently follow alternation of various modes of administration of the drug, and the injections are of great use in these cases. The soluble preparations are to be preferred, and for routine use one-half per cent. sublimate solution, thrown into the muscles, is recommended as the safest. The next best is the salicylate of mercury, but caution is necessary in using this while the insoluble salts are not adapted for daily practice. Like the virus of the disease itself, mercury reacts differently on different patients, and even on the same patient at different times, so careful individualization is always necessary, and every additional therapeutic measure is sure to be found useful at some time.

Syphilitic Sciatica and Its Treatment.—F. Mendal describes three cases in which the sciatica, while giving the symptoms of the ordinary type, was evidently, as shown by the history, other lesions, and the result of treatment, luetic in nature. All three patients had resisted all therapy, and in consequence of the pain and insomnia were greatly reduced in flesh and strength. The results of mercurial treatment were almost miraculous, mercury salicylate was given hypodermatically in the glutealr egion, and the first injection gave great relief in each case, while five or six repetitions completed the cure.

A Case of Poisoning by Male Fern.—W. Gotthilf was called to a patient who was supposed to have had an apoplectic attack. He was found comatose, the whole body in convulsion with pronounced trisonus, pulse rapid and barely perceptible. Camphor and morphine were given hypodermatically, whereupon the patient soon recovered consciousness and a vascular lesion could be excluded, but it was only with a good deal of difficulty that the information was elicited that three days previously, on the advice of a quack, the patient had taken a large amount of a tapeworm remedy. This was found to be extract of male fern, and as the patient had omitted to follow it up with a cathartic, he had suffered a severe intoxication. Recovery was complete on the fourth day.

Obstipation Lasting Thirty-five Days with Uncomplicated Intestinal Obstruction.—P. Ostermaier's patient was a girl of 14, who for several years had been subject to attacks of constipation lasting six to eight days. Two months before coming under observation she passed through a slight attack of articular rheumatism. When seen, eight days had elapsed without the passage of any stools or flatus, but the general condition was undisturbed. A large fecal tumor was made out in the sigmoid flexure, and for sixteen days five or six high irrigations were made daily, each one bringing away small amounts of vegetable matter. Croton oil, colocynth, belladonna, and atropin were given in large doses, but proved ineffectual, the frequent small irrigations were replaced by much larger ones, given twice a day. Sixty liters were used at each session, and twenty-two were given in all, the return flow each time containing fecal masses. Finally a dose of castor oil brought away copious scyballous masses, and on the thirty-fifth day the tumor had entirely disappeared. For the first twelve days the occlusion had given no symptoms, then, up to the twenty-fifth day, there were slowly increasing anorexia, lassitude and occasional vomiting, which symptoms, however, immediately receded after the first large injection was given. At no time was the abdomen tympanitic, showing how completely the blood may absorb the intestinal gases.

Deutsche med. Wochenschrift, June 27 and July 4, 1901.

Trauma and Extrauterine Pregnancy.—L. Seeligmann believes that, in addition to inflammatory processes of the adnexa, trauma is a frequent cause of extra-uterine gestation and mentions five cases in which the connection could be satisfactorily demonstrated. The patients had all passed through uncomplicated previous pregnancies, and eight to ten days after the last menstruation sustained a trauma, usually a fall, which subjected the pelvis to considerable concussion. The author's theory is that the jar throws the freshly impregnated ovum out of the fimbriated extremity of the tube, or causes it to become deeply imbedded in the lining epithelium, and to proceed with its development in that situation.

A Case of Sepsis with Otitis and Sinus Thrombosis.—Schnelle reports a case in which it was hard to tell whether the mastoid condition was merely one of a number of manifestations of general sepsis or whether it was itself the starting point for the suppurative process that finally caused the patient's death. The patient, a young man, first had a cellulitis of the hand, which did well without incision, but was soon after followed by dizziness and buzzing and pain in the right ear. Soon after a paracentesis of the drum membrane had liberated a large amount of pus from the inner ear, the ankles became swollen and painful and the temperature rose, but the trouble receded under the salicylates, and was therefore considered rheumatic. A little later it was thought advisable to open the mastoid, which on exposure was found to be highly necrotic; several secondary operations had be to done, and the patient finally died with the manifestations of general sepsis. The autopsy showed metastasis in the lungs and heart, and confirmed the author's belief that the condition had been one of latent sepsis from the beginning, and that the cellulitis of the hand, the otitis and joint involvement were all only incidents in the progress of the disease.

The Differentiation of Human and Animal Blood by the Aid of a Specific Serum.—E. Ziemke refers to the investigations of Wasserman, Schütze and Uhlenhuth, who have shown that by injecting rabbits with human blood a change is produced in the rabbit's serum, made evident by the fact that when added to dilute human blood a turbidity is caused, which does not appear with the blood of any other animal except the monkey, and describes some further tests he has made to determine the applicability of the reaction for forensic purposes. Positive results were obtained with fresh blood, dried blood, blood stains in cloth, blood in garden soil, blood from a person poisoned with carbonic oxide, blood on steel implements, blood from the wall of a cellar, blood in wood, blood in glass, blood on paper, the blood of a three-day-old corpse, and putrid blood. The stains in several instances were ten or more years old, and, where possible, control tests were made on the blood of the common domestic animals. In every case except one a positive result was obtained with the human blood preparations, while the animal tests were all negative; the one failure is attributed to the fact that the stain tested, which dated back to 1883, did not yield any extractive to the soda solution in which it was soaked.

"Cancer à Deux" and the Infection of Cancer.—R. Behla contributes a large number of cases in which man and wife died of cancer within a few years of each other, and says that, even admitting the possibility of transplantation or heredity or a common exposure to the same injurious influences, there still remains a considerable proportion of cases where these factors can be excluded and where direct transmission from person to person seems indubitable. Definite prophylactic rules cannot yet be made, but all secretions should be disinfected, as well as all instruments, utensils, etc., used by cancer patients, and attendants should sterilize their hands after dressing, and surgeons after operating on such growths. The possibility of the infectious nature of the disease is too great to be neglected, and as many precautions as possible should always be taken.

"Chlorine Acne" an Occupational Skin Disease.—Bettman describes at length a particularly severe type of acne occurring among the workmen in a large chemical works. The patients had all been engaged in cleaning a so-called "tower," usually filled with hydrochloric acid gas, and while the exact nature of the agent causing the trouble could not be determined, it seemed likely that some combination was formed between the nascent chlorine gas and the tar used to coat the tanks, which products could well be assumed to be volatile and highly poisonous. The intoxication must have taken place through inhalation, for even a foreman who did none of the actual work was affected. The manifestations of the disease are given in great detail, but, briefly, it may be said to consist in the development of very large and numerous pustules, with exaggerated comedo formation and roughening and pigmentation of the skin. All parts of the body, including the hairy scalp, are affected, and while no secondary symptoms were noted, and the patients are not disabled the lesion is serious in that it is intensely disfiguring and strongly resembles Darier's disease. Treatment is not encouraging, but the disease usually terminates in recovery after many months, and does not leave permanent traces.

French Journals.

Experimental Tuberculosis.—Lannelongue, after completing his previous experiments on the evolution of experimental tuberculosis relative to the influence of climate, has recently studied from the same point of view the effects of insufficient alimentation, of the inhalation of dust, and of muscular work. He inoculated one hundred male guinea pigs in the right pleura with a culture of Koch's bacillus. These animals he arranged in groups according to their weight, some of which he used as control, while the others were subjected to these various influences. The ones which were badly nourished, exposed to dust, and those made to work, all succumbed far more readily to tuberculosis than the control animals which were guarded from these influences. The state of health of the latter class demonstrated irrefutably the rôle which unfavorable hygienic conditions play in the course of the tuberculous process.—*Bulletin Général de Thérapeutique*, June 8, 1901.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

SIR R. D. POWELL ON ACUTE HEART FAILURE—POSTERIOR VAGINAL CŒLIOTOMY—HOSPITALS AND ANTIVIVOS—TEACHING OF ANÆSTHETICS—SCOTCH G. P.'S AND OPEN SHOPS—LORD LISTER AT ST. THOMAS'S—SIR H. ROSCOE—ELECTIONS.

LONDON, July 5, 1901.

THE Cavendish Lecture was delivered on the 21st ult. by Sir R. Douglas Powell, Bart., who devoted it to "Acute Cardiac Failure." This he admitted might be a misleading phrase for the culmination, in temporary or permanent arrest of the cardiac function, of a variety of conditions affecting texture, nerve power, or muscular energy. We must regard the heart as a part, differentiated for special reasons, of a complete cardiovascular tubal system containing the blood, and this in relation with a highly specialized nervous system.

The lecturer then passed to the more clinical and practical considerations. The first obvious cause of failure is injury *e. g.* rupture of an aortic valve, embolism, or over-taxation. Speaking of young people and healthy hearts, he said acute cardiac distress is very common in these days of athletic competition, but fatal cases are rare, and we observe, as a rule, only the after effects of incomplete failure. Vomiting and later anæmia are prominent effects attributed by the lecturer to accumulation in the blood of the products of metabolism, as are also some gastro-intestinal attacks in sedentary persons who suddenly take to exhausting exercises. Further proofs of altered blood were cited, as seen in persons dying from excessive exercise and in hunted animals; of those the most obvious are increased liquidity, absence of *post mortem* clotting, and darkened color. The treatment involves complete rest for several weeks and often months of careful supervision. The younger the patient the sooner and more complete the recovery, but some may suffer from attacks of palpitation and pain after slight exertion for a long time, sometimes for years. Heart fatigue from acute disease was but briefly touched upon, the lecturer having treated of it in his Lumleian lectures last year, and to discuss its treatment adequately under such varying conditions would be to discuss the whole management of these diseases. But some indications were mentioned, as (*a*) maloxygenated blood supply; (*b*) excessive weight of blood burdening the heart, and calling for depletion from the venous side; (*c*) exhausted innervation and (*d*) pulmonary obstruction met with in pneumonia, typhoid fever, and asthma; for these strychnine subcutaneously was pronounced best; (*e*) the changes in the heart muscle incidental chiefly to pyrexia which are best warded off by mitigation of the pyrexia. Here the lecturer said he had found hot water better than cold for sponging, the surface circulation being more facilitated, heat more rapidly lost, and perspiration encouraged, all tending to lighten the burden of the heart.

Angina pectoris was regarded as, in most cases, a functional disease—a cardiovascular neurosis; but in some cases there is a background of unsound heart—aortic regurgitation, aneurism, senile fibrofatty hypertrophy, uræmic heart, coronary disease, and the like. The immediate remedies for the anginal attacks are in most cases therefore antispasmodics and sedatives, such as amyl, trinitrine, and opium, directed against the arterial spasm, which is so important a factor in the attack. In coronary cases, carefully regulated exercises and, in old persons especially, the regular use of oxygen inhalations help to maintain cardiac nutrition and ward off attacks. But caution is required to prevent cardiac fatigue, and the periods of gentle exercise must be very short. This lesson was enforced by mentioning the case of a medical friend who, after a course of special exercises, declared himself a new man who could walk miles, but he died suddenly a fortnight afterwards. Cramp in the legs is common in old people with atheromatous vessels, after fatiguing exercise. It is due to the imperfect nutritional change allowed by narrowed arteries. So we may have cramp of the heart muscle, which is apt to be fatal. Cramp does not always come on at once, but may often be postponed until the night. So it is with angina or syncope, induced by fatigue or excitement in the day and proving fatal in the night. Sir D. Powell concluded with reference to "cardiac hesitancy" not amounting to intermittency, and which he was inclined to regard as allied to *petit mal*, but which often recovers under rest from mental pressure, out-door life, and remedies for anæmia.

In the adjourned discussion on Posterior Vaginal Cœliotomy (the first portion of which was reviewed in a letter you have already published), Mr. Jordan said he had long advocated the vaginal route. In suitable cases it avoided the dangers of abdominal section. He had operated on above sixty cases without a death, and only once seen any trouble follow. The patients could get up and resume work earlier than after abdominal incision, and there was not the scar, an advantage in case of future pregnancy. Both these points were important, especially to poor women. The vagina could be made aseptic as easily as the abdominal wall, and those who denied this should produce proofs.

Dr. Macnaughton-Jones said the first point was diagnosis. Some cases could only be dealt with by abdominal cœliotomy; in others the vaginal operation was the method of selection.

Dr. Alexander, replying, said he did not regard the proximity of the rectum as an objection. The field of operation was as close to it in one route as the other. The vulsellum effectually closed the os against infection. After operation the vagina was packed with antiseptic gauze, which kept it sweet and drained away any discharge which formed. Stitches were not necessary. Hemorrhage was prevented by clamps. The chance of hernia was avoided, and that occurred after abdominal sections even by the latest methods of operating—it was always the latest which was supposed to obviate this. But a certain proportion of hernias occurred after all methods, and a considerable time must elapse before it could be certain there would not be a hernia in any case of abdominal section.

The attempt to spoil the Hospital Sunday Collection, which I mentioned to you, has not proved very successful, and has covered the antivivisectionists with no little obloquy. In one church I am able to testify that the clergyman was not contented to pass by the attempt, but told his hearers plainly that he had read the leaflet which had been distributed outside his church, as well as much other matter on the subject, and he could assure them that a number of the statements made were quite untrue. It was good to hear him repeat again and again that the statements of the leaflet were untrue. Mr. Stephen Coleridge is thus once more told that he has been circulating falsehoods, but he must by this time be hardened to hear the charge with indifference.

Another clergyman took a different course: Archdeacon Wilberforce told his audience that he had been troubled on the question for the last twenty years, and then proceeded to retail Mr. Coleridge's falsehoods, and even to embellish them with gush and nonsense. Further he said that "according to the official Blue Book more than 10,000 animals were done to death during last year, mostly under circumstances of exquisite and prolonged torture." Other equally absurd and untruthful statements, wherever he picked them up, induced the Archdeacon to tell his congregation he had decided to have two collections, one for the Hospital Sunday Fund without conditions, and the other for a hospital chosen by Lord Llangattock. This enlightened Lord has nominated a hospital standing on his own property.

That property he holds as the result of one of his forbears squatting on and enclosing common ground when the public was less alive to such encroachments. We might, therefore, have expected him to devote a trifle out of the income it yields to the local hospital rather than a collection obtained by such methods. But let it pass. He is the first of his family to get a peerage, and has not digested the adage *noblesse oblige*. That is obvious enough from the course he has taken on this question.

As to the Archdeacon, he is so accustomed to express his views in strong language that he cannot expect those on whom he pours out his wrath in false charges to confine themselves to remonstrances against his inaccurate statements. Some of them are saying that it is "much more shocking for an archdeacon than for a barrister to tell lies." For my part I am contented to remind him of the commandment "thou shalt not bear false witness against thy neighbor." He can hardly plead that even an archdeacon is justified in doing so on hearsay evidence—even though tendered by a peer and a barrister against a physiologist.

The teaching of anæsthetics has been exciting some attention—perhaps I should say the want of such teaching. The anæsthetists at our hospitals, who should give instruction on the subject as well as the demonstration of their methods involved in their routine work, want to have a course of lectures on the theory and practice of anæsthesia made compulsory. The Conjoint Board has so far fallen in with their views as to circularize the hospitals, asking what provision they make for instruction on the subject. It is impossible to deny the importance of a knowledge of anæsthetics and their uses to every medical man, for any one in practice may be

obliged sometimes to administer them. It does not, however, follow that students should be compelled to listen to and pay for a course of lectures on the subject. I am no despiser of didactic lectures, but students have many courses to attend, and it may be that other subjects have even greater claims; for, after all, few lessons are necessary as a preliminary to administration under the eye of the anæsthetist and this opportunity ought to be given to every student.

Practitioners in the west of Scotland feel aggrieved that the Medical Council declined to receive the deputation about the employment of unqualified assistants as dispensers, but as there was a case under consideration at the time, reference to which could scarcely be avoided, I think the Council was quite right; for it is most important that its judicial functions should not appear to be influenced in such a manner. Those who feared their rights would be in danger would have expended their money more wisely perhaps by instructing counsel to appear than by sending a deputation. There is another point. For some three hundred years Scotch general practitioners have had the right of selling drugs and poisons. The privilege is secured in some of the Scotch diplomas, and the custom has continued with many of keeping open shop. The pharmacy acts restricted the sale of certain scheduled poisons, and the practitioners seem to have been willing that this should be the case, and always to have kept within that rule, but, of course, they cannot be prevented from dispensing or selling other drugs and of employing unqualified assistants. Opinions differ as to whether this privilege is useful to the public, but it certainly ought not to be taken away by a side-wind.

Lord Lister formally opened the new operating theatres and children's ward on the 20th ult. In a speech, on the occasion, he alluded to attempts to depreciate hospitals as only pardonable by reason of the gross ignorance of those who make them.

Sir H. Roscoe has been elected Vice-Chancellor of the London University for the ensuing year.

As to the coming election for the General Medical Council it has been arranged for all the seats to be vacated at the same time, so that one election only may be needed.

The election to the Council of the College of Surgeons took place yesterday afternoon. The three vacancies were filled by the re-election of Messrs. Robson and Cheyne and the election of Mr. Lucas.

THE AMERICAN MEDICAL TEMPERANCE ASSOCIATION AND PROFESSOR ATWATER.

To the Editor of the Medical Record.

Sir: It will be of interest to your readers to understand the position which the American Medical Temperance Association has been forced to take in regard to the conclusions on alcohol asserted by Prof. Atwater. Our Association has been in existence over ten years with the special object of ascertaining the facts concerning alcohol and its uses in medicine. We have no controversy with anyone, or with any opinions that are based on experiments and reliable experience. Recently there has sprung up in certain circles an offensive dogmatism asserting that the alcoholic subject has been settled by the work of Prof. Atwater. This has assumed such magnitude in certain circles that all conclusions to the contrary are ignored as the work of enthusiasts. No recognition is given to the number of prominent scientists who have pointed out the errors of Atwater's conclusions, or that any other facts could possibly be true. This Association has thus been forced to go on record as opposed to conclusions based on tables, which flatly contradict the author's statements. The alcohol question is far too great for any one man, or one set of experiments to determine, and while this Association welcomes all investigations and theories that are apparently based on facts, it protests against the assumption that the conclusions of Atwater are final in regard to the food value of alcohol. Very truly yours,

T. D. Crothers, M.D.,
Sec'y of A. M. T. A.

Hartford, Conn., July 20, 1901.

THE SEGREGATION OF LEPERS

To the Editor of the Medical Record.

Sir: The editor of the *Journal of Tropical Medicine*, in the issue of May 1, takes exception to what I said in my letter to the Medical Record of April 6, "Shall Lepers Marry," regarding Great Britain's breach of international duty in shipping lepers and relatives of lepers, thus sowing the seeds of the Hindoo disease all over the world. What I stated in my reply to a countryman of his in India was the naked truth. Beaven Rake, of British Trinidad (near enough to contaminate the United States), made it known to the world long ago.

Allow me to observe further that according to the *Medical Press* of London July 3 "the loathsome disease prevails in the Great Eastern dependency (of Great Britain) to an extent that is not generally recognized by the dominant nation here at home. In 1898 the Indian Government passed an act providing for the segregation of mendicant lepers, and forbidding lepers to handle food or to carry on trades dangerous to the community. It has recently been resolved to enforce that measure in Bengal, presumably as an experiment to test the feeling of the native population. In Nepaul it has been stated that a person found to be suffering from leprosy is sometimes buried alive by the Brahmins, and in Sumatra, at times, the relatives of a leper burn him to death in his house, pushing him back into the flames should he attempt to escape. The Leper Mission does its best to care for about one million lepers, said to exist in India, China, and Japan. In India the housing and food of an adult leper can be provided at the modest rate of five pounds a year. As a preventable disease, leprosy can be banished from the face of the earth by the strenuous application of modern preventive science, but, unhappily, it seems likely to linger for generations in India, the favored home, under present conditions, of cholera, enteric fever, plague, and other specific scourges of mankind."

Right here I should like to ask the British leprologists why leprosy must linger in India for generations, and also their views as to compulsory isolation and its practicability among the outcasts of that country. It seems that there are some people in London who oppose compulsory isolation. I should like to know what arguments besides those of expediency (the five pounds per adult leper a year) they have against it; or, if they have no arguments what cause impels them to oppose a thing which, as even the history of the middle ages shows, can eradicate the disease.

I suppose that there are still people who dumbly, without knowing why, look at the bacillus as the element from which a remedy and cure may be expected. That same bacillus has done nothing for the leper in a quarter of a century.

I should like to ask also what those leprologists of Great Britain, as are known to be competent, think of the international isolation question (en bloc), and also what can be the real motives of those who oppose compulsory isolation—for instance, Jonathan Hutchinson, Sir Joseph Fayrer, *et al.*

China has as many lepers as British India. Yet Dr. Y. G. Kerr, of Canton, wrote me not long ago regarding a suggestion, or rather appeal, for all governments to form an international commission on leprosy, that "such a commission would be the basis for action (to suppress and prevent the disease), and would, no doubt, unite the efforts and energies of many philanthropic influences, which might otherwise do nothing, or, acting singly, might accomplish very little. I assure you that the establishment of government homes for lepers would be a great boon to them and be the means of doing much good. And the Chinese both officials and business men, would aid by yearly contributions."

At the same time that I wrote to Dr. Kerr, I explained my plan to the editor of the *Indian Medical Gazette*, of Calcutta. All problems concerning leprosy, especially of emigration, should be submitted to an international tribunal. So by common and universal efforts against the dreadful scourge, it might be, in a comparatively short time, wiped off from the surface of the world. It is certainly worth the while to fight some years for such a tremendous result. Mankind certainly at no time of history has fought for a greater object.

Such a momentous matter cannot help to appeal to the sympathies of the editor of *Tropical Medicine*, a journal published in a country which rules over one that suffers more than even China from the terror against which we continue the fight. May we hope that he will use the influence of his pages to obtain from the Parliamentary leader an expression of opinion as to this matter.

Albert S. Ashmead, M.D.

New York.

The Care of Hypodermic Needles.—Doin notes that it is not necessary to throw away hypodermic needles that have been used, for if the canal has become obstructed, the needle can be made as good as new by simply boiling it for ten minutes in a solution of carbonate of soda the precipitate which has collected on it is dissolved by this method and the primitive brilliancy is restored.—*Bulletin Général de Thérapeutique*, June 8, 1901.

Book Reviews.

ECZEMA, with an Analysis of Eight Thousand Cases of the Disease. By L. DUNCAN BULKLEY, A.M., M.D., Physician to the New York Skin and Cancer Hospital, etc. Third Edition of "Eczema and Its Management." Entirely Rewritten. New York and London: G. P. Putnam's Sons, 1901.

THOUGH primarily intended as a student's manual, this little volume is really an excellent monograph upon that common and often refractory disease, eczema. The subject is treated in the systematic manner which is so necessary in a book of this kind, and the student will find it an excellent companion during his work in the clinic. To the practitioner, also, it will be a useful and suggestive work to have at hand, and an authoritative guide in the treatment of a disease the recommended remedies for which are legion. This book is an excellent example of what a special monograph should be, and the accomplished author has done a service to the profession in preparing a third edition of it.

THE STUDENT'S MANUAL OF VENEREAL DISEASES. By F. R. STURGIS, M.D., sometime Clinical Professor of Venereal Diseases in the Medical Department of the University of the City of New York: formerly one of the Visiting Surgeons to the Charity Hospital, B. I., Department of Venereal; Member of the American Association of Genito-Urinary Surgeons, etc. Seventh Edition, Revised and in part Rewritten by F. R. STURGIS, M.D., and FOLLEN CABOT, M.D., Instructor in Genito-Urinary and Venereal Diseases in the Cornell University Medical College; Genito-Urinary Surgeon to Bellevue Hospital, Out-patients' Department; Visiting Dermatologist to the New York City Charity Hospital; Lecturer on Venereal and Genito-Urinary Diseases in the University of Vermont. Philadelphia: P. Blakiston's Son & Co., 1901.

THIS volume was written for the medical student over twenty years ago, and has gone through six editions up to the present time. This, the seventh, has been largely rewritten and thoroughly revised, and we can confidently recommend it as a guide to the beginner. The text has been italicized with rare judgment, the subject matter bristles with practical points, the prescriptions are given in full, and are well chosen. As a concise and practical teaching book, it will not fail to suit the reader.

ATLAS OF THE NERVOUS SYSTEM. Including an Epitome of the Anatomy, Pathology, and Treatment. By Dr. CHRISTFRIED JAKOB, Head of the Pathological Institute for Nervous and Mental Diseases at the University of Buenos Ayres, etc., with a Preface by Dr. A. VON STRÜMPELL, Director of the Medical Clinic, Erlangen. Authorized Translation from the Second Revised German Edition. Edited by EDWARD D. FISHER, M.D. With 112 Colored Lithographic Figures, and 130 Other Illustrations. Philadelphia and London: W. B. Saunders, 1901.

THIS volume is one of the most recent members of a very excellent series of atlases which have been published at short intervals. The chief characteristic of this one, as well as the others, is the remarkably fine colored illustrations, in this case of the anatomy of the nervous system. Those in this volume which show the gross appearances of the brain are little short of perfect, and opposite each is a key-plan drawn in outline. The descriptions in the text are terse and well translated, and add to the value of the volume as a text-book. We must also commend the colored illustrations of different microscopic pathological appearances in nervous tissue. This series of atlases affords a rapid way of acquiring a good deal of information, and is valuable from many points of view, though naturally they can not take the place of the more extensive works

SELECTED RESEARCHES IN PATHOLOGY. By ALEX. GUNN AULD, M.D., M. R. C. P. London: J. & A. Churchill; and Philadelphia: P. Blakiston's Son & Co., 1901.

IN a volume of some 150 pages the author has grouped a series of seven monographs, upon various pathological subjects, which have appeared from time to time during the past few years in the English periodicals and Society Transactions and which represent the result of original work in several fields of pathology, but more especially in that of pathological histology. The articles all show the evidences of careful and painstaking study and of clear and logical reasoning, and constitute real additions to our knowledge regarding the obscure points which they attempt to elucidate. The subjects of the monographs include emphysema, pneumonia, Bright's disease, hæmatogenous jaundice, Addison's disease, atheroma, and aneurism. The paper on pneumonia deals with the chemical pathology of the diplococcus pneumoniæ and the action of its toxins in rabbits. The other six articles represent the authors' studies chiefly in the field of pathological histology but also to some extent in experimental pathology.

The papers upon atheroma and aneurism are the product of the associated work of Dr. Auld and the late Professor Coats. In these the writers have (rather unfortunately, we think) thought best to use the term atheroma to denote the whole process of arteriosclerosis, and justify this use of the term upon the score of its being convenient and non-committal, although they hold with Virchow that the primary lesion is a productive inflammation of the subendothelial connective tissue of the intima, and is therefore more correctly named "endarteritis chronica deformans," which is the term Virchow originally applied to it.

Quite apart from their scientific value, the monographs are worthy of careful reading as examples of clear, concise, and polished diction.

PROGRESSIVE MEDICINE, a quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, assisted by H. R. M. LANDIS. Vol. I., March; Vol. II., June. Philadelphia and New York: Lea Brothers & Co., 1901.

THE first volume contains surgery of the head, neck and chest, infectious diseases, diseases of children, pathology, laryngology, rhinology and otology. The second, surgery of the abdomen, including hernia, gynecology, disease of the blood and ductless glands, the hemorrhagic diseases, metabolic diseases and ophthalmology.

The first article in Vol. I, by J. Chalmers DaCosta, contains 132 pages, and is divided into the surgery of the various regions of the head and chest, operations on the face, neck, lips, tongue, and jaws being considered together. The first article in Vol. II, by Dr. Wm. B. Coley, contains 178 pages, beginning with the radical cure of large umbilical hernia, then of intestinal surgery, then successively, surgery of the intestines, stomach, liver, pancreas, spleen, appendix, etc.

The portion relating to intestinal surgery is beautifully illustrated, showing the stages and sutures in intestinal anastomosis. These, as well as the following articles, are almost exhaustive so far as contemporaneous literature is concerned, and give an excellent résumé of advances and present state of science relating to the various conditions.

There is no evidence of falling off in the character of the work produced, and the publishers may felicitate themselves upon putting out a well-made quarterly.

MANUAL OF DISEASES OF THE EAR, Including those of the Nose and Throat in Relation to the Ear, for the use of Students and Practitioners of Medicine. By THOMAS BARR, M.D.: Lecturer on Diseases of the Ear, Glasgow University, etc., etc. Third Edition Revised and Partially Rewritten, with two hundred and thirty-six Illustrations. Glasgow: James Maclehase & Sons, 1901.

THIS satisfactory handbook has gone through two editions in England, and its third now appears. Otology for the student and practitioner must usually be offered in general terms and rather broadly, since there is probably no branch which requires so high a degree of specialization if one wishes to be an expert. The general worker and the surgeon need a certain amount of information on diseases of the ear, especially in regard to making a diagnosis, but only the expert who devotes his whole time to otology is in a position to undertake the more intricate operative work. The present volume is a very good one for the general practitioner, and is also sufficiently detailed to make an interesting work of reference for the specialist. The author assumes an advanced position in regard to the treatment of mastoid disease and its sequelæ, and he devotes considerable space to the discussion of the latter. The illustrations are, as a rule, good, and there is a valuable bibliographical index.

PRINCIPLES OF SURGERY. By N. SENN, M.D., L.L.D., Professor of Surgery in Rush Medical College, University of Chicago, Attending Surgeon to the Presbyterian Hospital, etc. Third edition. Thoroughly Revised. Illustrated. Philadelphia and Chicago: F. A. Davis Co., 1901.

THE first edition of this work immediately became a popular text-book, and this up-to-date revision will undoubtedly maintain the reputation of its predecessor. Considerable new material has been added, and much of the book has been rewritten in order to allow the inclusion of descriptions of the valuable work in surgical pathology and bacteriology which has been done in the past few years. The book is one of the best on the subject.

Clinical Department.

TWO CASES OF TYPHOID FEVER, ONE COMPLICATED WITH AN ACUTE NEPHRITIS AND LOBAR PNEUMONIA; THE OTHER WITH MALARIA (TERTIAN) AND SCARLET FEVER; WITH A DESCRIPTION OF THE ICE-PACK AS USED IN THESE CASES.

By LESTER LAURENS ROOS M. D.,
HOUSE PHYSICIAN, GERMAN HOSPITAL OF BROOKLYN.

THE following two cases are reported because of the complications which attended the course of the disease. In the first the typhoid condition was hidden for a number of days, while in the other a condition which many deny was found. These cases occurred during the service of Dr. J. Fuhs, to whom I owe permission to report them.

In both cases the Brandt method of tubbing was discarded and the ice-pack used in its stead. A brief description of the pack as employed in the hospital would not be amiss and is as follows:

The patient's temperature is taken every four hours, and if above 102.2° the pack is ordered. If the urinary organs are in perfect condition and the laboratory report is negative, the pack is preceded and followed by Spts. frumenti ℥ss; if, however, there is any trace of a nephritic condition, four ounces of hot milk is substituted for the whiskey, and repeated at each change of the sheets.

The bed is prepared as though the patient was to receive a sponge bath, that is, the mattress is covered by a double thickness of rubber sheeting and upon this the blankets are placed.

The patient is placed upon a sheet, which has been wrung out of water at 70° F., and covered entirely by it. Blankets which have been soaked in the same water are placed above the sheets. An ice-bag is placed to the head. One-half hour later the sheets and blankets are changed and wrung out of water at 60° F. The next half hour, the sheets and blankets are changed and wrung out of water at 50° F. At this time, a quantity of cracked ice is placed in the axillary spaces and along both lower limbs. This is left on for another half hour, when the pack is changed to 40° F. and the ice is reapplied. The entire pack consumes two hours.

The temperature is taken one-half hour later and in the majority of cases there is a drop in the temperature of anywhere from 1½° to 4½° or 5° F. Not only do we find the drop greater than after the tub baths, but there is an entire absence of the shock due to the sudden immersion of the patient into the tub of water, and of the shivering and cyanosis which are marked in this method.

The great danger of perforation and hemorrhage is entirely obviated. The temperature not only remains down longer, but it keeps on going down for a number of hours after the application of the pack.

CASE I.—P. T., aged 23, grocer's clerk, German, applied for admission on Oct. 22, 1900. He gave the following history:

He is single, and has a negative family history. He had diphtheria(?) about 5 years ago, but was confined to bed only a short while. Otherwise he has been perfectly healthy until the present time.

Two days ago, after having slept all night near an open window, he had a severe chill on arising, which lasted about forty minutes. This made him so weak that he returned to bed. Later in the afternoon he felt feverish and had a dry cough. He also says he had a slight diarrhœa for a number of days.

Physical examination showed dulness at the left apex and also in the axillary line. There was bronchial voice and breathing over the same area. The local fremitus was increased. The cough was accompanied by the typical rusty sputum. The temperature was 103°; respiration, 28; pulse, 108. A diagnosis of lobular pneumonia was made and treatment was instituted. Examination of the urine showed twenty per cent. albumin and traces of sugar. The report of the sputum analysis showed the pneumococcus in abundance.

On October 24 the patient complained of pain in the abdomen when moving. Examination revealed nothing excepting a slight tenderness. The temperature at 8 A. M. was 102.4°; at 4 P. M. 103.8°.

On October 26 the signs in the chest were growing less marked, but as the pain in the abdomen had not ceased another examination was made. This time there was great tenderness over the entire abdomen and especially in the sigmoid region. There was distention and the spleen was markedly enlarged. A number of rose-colored spots, which disappeared on pressure, could be seen. There was also a decided bradycardia, with a pulse of 40 to 52, which, despite cardiac stimulation, could not be brought up.

A blood smear was taken and sent to the laboratory for a Widal test. Although there was a slight diarrhœa present, occasional enemas were given to promote increased elimination of toxic products. An ice-pack was given at 2 P. M. which brought the temperature from 104.2° to 102.2°. At 8 P. M. the temperature was 103°. The ice-pack was repeated, and thus the temperature remained down until 8 A. M. the next morning.

October 28.—The Widal report from the laboratory was positive.

From November 7 the temperature gradually fell, and returned to normal on November 15. The albumin had then completely disappeared from the urine and the physical signs of the chest were entirely cleared up. The improvement of the general condition was now rapid and the patient was discharged on December 10, cured.

CASE II.—M. E., a nurse in the hospital, was brought to the wards for treatment on November 22, 1900. The history was as follows: For about two weeks she had been feeling languid and had had severe headaches. At various times a diarrhœa was present. She had had a number of chills followed by a rise of temperature.

The abdomen was distended, and there was gurgling in both iliac fossæ. The rose-colored spots, disappearing on pressure, were present. The spleen was enlarged. The temperature on admission was 103°, respiration, 16; pulse, 106. A specimen of blood was taken for a Widal test. A microscopical examination of it gave negative results.

November 21.—Temperature 8 A. M., 102°; 8 P. M., 103.4°. A sponge was given, and the temperature came down to 100.8°. Quinine in gr. v doses was given without any effect on the temperature. After four doses, there was cinchonism. Owing to the thready pulse, strychnine sulphate, gr. 1-30, every four hours was given. An enema of soap suds relieved some of the abdominal distention.

November 22.—Widal report from the laboratory is positive.

November 25—At 3 o'clock P. M. the nurse in charge reported that the patient had a chill lasting fifteen minutes. A specimen of blood was taken, stained, and upon examination the typical tertian parasite was found. Quinine was now increased to gr. x doses.

November 28.—Temperature at 4 A. M. 103°. A sponge bath of alcohol and ice was given with no effect, the temperature going to 104°. At 12 M. the temperature was 103°. An ice-pack was given; at 3 30 the temperature was 101°, and at 6 P. M. 100.4°. There had been no chills since November 26.

To December 10 the temperature remained at about 101°. There had been no chills since November 26. The temperature remained at about 101°. Diarrhœa, with typhoid stools, was not as marked as earlier in the disease, but was still present.

December 13.—A diffuse, reddish rash was found, which covered the entire body. The nurse in charge said it had been present for a couple of days, but only in a few small patches. It was most prominent over the chest and back. The temperature rose slightly, and the patient felt bad. As there were no drugs given capable of producing this rash, a diagnosis of scarlet fever was made.

December 15.—Desquamation of a fine sort began to be pronounced. This fact confirmed the diagnosis. The temperature came down to normal, and the patient was discharged cured on December 29.

The presence of the tertian malarial plasmodia was confirmed on examination of the blood by Dr. William Moses at the hospital laboratory.

The presence of the Diazo and Widal reactions, the typical typhoid rose-colored spots, the beefy tongue, and the continuance of the fever after cinchonism and the disappearance of the plasmodia from the blood, were sufficient to make a positive diagnosis of typhoid fever. This diagnosis was made despite the fact that some authors claim that both malarial and typhoid fever cannot exist in the same person at the same time.

The therapeutic value of the ice-pack cannot be denied. It has been used most successfully in all our typhoid cases. The object of reporting upon the employment of the ice-pack in combating the high temperature in typhoid fever is to encourage its more general application in preference to the cumbersome Brandt method, which requires the presence of trained assistants and a minute knowledge of the method.

There is a positive slow reduction of the temperature after each application of the pack, which stimulates circulation and produces a marked tonic effect upon the general nervous system; in short, the application of the pack as an antifebrile measure has all the advantages of the Brandt method without any of its disadvantages. Adding the simplicity and ease of its application, it becomes an ideal measure in the hands of the general practitioner in meeting the symptom of hyperpyrexia and the disorders resulting therefrom.

ROUTINE DIGITAL EXAMINATION FOR CORD ABOUT THE NECK IN THE EXPULSION STAGE OF ALL HEAD-FIRST LABORS.

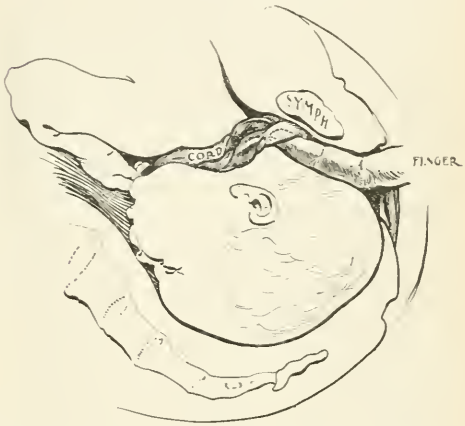
By ROBERT L. DICKINSON M.D.,

NEW YORK,

ASS'T PROFESSOR OF OBSTETRICS, LONG ISLAND COLLEGE HOSPITAL. SURGEON TO BROOKLYN HOSPITAL; FELLOW OF THE AMERICAN GYNECOLOGICAL SOCIETY, ETC

In every instance in which the head presents, it is desirable to determine whether the cord is about the neck or not. It is particularly necessary that one know whether there are two turns or more. The knowledge is worth having because it helps to decide whether the exit of the head may be long delayed to save the perineum, or whether expedition is necessary, and answers the question whether cyanosis of the scalp is a call for quick extraction. Although one turn of a long cord may produce no ill effects, a short cord may thus be drawn taut, and even a long cord may be so disposed as to produce oxygen hunger, with the bad results following premature respiration.

It is not always easy for the ear to determine what is the heart action of the fœtus at the time when the occiput is beginning to protrude. The focus of loudest sound is then behind or just above the pubic bone, not a comfortable place to apply the ear, particularly when the pains are stormy and frequent, or the muscles rigid, or the patient groaning, half under the anæsthetic between pains. Yet one must decide whether another twenty minutes can be stolen from the child's interest, for the sake of the integrity of the pelvic floor. Then the finger is passed in at the summit of the arch, between pains, and is kept there during a pain if the cord encircle the neck. The fetal pulse is accurately studied and the decision made. Before a low forceps application, one ought to know where the cord is. The dorsum of the finger is passed against the child's head, the tip hugging the occiput closely until the shoulder or nucha is reached. One finds a soft band about the neck always, and must determine whether it be the cervix or cord. Hooking the band gently forward toward the pubes, it is held against the back of the bone to feel whether it pulsates or not. If not, the finger hooks over the band



more actively and can tell the anterior lip from the navel string. The gentlest manipulation is always in order.

It is very common to find the pulsation of the cord slow down and stop during a pain, to be gradually resumed as the pain passes off; but as long as the intervals are adequate this momentary arrest of fetal heart action does not call for interference.

I have seen the cord four times about the neck, together with one-half hitch, and the child in as grave a case with a long cord once about the nape of the neck, but tied about both ankles as well. In many instances, with an average length of cord and a single turn, some unknown cause will check and stop the beat. A long symphysis, a short neck, an œdematous anterior lip, all may nip the cord.

On the Occurrence of Pulmonary Tuberculosis in Diabetic Subjects.—T. N. Kelynack gives statistics to prove that a large percentage of diabetic patients are attacked by pulmonary tuberculosis. The cause is obscure. It has been ascribed to the presence of the glucose having a favorable effect on bacterial growth, the sugar lowering the normal resistance of the tissue, and the diabetic cachexia and lessened alkalinity of the blood also assisting the tuberculous infection. Of nineteen cases of diabetes under the author's personal observation, pulmonary tuberculosis was found in eleven cases at autopsy. Even in the non-tuberculous cases pulmonary congestion and œdema or bronchitis were usually present. As far as may be, a non-tuberculous environment should be sought for diabetic patients.—*Medical Press and Circular.*

Society Reports.

THE MEDICAL SOCIETY OF NEW JERSEY.

One Hundred and Thirty-fifth Annual Meeting, Held at Deal Beach, N. J., June 25, 26, and 27, 1901.

First Day—Tuesday, June 25.

The meeting was held at the Hathaway Inn, and was called to order by the First Vice-President, Dr. John D. McGill, of Jersey City, who occupied the Chair vacated by the death of the President, Dr. William Pierson, of Orange.

The Secretary reported that at the birth of the Society, one hundred and thirty-five years ago, the membership had been only seventeen, it was now nine hundred and eighty-four.

The Medico-Legal Expert.—Dr. John D. McGill took this as the theme of the annual address. He said that the successful medico-legal expert must not only be erudite, but must possess certain physical and psychological qualities. The distinction was drawn between opinion evidence and true expert evidence. The former was apt to be founded on impulse or prejudice. The competency of the expert witness must be decided within the discretion of the Court, and could not be left to the jury. A general practitioner might testify upon any question of medical science, but if one qualified as a specialist he could only give evidence connected with that special department. The consulting physician must base his opinion upon what he himself has discovered in the case, and not upon the history and other facts furnished him by the attending physician or the nurse. While the subjective symptomatology should be given due weight, the expert opinion should be based chiefly upon the objective symptoms. It was well to remember that if a true subjective symptomatology had existed for a considerable length of time it would usually lead to the development of a more or less distinct objective symptomatology.

Report of the Standing Committee.—Dr. H. W. Elmer, of Bridgeton, Chairman of this Committee, presented the report. He stated that ten counties had furnished reports, and these showed that last winter and spring had been characterized by more than the usual amount of sickness, particularly of influenza and pneumonia. The reporter of Mercer County reported that large doses of the salicylates had seemed to be capable of aborting many cases of pneumonia, and that this treatment was certainly well worth a more extended trial. Scarlet fever had been prevalent throughout the State. The outbreaks of smallpox had served to show the efficiency of the health authorities, and the extent to which vaccination had been neglected in recent years.

Progress in Surgery.—Dr. Charles Young, of Newark, read a portion only of this report. He said that experience with intraspinal cocainization seemed to show that there was generally less shock after operations in which it had been used, and that it was the method of choice for operation on the lower two-thirds of the body. It was not well suited to children, nor for the majority of operations of intraperitoneal surgery. Fourteen cases had been reported in which the new operation for cirrhosis of the liver, *i. e.* the opening up of a new channel for the circulation, had been done. Mention was made of the work of Dr. George R. Fowler in connection with the operation which he calls "decortication of the lung," for chronic empyema. His first operation was done in October, 1893, and since that time he had been able to collect thirty cases. Of this number eleven patients had been cured and six improved, while nine had remained unimproved. His conclusions were: (1) it may be advantageously substituted for Estlander's operation in the majority of instances (2) it should replace Schede's operation in all cases, (3) the method of extirpation of the diseased pleural membrane is the operation of choice, (4) failing in this, visceral pleurectomy should be selected: (5) pleurotomy, with simple detachment of the diseased pleura, gives sufficiently good results to warrant a surgeon in resorting to it when the condition of the patient will not permit of other procedures, and (6) pulmonary or respiratory exercises should not be neglected in the after-treatment.

Diseases of the Nose and Throat.—Dr. B. A. Waddington presented this communication based upon his thirty-six years' experience as a general practitioner, directing special attention to the baneful results of the infectious diseases.

Progress in Bacteriology.—Dr. D. H. Bergey, of Philadelphia, read this report. In it he dwelt particularly on the progress made in two fields. One of these was the study of the internal structure of bacteria. The "polar granules," he said, had been found to be dependent upon the character of the nutrition of the cells, and to be made up of a special variety of protoplasm. An investigation in the laboratory in Philadelphia on the so-called branched forms of the diphtheria bacillus seemed to show that these forms cannot be classed as mycelial. The other field considered was that of applied bacteriology. Ehrlich and Morgenroth had investigated the process of hæmolysis or the solution of the red blood corpuscles in the body. Ehrlich tried to place the immunizing process upon a chemical basis known as his "side-chain theory." Work had also been done regarding the nature of the agglutination reaction. Reference was also made to the recent experience of the English army in South Africa with inoculations in the prevention of typhoid fever, and the statement was made that, while no statistics were yet at hand, there was reason to believe that this method had afforded striking protection to the nurses engaged in taking care of soldiers sick with typhoid fever.

Second Day—Wednesday, June 26.

What Measures are Practicable for Preventing the Spread of Tuberculosis?—Dr. HENRY MITCHELL, of Asbury, the third Vice-President, presented an essay on this topic. He said that the pasteurization of milk had probably led to the saving of many lives which would have otherwise been lost by infection with tuberculosis. The mortality from all tuberculous affections had been greatly diminishing in the State of New Jersey, and the same was true of every other state in this country, and also of the countries throughout Europe. This reduction in the mortality must be credited to the work of the older sanitarians. Tuberculosis rarely spreads where water, air, and soil are free from pollution and there is a free access of sunlight. In New Jersey during the past twenty-two years the death rate from tuberculosis had been reduced from 6.53 to 1.10 per ten thousand inhabitants. Consumption is everywhere regarded as a preventable disease. Those who are now suffering from it are entitled to much more sympathy and forbearance than will those who subsequently become its victims. The Legislature of New Jersey in 1900 enacted a law opening the way for education in the public schools on personal hygiene, particularly as regards this dread scourge. The chief administrative measures advocated by the essayist were: (1) A general application of the principles of hygiene (2) the prevention of the sale of contaminated milk, (3) the distribution of printed instructions to consumptives; (4) ordinances prohibiting expectoration on the streets; (5) house to house inspection to locate infected apartments; (6) regular periodical inspections of schools, (7) voluntary notification by physicians of cases of tuberculosis and a proper oversight adapted to the individual case, and (8) under certain circumstances, isolation. No one could guarantee that a public record can be kept private, hence the suggestion that the notification of tuberculosis should be

private was not practicable. It had been found in a large series of cases of autopsies that evidences of past or present tuberculosis existed in 97 per cent. of persons dying between the eighteenth and thirtieth years of life. The essayist was of the opinion that very little had been accomplished by notification of health authorities regarding this disease, and he thought this foe of humanity could be effectively combated only by attacking it in advance of its development.

Arteriosclerosis and the Nervous System.—Dr. CHARLES LEWIS ALLEN, of Trenton, read this paper. He said that the nerves have a very rich blood supply, always from more than one vessel. The spinal cord is supplied both from the anterior and the posterior spinal arteries. All the vessels entering the cord are end arteries and do not anastomose, so that if one of these became plugged the area supplied by it must suffer. Attention was directed to cases of intermittent limping occurring not infrequently in young persons, and almost certainly dependent upon sclerosis of the vessels of the foot. The diagnosis of arteriosclerosis of the nervous system was to be made by the general symptoms and the occurrence of arteriosclerosis elsewhere. The long-continued use of potassium iodide in small doses was undoubtedly beneficial when combined with proper hygienic measures.

Dr. E. W. HEDGES, of Plainfield, said that history showed that in olden times, when man lived almost wholly on nuts and fruits, he lived to be several hundred years old, and that as his dietary became enlarged the span of life was steadily reduced. This was notably the case after the cereals had been added to man's food. According to Thompson, if we would prevent arteriosclerosis we should eat more of fruits and nuts and less of the cereals. Another cause of atheroma was to be found in overeating, a fact that had been well brought out by a physician who, from a study of the life habits of one thousand people who had attained the age of one hundred years, discovered that the only thing these persons had in common was a tendency to temperate eating.

Dr. RYERSON, of Boonton, said that he had long been interested in this subject, and he had reason to believe that old age and atheroma were dependent upon a faulty elimination of the phosphates. He had long wrestled with the problem how to increase their elimination, and while far from having arrived at a satisfactory solution he wished to call attention to the property lactose possesses of doing this. He had previously read a paper on this topic before this Society, and would now only say that he had found that on an average it increased the elimination of the phosphates about 50 per cent. and that with this increased elimination many persons showed a corresponding improvement in their symptoms.

Infant Feeding, Some Difficulties in the Management of those Deprived of Milk.—Dr. ALEXANDER MCALLISTER of Camden, was the author of this essay. He said that the regular weighing of infants at short intervals afforded the most reliable guide to the effect of the food upon the infant. A distinction should be made between fatness and robustness. The home modification of milk is useful, but there is still a need for an easy and generally applicable working formula. There is a mistaken, though very prevalent, notion that almost any one can minister to a bottle-fed child.

Some Observations on the New Hæmostatic Adrenalin.—Dr. N. L. WILSON, of Elizabeth, presented this communication. He said that the basic substance of the suprarenal extract oxidized so rapidly that it had been desirable to make a chloride of it. In the tablet form the active principle of this gland is made up as a tartrate of adrenalin. In the liquid form contamination soon occurs, especially if the dropper is frequently introduced into the solution, but it can be sterilized by heat. The tablets are useful because they are very convenient for the extemporaneous preparation of the solution. It was at the writer's suggestion that this active principle had been named adrenalin. When this substance is dropped into the eye there is moderate smarting and a state of hyperæmia is produced which lasts for about twenty seconds, and is followed by a marked blanching of the conjunctiva. There is apparently no stimulation of the sympathetic nerve. It has no bad effect on the conjunctiva, and when used in connection with cocaine or holocaine augments the anæsthesia produced by these substances. When applied to the mucous membrane of the nose, adrenalin causes a marked blanching. It is also useful for examinations of the naso-pharynx. For the temporary relief of hay fever it has no equal. Every operation about the nose can be made bloodless or nearly so by application of adrenalin, but it should be remembered that in about one hour after the operation there will be bleeding, though no more than there would have been during the operation had no adrenalin been used. In order to control such hemorrhage the patient should be given a 1 to 1,000 solution of adrenalin and told to use it for two days. So far as known, adrenalin has done no harm when freely used. Mention was made of a case in which adrenalin had been administered to a pregnant woman having hemorrhages from the nose and from the gums. These had been checked, and then her attending physician, being fearful of the occurrence of postpartum hemorrhage, had kept up the adrenalin until after her confinement. Parturition had occurred normally. She took in the last three weeks of pregnancy five ounces of the solution of adrenalin.

Dr. W. B. JOHNSON, of Paterson, said that he had made considerable use of suprarenal extract and of adrenalin, and he thought the former was just as effective but it was dirty and unstable. He thought he had been able in a number of instances to prevent the development of a suppurative otitis by spraying adrenalin solution in the vicinity of the Eustachian tube. His theory was that when there was an accumulation of serum in the middle ear by reason of the imperviousness of the Eustachian tube, it was possible by the application of adrenalin to the orifice of this tube to reduce the congestion and allow of the escape of the serum.

Dr. ROGERS, of Paterson, suggested that adrenalin might prove useful in relieving œdema of the glottis.

Dr. CHARLES J. KIPP, of Newark, said that he had made daily use of adrenalin for many months and could endorse what had been said regarding it by the reader of the paper. The solution soon becomes cloudy after opening the bottle, and it had seemed to him that sterilization by boiling impaired its efficiency. He could not understand how the remedy could act in the manner described by Dr. Johnson unless it were injected through the whole length of the Eustachian tube. Its place in eye disease was chiefly that of a cosmetic. Thus, in a case of bad conjunctivitis its repeated application would make the patient look quite presentable, but that was about all that could be said for it. Adrenalin sometimes assisted the physician in differentiating between conjunctivitis and iritis. If iritis was present the deep congestion of the ciliary vessels would persist after the application of the adrenalin.

Neuralgia and Allied Affections.—Dr. WILLIAM M. LESZYNSKY, of New York, read a paper with this title. He said that from our present knowledge neuralgia must be considered to be the result of some alteration in the nutrition of the nerve structure itself resulting from interference with its vascular supply. It was almost wholly confined to adult life. The trigeminus and its branches furnished more neuralgias than any other nerve Pain in the course of both sciatic nerves should at once lead to the suspicion of disease of the spinal cord or of the posterior roots. Many cases of so-called intercostal neuralgia were now known to be examples of neuritis. Peripheral neuritis was usually accompanied by pain on

slight pressure over the whole course of the nerve trunk. The successful medical treatment of neuralgia implied a definite knowledge of the condition, the keeping of a distinct object in view, and careful attention to details. The use of irritating or anodyne applications to the face was usually of little avail, and often did harm. Attention to the general health, and the frequent use of the galvanic current would ordinarily prove beneficial. In some cases of lumbo-abdominal and sciatic neuralgia great relief followed prolonged hot rectal irrigations. Nerve section should never be considered seriously until careful systematic treatment had been persevered in for a long time. While the danger of establishing the morphine habit in neuralgics had been greatly exaggerated, it should always be borne in mind. For its occurrence the physician was often responsible by having taught the patient or some member of the family the use of the hypodermic syringe.

A Plea for the Physician on the Witness Stand.—Dr. Daniel Strock, of Camden, read an essay with this title. He pointed to the fact that it was not a personal matter, but a provision of law, that the lawyer cannot divulge the communications of his clients, and he held it to be unfair that the same protection was not afforded to physicians in their relations with their patients. The code of medical ethics, the moral and business guide of the physician, had no support in legal enactment. It was evident, therefore, that in the State of New Jersey, and indeed wherever the courts are governed by the common law, the medical witness is wholly at the mercy of the lawyers and can receive no protection from the Court, except in those rare instances in which the Court intervenes on the broad ground of public policy. If in the direct examination, even in courts where the physician is protected in the matter of disclosing communications from his patients, the physician has partly disclosed the condition of the patient, he may be compelled on cross-examination to give the full details bearing upon what he has already partly testified to. The essayist said that there was reason to believe that the judiciary generally would be glad to have the physician fully protected regarding the communications made to him by his patients, and it therefore remained for the medical profession to take the initiative in securing this important reform.

Dr. Thomas W. Harvey, of Orange, spoke of another phase of this subject, namely, the revealing of information received from patients by the act of filling out the proofs of death required by life insurance companies. In application for life insurance a waiver is often inserted which empowers the applicant's physician to disclose the nature of the previous illnesses of the applicant. For that particular purpose such a waiver may be all right, but it does not apply after the death of the individual.

Dr. Chavanne, of Salem, earnestly urged the Society to at once take whatever steps were necessary to secure proper representation before the Legislature and the enactment of law which would afford physicians protection in the matter under discussion. The question was referred to the Committee on Legislation, with the request that it make a report at the next annual meeting.

The Modern Treatment of Gonorrhœa and its Complications.—Dr. Daniel Currie, of Englewood, presented this essay. He said that a saturated solution of methylene blue in alcohol was an excellent stain for gonococci. Until the gonococci had been banished no cure was possible. As a two per cent. solution of protargol would cause a disappearance of the gonococci for twenty-four hours or more he had not found it necessary to use injections of this substance oftener than once in twenty-four hours. Plain hot water was irritating to the urethra. When the posterior urethra became affected one pint of a one per cent. solution of protargol should be used for the irrigation of the urethra. After the germs had disappeared the injections of mild solutions of zinc and copper were in order, and salol should be given internally. When the spermatic cord became involved, the testicles should be at once suspended, all urethral treatment stopped, and the patient instructed to keep recumbent. Much conjugal infelicity might be avoided if the physician would take the precaution to have specimens of a suspected discharge examined microscopically and cultures made from it.

Dr. E. B. Silvers, of Rahway, spoke of the serious results flowing from the joking way in which too many physicians treat patients suffering from "only the clap. Surely it was no cause for jest, when a man had a disease which might lead to the gravest disorders not only in himself but in his wife and children. It had been the lot of the speaker to see many cases of urethral stricture, and he declared most positively that in simple non-inflammatory strictures he knew of no treatment superior to electrolysis. Those who had opposed this treatment had failed because they had not selected the right kind of cases.

Dr. M. Lampson, of Jersey City, that if one wanted a familiar and practice example of the progress that had been made in medicine in the last twenty-five years one had only to note the great changes that had been made in the treatment of gonorrhœa, due to our increased knowledge concerning the nature of this affection. We had learned that the late Dr. Noeggerath had not been so far out of the way when he had declared that almost all woman's ills were traceable to the ravages of gonorrhœa. The speaker had operated upon over one hundred cases of urethral stricture, and could not recall a single one that had not been the result of gonorrhoea.

Dr. Chavanne, of Salem, rather tersely summed up what he considered the proper treatment of urethral stricture, *i. e.* by the use of sounds, in the recommendation to use "cold steel."

The Treatment of Neurasthenia.—Dr. W. B. Stewart, of Atlantic City, was the author of this essay. He said that the first requisite was to exclude hysteria and insanity, and recognize neurasthenia as a functional disorder dependent upon something causing spinal irritation. This cause should be sought for by an exhaustive study and removed if possible. It was absolutely necessary to gain the full confidence of the patient at the outset; hence the physician should not give his opinion until after having thoroughly studied the case. He should always be sympathetic, firm, and strictly methodical, and should take time to allay the mental excitement and morbid fears of the patient. These talks with the physician should be given with the same regularity as the medicine. A system of mental education must be begun, and must be continued until the physician's personality overbalanced that of the patient. The examinations should always be made carefully and deliberately, and in the presence of another person. Lithæmia and anæmia were important etiological factors, though the speaker's own experience pointed strongly to dietetic conditions as being most commonly responsible for the neurasthenia. It should be made an invariable rule to look to the diet and digestion. All sweets, fried and rich foods, desserts, and strong tea and coffee should be forbidden. Liquids should not be taken during the act of mastication. Neurasthenic subjects assimilate their food imperfectly, though presenting a healthy appearance to the superficial observer. Constipation must be combated vigorously by the use of massage, suppositories, occasional enemata, and change of diet. The physician would find the most trouble in treating sexual perverts. The average neurasthenic never knew when to stop; some did not know when to start. If the patient were a nervous worn-out society woman, an absolute rest cure for several weeks was indicated. Very few men would stand this treatment; some women would. The modified treatment was more generally applicable

Too many neurasthenics had acquired the lazy habit and should be encouraged to walk and take moderate exercise, and live on plain substantial food. Massage and electricity were valuable adjuvants, but should always be given with discrimination. The method and time of application must be carefully determined. Cool or cold sponge baths in the morning, followed by a rub with oil or alcohol, were often beneficial. Hot baths should not be used. A rest of one or two hours should always be taken after a bath. Insomnia and the drug habit were two prominent features which must be met. The physician must not be too radical at first, but should at once impress the patient with his firm determination to cut away from drugs as soon as possible. Nerve storms, sinking spells, and mental depression were common accompaniments of the constant taking of sleeping drugs such as sulphonal and trional. The physician should be most scrupulous about not administering any of these remedies regularly and systematically, and should never tell the patient the name of the drug. Their action would be better if the physician would carefully outline in advance what action was to be expected from them.

Dr. Philip Marvel, of Atlantic City, classified neurasthenia as follows: (1) Neurasthenia from exhaustion, *e. g.* in the overworked broker or banker; (2) neurasthenia from hyperexcitability, *e. g.* in persons who have received a shock or fright; (3) neurasthenia from toxæmia, *e. g.* cases of autotoxæmia, and (4) neurasthenia arising from traumatism. The selection of the method of treatment was all-important. Thus, it would be manifestly improper to select for the rest cure a highly excitable person, whereas neurasthenics showing great exhaustion would be benefited by such treatment. The toxæmic cases required treatment of the gastrointestinal tract. Massage tended to relax the vascular tension so noticeable in most of these cases. The speaker's main reliance was upon the proper use of baths, massage, and electricity.

Dr. G. H. Balleray, of Paterson, said that he was inclined to think that every one was more or less neurasthenic, just as it had been said that every one is more or less crazy; it is chiefly a question of degree. Neurasthenia was a matter of heredity and environment, and the patient must not be made to fit the treatment, but the latter be adapted to the patient. Prophylaxis was, of course, of the first importance. Neurasthenia in women was often associated with menstrual disturbances, or with the debility arising from child-bearing and lactation.

Some of the Infections, Their Genesis, Habit, Consequences, and Prevention.—Dr. Samuel E. Armstrong, of Rutherford, read this paper. The author considered especially abscess, syphilis, and malaria, and laid great stress on the necessity for the State of New Jersey taking immediate steps for destroying mosquitos in order effectively to combat malaria. He hoped a committee, consisting of representatives from each county, would be appointed to consider the best means of attacking this problem in the State of New Jersey.

Dr. Ferdinand M. Jeffries, of New York, said that the problem of reaching the Legislature effectively was a difficult one, but a hint was afforded by certain legislation in the West. For example, the collection of the noxious loco weed had been encouraged and the state had bought it at a fixed rate per ton. Again, in order to do away with a thistle that had injured the hay crops a law had been passed in Washington compelling each land owner to cut down the thistles before they went to seed. A similar law, compelling land owners to fill in or properly attend to breeding places for mosquitos would be in the right direction and would be a power for good. Certain communities in New Jersey had already done something in this direction without waiting for state legislation.

Dr. Alexander Marcy, of Riverton, said that he had certainly seen some striking examples of malarial infection occurring in a portion of the State where there are practically no mosquitos, and he was disposed to believe that the mosquito was only one of the means of conveying the malarial plasmodium to the human being. He mentioned that in a number of cases of severe malaria in which quinine alone had appeared to be almost useless, the disease had been most satisfactorily controlled by administering methylene blue in conjunction with the quinine.

Diagnosis of Intestinal Perforation in Typhoid Fever.—Dr. Joseph Stokes, of Moorestown, presented this paper. He said that only within the last few years had it been known that the perforation actually takes place some hours before the appearance of the usual symptoms given for this condition, viz., sudden abdominal pain, collapse, general abdominal tenderness and rigidity, and the peculiar expression of the face. Perhaps the most important of the early symptoms was pain, which was rarely absent. Its onset was usually sudden, and it was generally, though not always, severe. In a large proportion of cases the pain was located in the right ileocæcal region. Another early symptom, and one almost invariably associated with abdominal pain, was rigidity of the abdominal muscles. The occurrence of these two symptoms together in the third week of typhoid fever was almost pathognomonic. Another symptom which was fast assuming some importance was leucocytosis. This was usually so transient, however, that to be of any value counts would have to be made daily, indeed almost hourly, by experts. Immediately after perforation there was little to be learned from either the pulse or the temperature. Nausea and vomiting were early symptoms in only a small proportion of cases. The object of the paper was to disabuse the medical mind of the notion that intestinal perforation in typhoid fever was characterized by a sudden and overwhelming change in the patient.

Dr. Alexander Marcy, of Riverton, said that it was far better to operate in a case of suspected perforation when one does not exist than to let a patient one die in a case in which perforation has not been suspected.

Dr. Louis Faugères Bishop, of New York, said that when a person is sick and is suffering more or less all the time the onset of perforation might be very easily overlooked. The physician should be constantly on the alert during the course of typhoid fever for that particular form of rigidity of the muscles which affects one side of the abdomen more than the other, and when such rigidity was detected its warning should not be disregarded.

Dr. Philip Marvel, of Atlantic City, while admitting the inconveniences and difficulties associated with making blood counts, insisted that the making of the leucocyte count in typhoid fever was well worth all the trouble expended upon it. Even if such examination led to error in diagnosis, this error would be on the safe side for the patient, and it might afford valuable information as to the existence of a peritonitis or an appendicitis.

Third Day—Thursday, June 27.

The Proper Temperature for Ear Douching.—Dr. Talbot R. Chambers, of Jersey City, presented a brief communication on this subject. He reiterated his belief in the value of an ear douche at a temperature between 120° and 130° F., and exhibited the apparatus which made the use of such a high temperature possible. A two-quart fountain syringe, a bath thermometer, and a glass or hard-rubber douche apparatus for insertion in the external auditory canal were all the requisites.

Ethyl Bromide, A Primary Anæsthetic before the use of Ether or Chloroform.—Dr. Emery Marvel, of Atlantic City, read this paper. The author's method had been for the anæsthetizer to enclose a piece of gauze in the palm of the hand and pour upon the gauze one fluid drachm of ethyl bromide, exceptionally a larger

quantity. The patient was usually unconscious in forty to forty-five seconds, and then either chloroform or ether was substituted. Full anæsthesia was usually induced in about three minutes. By this method excitement, coughing, and excessive bronchial secretion had been avoided. No unfavorable action on the heart or on respiration had been observed. The tendencey to vomit after chloroform or ether could be reduced but not altogether removed by the prior use of ethyl bromide. The author stated that the advantage of this method when chloroform was employed was slight, but it was very marked when ether was used.

Remarks on the Diagnosis and Treatment of Early Ectopic Pregnancy.—Dr. G. H. BALLERAY, of Paterson, was the author of this paper. He said that the frequency of ectopic pregnancy might be inferred from the fact that since February of the present year he had seen seven such cases. While it was true that ectopic gestation was more common among previously sterile women, sterility should not be taken into consideration in making the diagnosis. The typical symptoms were amenorrhœa, followed by an irregular discharge of blood from the vagina, the occurrence of colicky pain in the lower part of the abdomen, and occasionally the discharge of pieces of decidua. The softening of the cervix, so marked in normal pregnancy, was not commonly a prominent sign in ectopic pregnany. The changes in the breast characteristic of pregnancy were not always present. When there was a reasonable doubt, the bladder and rectum should be thoroughly emptied and an examination made under general anæsthesia. In true hæmatosalpinx the symptoms of pregnancy were absent. When there had been a rupture into the folds of the broad ligament there was less shock than when the product of conception was effused into the general peritoneal cavity, and it was followed by a characteristic bearing-down sensation. The treatment of extrauterine pregnancy should be purely surgical, and all other methods should be condemned. In cases of hæmatoma of the broad ligament, the interests of the patient would be best conserved by leaving her alone, for it would generally be found that if this were done she would recover within a few weeks and that almost no signs of the hæmatoma would be left. He considered abdominal section, and not operation by the pelvic route, the proper procedure in cases of ectopic pregnancy. When the hemorrhage was still going on operation through the vagina would be tempting Providence, and trifling with human life.

Dr. P. A. HARRIS, of Paterson, advised the complete ignoring of the descriptions of ectopic gestation published a few years ago. He thought that in over half of his cases of ectopic gestation seen in recent years there had been no sudden increase in the pulse rate, the pulse having been on an average about 85. Moreover, he thought the diagnosis should generally be made before the occurrence of that quickening of the pulse which figured so prominently in the older descriptions of this condition. In very early cases of ruptured tubal abortion there was usually profuse hemorrhage, with severe pain and a rapid pulse, without previous symptoms. When rupture occurred later, the pain was usually less intense and hemorrhage was not so copious. If a woman who had previously menstruated regularly went beyond her time for five to seven days, and then had some pain and an irregular flow of blood, the physician should at once suspect ectopic pregnancy.

Report of a Case of Tumor of the Neck.—Dr. J. C. McCOY, of Paterson, reported this case, the prominent features of which were very rapid emaciation, some dyspnœa, undue prominence of the eyes, and the presene, of a lobulated tumor of the neck, moving during the act of swallowing. The origin of the growth was probably in the thyroid, and while, histologically, the structure suggested an adenocarcinoma, the macroscopical and clinical appearances were those of a fibroma. He had extirpated the growth, and the patient had recovered in three weeks.

Report of a Case of Suppurative Choroiditis.—Dr. T. R. CHAMBERS, of Jersey City, reported this case chiefly because it had followed a course just the reverse of that usually described.

Suggestions Regarding State Aid for Hospitals.—Dr. W. B. JOHNSON, of Paterson, read this paper. His position was commended by Drs. E. Marvel and Chavanne.

A Case of Cæsarian Section for Deformity of the Utero-vaginal Canal.—Dr. G. H. BALLERAY, of Paterson, in reporting this case, mentioned incidentally the inadvisability of using the rubber ligature because it causes atrophy of the lower uterine segment. It was better, he said, to have the vessels controlled by a trustworthy assistant.

Discussion on What Reliance Can Be Placed upon the Image Produced by the X-Ray from a Medico-Legal Standpoint.—Dr. CHARLES L. LEONARD, of Philadelphia, opened the discussion. He said that while the nature of the *x*-rays was not known, the laws of physics governing them were well understood. This method could be employed satisfactorily as a means of diagnosis only by the medical profession, and those especially trained in the use of this new diagnostic method; it was not to be expected that it could be used with advantage by the laity. The treatment of cases of suspected fracture as if a fracture really existed was not good surgery at the present time, and was not necessary with *x*-ray examinations at our disposal. It was not advisable to employ the Roentgen ray for the diagnosis of fracture to the exclusion of other methods, but all reliable means of diagnosis should be used. The value and accuracy of the Roentgen ray for medico-legal purposes were entirely dependent upon the skill of the expert using this method. It was necessarily opinion evidence, but was founded upon tangible data. The knowledge of normal and pathological anatomy, as disclosed by the *x*-ray, was presupposed to exist in one essaying to employ this method for diagnosis. It should be remembered that the Roentgen method does not recognize the injury that has been done to the soft structures. It often demonstrates the impossibility of securing proper apposition of the fragments without an operation. A skiagraph showing the cancellated structure of the bone should enable an expert in *x*-ray work to detect a fracture if one were present. The determination of non-union of a fracture was not possible by the use of the *x*-ray unless the fragments were separated or unless two skiagraphs were taken showing different aspects of the part. The identity of a picture could be established by using lead letters under the limb. If a skiagraphic plate were written upon with ink, as for example signed by the person making the skiagraph, it would be impossible to manipulate the plate, except locally, without destruction, for the ink would run and stain the plate. Whenever a skiagraph was introduced in evidence an expert opinion should be secured from both sides to a suit. In charges of malpractice it was not the beauty of the bone scar that should be considered, but the clinical result. Neither lawyer, photographer, nor professional witness without special experience was capable of correctly interpreting a skiagraph, nor was he competent to give testimony thereon.

Dr. CARL BECK, of New York, continued the discussion He asserted that, aside from the discovery of aseptic surgery, the discovery of the Roentgen rays was greater than any other of its kind in the century just past. Surgeons sometimes seemed to be either jealous or fearful of this new ally. It was true that the Roentgen rays could reveal the surgeon's mistakes, but they also showed the limitations of the best surgical skill, and often proved conclusively that the surgeon had done the very best possible for a given case, though the patient was not satisfied. These rays do not take cognizance of tro-

phoneurotic disturbances, and hence might show the bones in excellent condition, although the person injured might be justly entitled to indemnity. It was impossible to diagnose a fracture of the base of the skull by means of the *x*-ray. Dr. Beck then exhibited a series of skiagraphs, emphasizing the points made and showing the possibilities of this method. He predicted that an *x*-ray apparatus would in time become as necessary a part of the general practitioner's outfit as was the microscope now.

Dr. Leonard, in closing, made some remarks on the value of the *x*-rays in detecting ureteral calculi.

Officers and Place of Meeting.—Dr. John D. McGill, of Jersey City, *President*; Drs. E. L. B. Godfrey, of Camden; Henry Mitchell, of Asbury Park, and A. W. Taylor, of Beverley, *Vice-Presidents;* Dr. E. W. Hedges, of Plainfield, *Corresponding Secretary;* Dr. W. J. Chandler, of South Orange, *Recording Secretary;* Dr. A. Mercer, of Newark, *Treasurer*. The next meeting will be at Atlantic City on June 24, 25, and 26, 1902.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, held May 23, 1901.

A. BROTHERS, M.D., CHAIRMAN.

Pan-Hysterectomy.—Dr. CHARLES N. DIXON JONES presented the patient upon whom the first pan-hysterectomy had been done in America, together with the specimen removed at that operation. The operation had been done thirteen years ago.

Hydrosalpinx.—Dr. G. H. BALLERAY presented a specimen of hydrosalpinx, and in that connection said that although he had operated between two hundred and three hundred times for pyosalpinx, this was the first hydrosalpinx that he had encountered.

Ectopic Gestation.—Dr. BALLERAY also presented a fœtus, with the decidua, which was a complete cast taken from a case of extra-uterine pregnancy. He had operated per vaginam, and had met with such profuse hemorrhage that he had been almost tempted to open the abdomen in order to control it. The hemorrhage had been finally controlled by packing. He could not understand any one advising vaginal section in cases in which there was hemorrhage into the general peritoneal cavity.

Echinococcus Cysts of the Mesentery.—Dr. BALLERAY also presented this specimen, which had been removed from a patient who had had the tumor for about twenty years. Four colleagues had examined the case and each one had made a different diagnosis. All of the tumors were adherent. The diagnosis of echinococcus cyst had been confirmed by the finding of the characteristic hooklets under the microscope.

Large Ovarian Tumor.—Dr. H. J. BOLDT presented a large ovarian tumor which had existed for a number of years, and which, on removal, appeared to be colloid.

Ectopic Pregnancy.—Dr. PAUL F. MUNDÉ presented specimens from two cases of ectopic pregnancy, one of them a tubal abortion. Because of the sudden sharp pain and rapid collapse and the symptoms of gradual internal hemorrhage, he had been able to make the diagnosis of tubal abortion in this instance before operating. Mention was made of another case, seen about the same time both by himself and a colleague. Both of them had agreed on the diagnosis of ruptured ectopic gestation, but as the rupture was intraligamentous and the hemorrhage had ceased, Dr. Mundé had not insisted on operation, and after two weeks the large mass had been absorbed.

Rapid Reduction of a Fibroma. — Dr. PHILANDER A. HARRIS presented a uterus removed three months ago from a woman, thirty-five years of age, who had never had children. When first seen by him, last August, there had been an abdominal tumor reaching up to the umbilicus. Upon palpation, it appeared to be a fibroma. He had not seen her again until January, and had then been surprised at the tumor being very much smaller. The patient stated that shortly after he had seen her last summer the tumor had rapidly diminished to about half its former size. As there was reason to suspect pregnancy, when the woman was seen in January, he had made a suprapubic incision for the purpose of exploration, after a consultation with Dr. Coe. The uterus, tumor, and gestation sac were removed.

Abscess of the Broad Ligament: Calcareous Concretions in the Ovary.—Dr. A. ERNEST GALLANT presented this specimen.

The Palliative Treatment of Fibroids.—Dr. H. C. COE read this paper. He said that when there was a small subperitoneal or even an interstitial fibroid tumor and an entire absence of symptoms, no conservative physician would be willing to advise operation. Sometimes a tumor apparently insignificant in size might assume great importance because of its position or its association with pregnancy. The important symptoms in connection with fibroids were hemorrhage, pain, and pressure symptoms. One must carefully consider the amount of the hemorrhage and its effect upon the individual. He was in the habit of insisting upon seeing the patient at the height of the hemorrhage, and noting the effect of the loss of blood upon her at the time as well as the rapidity with which she recovered from it. In the palliative treatment of such a case a good deal could be accomplished by regulating the diet and habits of life, supporting the uterus perhaps with a pessary, and warning aganist anything which tended to increase pelvic congestion. Because of the liability to pelvic congestion from sexual intercourse, the marriage of such a woman was risky. It was his own practice not to give ergot during the height of the menorrhagia, but in small doses, combined with strychnine or hydrastin, he used it in the intermenstrual periods. During the hemorrhage, the patient should be kept absolutely quiet in bed for the whole menstrual period. Complete rest in bed, with the foot of the bed raised would sometimes be sufficient to check the hemorrhage. Sometimes prolonged hot douches, with or without a styptic, like alum, were useful, but this beneficial effect was far from being the rule. In many of these cases, especially where there were interstitial fibroids, the uterine canal was so tortuous that it could not be tamponed easily without preliminary dilatation, a procedure that was far from safe. It was very common for practitioners to insert two or three balls of cotton into the vagina, and think that this constituted an effective tampon for the control of hemorrhage, but if done in this way, the tamponade was utterly useless for such a purpose. An efficient tampon for the control of hemorrhage was made by placing the patient in the knee-chest position, introducing a large-sized Sims speculum, and then systematically filling the vagina with a large number of small pieces of non-absorbent cotton. It was no exaggeration to say that in making such a tampon it was not unusual to introduce nearly a hand-basin full of such pieces of cotton. Of course such a tampon was very uncomfortable to the patient and it was often necessary to empty her bladder by catheter while the tampon remained. Regarding the use of electricity, the speaker said that he looked upon it as purely symptomatic in its effect, and thought the method should only be employed by an expert in this work. Aseptic curettage, followed by swabbing out of the uterus with carbolic acid, and then with alcohol, was sometimes a very useful means of checking hemorrhage, and this good result might last for years. He had never seen any bad results from such curetting in cases in which

the only symptom of importance was hemorrhage. Ligation of the uterine arteries did not seem to him rational, or a procedure which would give permanent relief. Personally, this method had given him no results at all. When the tumors are packed tightly in the pelvis, thus causing severe pain, it might be well to give an anæsthetic, push the tumors up and introduce a pessary. Pressure symptoms could sometimes be relieved by an abdominal bandage. Every case of fibroid should be seen by the physician about once in six months. He believed that a patient with a small fibroid nodule in the uterus should not be told of the presence of th tumor, as this would be useless and needlessly cruel.

Fibroids Complicating Pregnancy—Dr. CHARLES JEWETT reported three cases of this kind. In the first, the tumor was broadly sessile, and the woman was delivered by cæsarean section. She died thirty-six hours afterward from exhaustion. In the second case, cæsarean section, followed by hysterectomy, was done, and both mother and child did well. The third patient had been seen while suffering from a fever believed to be septic in character. Hysterectomy had been performed immediately, and the patient had left the hospital in three weeks, in good condition.

Vaginal Hysterectomy for Fibroids—Dr. J. RIDDLE GOFFE read this paper. He expressed the opinion that a fibroid tumor was always a menace to the health and life of its possessor, and that the sooner it was removed the better. The removal of a small fibroid was a simple matter. His plan was to attack the tumor through the vagina, doing a myomectomy, and leaving the uterus intact. He saw no objection to attacking a fibroma, no matter what its situation. By making a transverse incision in front of the cervix, and then a longitudinal incision the whole length of the vagina, and dissecting off the bladder from the vaginal wall, it was possible to retract the vaginal walls on each side to such an extent as to make them fit the interior of the bony pelvis. This gave as much room as was ordinarily obtained by the abdominal route. To deny a woman the happiness of married life and motherhood simply because she had a small fibroid in the uterus, seemed to him absurd. It should be removed through a vaginal incision. When the tumor reached up to the umbilicus, a laparotomy should be done.

Abdominal Hysterectomy for Fibroids—Dr. CHARLES N. DIXON JONES was the author of this paper, which was chiefly an historical sketch of the evolution of the operation of abdominal hysterectomy. He asserted that an important epoch in this evolution was the first performance of pan-hysterectomy, in America, by Dr. Mary A. Dixon Jones. Much credit was given to Dr. Stimson for his important pioneer work in connection with the use of the ligature.

Dr. PAUL F. MUNDÉ said that he agreed with Dr. Coe almost entirely. He had fought for years for the principle that a uterine fibroid, because it was a fibroid, did not call for any surgical interference; in other words, that it was not in itself of any more importance than a wart on the nose. So long as a fibroid did not grow, or produce pain or pressure symptoms, or hemorrhage, and so long as it was not likely by its peculiar position to nterfere with the health of the patient, such a fibroid, in his opinion, should not be disturbed. On the other hand, he believed that fibroids were "good tumors to watch," and he was accustomed to tell such patients, not that they had a fibroid, but that they must return in six months for further observation. He had great faith in the curette for the control of hemorrhage from fibroids, and he would, if necessary, repeat the curetting every two or three months. He had known patients to go ten or fifteen years under such treatment, until they had finally reached the menopause, and they had remained in good health thereafter. He always swabbed the uterus out with iodine or carbolic acid after the curetting. He had formerly used Apostoli's method, but had abandoned it, though he had no doubt that when used by experts it was useful It causes a reduction in the size of the tumors, and relieves the hemorrhages and other symptoms. He had never seen a fibroid disappear under such electrical treatment. He had known hæmorrhages to be quite well controlled by the faradic current, even when applied by a nurse. The use of ergot and hydrastis, thirty drops of each, several times a day, he had found useful, and less apt to disturb the stomach than the fluid extract of ergot given alone. If such palliative treatment were not successful, then he was certainly not averse to operation. He had always felt that if a fibroid developed low down in the pelvic cavity, and the woman was pregnant, he was justified in advising an abortion. If the patient preferred to take the chances of having a living child, and was willing to assume the risks to her own life incident to a cæsarean section, then that was the plan of treatment to pursue. Fibroids did not necessarily interfere with conception or with pregnancy. While he never hesitated to remove through the vagina anything easily reached by that route, he could not agree with Dr. Goffe as to the great advantages of vaginal hysterectomy for fibroids. This was largely a matter of individual experience and expertness. He did not believe in removing every little subperitoneal fibroid from a woman so that she could get married. It did not follow that such a tumor would cause any trouble during married life and he would not advise against such a woman marrying. If the tumor gave any trouble, it would be time enough to interfere after marriage, and then it could be more easily taken away through the vagina He was in favor of supravaginal amputation, leaving the cervix in place and covered with peritoneum, so as to secure a better pelvic floor. However, where drainage was necessary, he would remove the cervix, and drain with gauze through the vagina.

Dr. E. J. ILL, of Newark, said that, out of about forty cases of fibroids complicating pregnancy, he had had a chance to do cæsearan section only once. He had kept these cases under close observation, and if the fibroid did not retract, which it usually did, however, then it was time enough to interfere. He had never seen anything but mischief from the use of the curette in cases of uterine fibroids; he had seen the capsule of a tumor opened by the curette resulting in sloughing and sepsis. For the control of hemorrhage, he had had the best results from the use of gossypium for a week or ten days previous to the period. In an experience with upward of three hundred tumors, he had never met with a fibroid which had undergone cancerous degeneration, although he had had many examinations made with the special object in view of determining this point. This being the case, there was no ground for urging operation upon a woman for fear that a small fibroid, giving rise to no symptoms, might ultimately become cancerous. He did not like to operate on fibroids through the vagina, except when the tumor was no larger than a fœtal head. When it became necessary to remove fibroids, it was usually desirable to remove the uterus also. The method he preferred was that described by Dr. Howard Kelly.

Dr. H. J. BOLDT did not think electricity was often indicated in these cases, but if it should be indicatd, it should be given by the gynecologist himself. He had had considerable experience in vaginal work, but to enucleate a tumor measuring four inches in diameter, per vaginam, unless it were a submucous tumor, was very difficult. It had been stated that subserous fibroids did not cause trouble, yet he had recently presented a subserous fibroid which had seriously complicated pregnancy.

Therapeutic Hints.

Hints on Typhoid Fever.—In hemorrhage use ergotin and digitalin. For insomnia and nocturnal delirium give morphine or codeine. For "fighting delirium" of the first stage give veratrine and tartar emetic. For "low muttering delirium" and weak heart give atropine. Kill the micro-organisms and render the stomach and intestines aseptic by giving zinc sulphocarbolate until the stools lose their odor—up to 100 grains daily. Calomel is useful in the first stage. If sweating is profuse use hydrastin. For subsultus tendinum give strychnine. In later stages, with blood in the stools, give silver oxide. For pneumonic symptoms use sanguinarin. Leptandrin is useful in constipation. Bismuth subnitrate is useful in gastric irritation.

M. G. PRICE, *Wisconsin Medical Record.*

Mercurial Salivation.—

℞	Acidi Tannici	ʒi.
	Mel. Rosæ	℥ii.
	Aquæ	ʒvi.

M. S. As a gargle.

BARTHOLOW.

Chronic Bronchitis.—

℞	Ammonii Chloridi	ʒii.
	Mist. Glyc. Co	℥iii.

M. S. A teaspoonful three times a day.

DA COSTA.

Flatulence.—

℞	Pulv. Zingiber	
	Pulv. Acacia	
	Sodii Bicarb	
	Bismuthi Subnitr	
	Sacch. Alb	aa ʒii.

M. S. Teaspoonful in water.

HOLLISTER.

Pertussis.—

℞	Tinct. Lobeliæ	ʒii.
	Sodii Bromidi	ʒiii.
	Spts. Ætheris Nitrosi	℥i.
	Syr. Limonis q. s. ad	℥iii.

M. S. Half to one teaspoonful every one or two hours.

SHOEMAKER.

Calomel.—I regard calomel as by far the most useful drug I have ever used. If calomel does not act when it should, give an injection of glycerin or soap and water. When first called to any fever, give from three to ten grains of calomel and follow with a saline. Ten grains of calomel every morning for three days in typhoid fever is a good beginning, particularly if it is desirable to make the bill light. Always make it a rule when you prescribe calomel either to give it in large doses once a day or in small doses for a few hours only. Do not prescribe, say, one grain of calomel every hour until the bowels move, for twenty grains may be given in this way and salivation result. Small doses of calomel frequently repeated, say one-tenth grain every half hour until ten doses are given, usually succeed in promoting activity of the bowels. When called to an infant with 105° to 106° temperature, in your prognosis give a ray of hope, and in your treatment, saying the child is two years old, give three or four grains of calomel. It has been my practice never to give acids while giving calomel, but always to give carbonate of potassium or of sodium.—C. E. BOYNTON, *Wisconsin Medical Recorder.*

Adenoids.—1. The removal of the lymphoid hypertrophies in the naso- and oropharynx, with the cure of the associated nasopharyngeal catarrh, will restore the potency and permeability of the nose. If done early, many local pathological changes may be avoided. 2. The general health may be more or less improved. 3. The mental faculties and general intelligence will be improved. 4. Defects in speech and in hearing due to nasal troubles will disappear. 5. Deafmutism may be relieved. 6. The functions of taste and smell will be restored. 7. Reflex neuroses of various kinds will be modified or cured. 8. Nasal and supposed pulmonary hemorrhages will disappear. 9. Thoracic deformities will be relieved or cured. 10. The tendency to acute rhinitis, pharyngitis, laryngitis, bronchitis, and pneumonia becomes less and less with the restoration of normal respiration. 11. The dangers attending the presence of enlarged cervical lymph nodes will be avoided. 12. The invasion of various infectious diseases is less likely when the nasal mucous membrane is in a healthy state. 13. The danger of meningeal infection from the nasopharynx will be lessened.—*Archives of Pediatrics.*

Strychnine.—Calomel is the only drug that is more useful than strychnine. Strychnine will enable you to make use, and good use, of veratrine and aconitine in fevers. Strychnine, digitalin, and glonoin are the triple alliance to face death when vitality runs low. When the pulse lacks sufficient power then is the time to give 1-20 to 1-30 grain strychnine hypodermically. It is not well to give full doses of strychnine as a routine treatment in fevers, but it should be used as indication demands. To meet collapse we may give 1-20 grain of strychnine every one or three hours until 1-3 of a grain has been given within the twenty-four hours.—C. E. BOYNTON, *Wisconsin Medical Recorder.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 20, 1901:

	Cases.	Deaths.
Measles	164	8
Diphtheria / Laryngeal Diphtheria (Croup)	139	18
Scarlet fever	158	21
Smallpox	35	12
Chickenpox	14	
Tuberculosis	258	123
Typhoid fever	30	10
Cerebro-spinal meningitis		2

Treatment of Insanity by Rest in Bed.—Wizel is strongly in favor of this method. He has tried it thoroughly in a large number of cases during the past six months with very favorable results. He uses two wards for noisy and quiet cases, and separate isolation rooms. There is no restraint, but the patients are kept continuously under observation. It is difficult at first to classify the cases. In many cases a noisy patient put among quiet ones became quiet in a short time. In other cases his influence excites the other cases. If he cannot be kept in a ward, he is put in a separate room, but still the bed treatment is persisted in. The patient is given a separate attendant. Wizel holds that even for noisy patients this is much more satisfactory than isolation in a cell without observation. He does not find any difficulty in keeping his patients in bed. The avoidance of external sources of irritation is itself conducive to quietness, as is well recognized in the Weir-Mitchell treatment for neurasthenia; quarreling and fighting are diminished, and the patients are less likely to do themselves and others harm. They are much more easily watched, and hence bad habits can be more effectually prevented. By keeping the hands outside the bedclothes, it is possible to diminish masturbation. Since he has introduced this plan, the whole aspect of the asylum has changed. It is much more peaceable and more like an ordinary hospital. Its sedative influ-

ence is shown by the difference in the bill for sedatives. Since Russian writers have objected to this treatment, on the ground that it leads to constipation, loss of weight, facilitates masturbation and makes it difficult to get the patients to resume ordinary life. Many of Wizel's patients gained in weight, while in the other cases the loss was probably part of the disease. Constipation was not increased, while patients rise for their meals and go to the closet.—*Edinburgh Medical Journal.*

Ante-Mortem Invasion by Non-Pathogenic Microbes.—The human body while alive, is the natural home of the pathogenic microbe. When dead, it is taken possession of by others of many kinds, by the action of which it is rapidly decomposed. It is interesting, however, to note that even before death takes place micro-organisms of decomposition may obtain a footing in the body, and that in some cases the final cessation of life is hastened by the intrusion of non-pathogenic organisms which have taken advantage of the diminishing vital resistance of the tissues to implant themselves in their midst. At a meeting recently held of the London Pathological Society, which took place in the physiological laboratory of Guy's Hospital, Dr. J. H. Bryant reported the results of a bacteriological examination in three cases of ante-mortem thrombi. In the first case, which was one of mitral stenosis and tricuspid regurgitation, extensive ante-mortem thrombosis was found, in which streptococci and the staphylococcus albus were discovered. In the second case a pure culture of the proteus vulgaris was obtained, but the examination was not made until twenty hours after death. In the third case a pure culture of the bacillus subtilis was obtained from the thrombus in the left saphenous vein, and of the staphylococcus albus from the vein on the right side. This post-mortem examination was made four hours after death. It seemed possible, in the last case, that the bacillus subtilis had found its way into the blood through an old ulcer the patient had on his leg.—*The Hospital.*

Absinthe Poison and Other Toxic Essences.—At the meeting of the Academy of Medicine, held in Paris on June 11th, M. Laborde called attention to the baleful effects of absinthe and similar toxic essences. He asked that a committee previously appointed should be instructed as follows: That without delay, in conformity with the motion put forward by Parliament, the committee, in pursuance of its powers, should designate those liqueurs apéritips and drinks which contained such essences as were most harmful to the public health, with a view to putting a stop to their manufacture, distribution and sale. 2. That the study of the subject should be referred to the committee on alcoholism. 3. That any resolution which the Academy should pass after having heard the report of the committee should be sent to the public authorities and to the Deputies.

French Birth Rate Still Decreasing.—The returns of the French census, just made public, show that the population has increased only 330,000 in the last five years. Since 1872, when Alsace and Lorraine were taken from France, the population has grown from 36 1-10 millions to 38 6-10. In the same period Germany has added to her population 15 4-10 millions; the United States has swelled from 40 to 75 millions; Great Britain from 32 to 41; Austria from 20½ to slightly over 26; Hungary from 15 7-10 to 19; and Italy from 26 8-10 to 32. The increase of the above nations since 1872 averages about 12 millions each, while the increase of France during the same time has been in the neighborhood of two millions. Norway, it has been computed, doubles her population in 51 years; Austria in 62; England in 63; Denmark in 73; Germany in 98, and France in 334. The birth rate of France, which was 38 per 1,000 between 1770-1780, and 32 during the first ten years of the past century, is now only 22. The birth rate is decreasing, while marriages are fewer and less productive.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, United States Marine Hospital Service, during the week ended July 13, 1901.

		CASES	DEATHS.
SMALLPOX—UNITED STATES.			
California, San Francisco	June 30th to July 7th	1	
District of Columbia, Washington	July 6th to 13th	1	
Illinois, Chicago	July 6th to 13th	3	
Kansas, Wichita	July 6th to 13th	1	
Louisiana, New Orleans	July 6th to 13th	1	
Massachusetts Boston	July 6th to 13th	2	1
Holyoke	July 6th to 13th	2	
New Bedford	July 6th to 13th		1
Michigan, Detroit	July 6th to 13th	1	
Minnesota, Minneapolis	June 30th to July 7th	2	
Nebraska, Nebraska City	July 6th to 13th	66	33
New Hampshire, Manchester	July 6th to 13th	1	
New Jersey, Newark	July 6th to 13th		1
Ohio, Cincinnati	July 6th to 12th	3	
Cleveland	July 6th to 13th	8	1
Toledo	July 6th to 13th	1	
Pennsylvania, Lebanon	July 6th to 13th	6	
Philadelphia	July 6th to 13th	3	1
Pittsburg	July 6th to 13th	2	
Tennessee, Memphis	July 6th to 13th	1	
Utah, Salt Lake City	June 30th to July 6th	2	
Washington, Tacoma	June 30th to July 7th	1	
SMALLPOX—FOREIGN.			
Austria Hungary, Prague	June 22d to 29th	1	
Belgium, Antwerp	June 15th to 29th		2
Canada, British Columbia, Victoria,	June 15th to 30th	2	
China, Hongkong	May 25th to June 1st	1	1
Columbia, Panama	July 1st to 8th.	5	1
Ecuador, Guayaquil	May 11th to June 8th		7
Egypt, Cairo	June 18th to 24th		1
France, Paris	June 22d to 29th		10
Great Britain, Dundee	June 22d to 29th	1	
Glasgow	June 28th to July 5th	9	1
Liverpool	June 15th to 29th	4	2
London	June 22d to 29th	5	2
India, Bombay	June 11th to 18th		6
Calcutta	June 7th to 15th		6
Karachi	June 2d to 9th	1	1
Madras	June 1st to 13th		9
Italy, Palermo	June 22d to 29th	12	
Naples	June 23d to 30th	170	32
Russia, Moscow	June 15th to 22d		7
Odessa	June 15th to 29th	3	
St. Petersburg	June 15th to 22d		1
Warsaw	June 8th to 15th		3
Spain, Corunna	June 22d to 29th		3
Valentia	June 8th to 23d		1
Switzerland, Geneva	June 15th to 22d	1	
YELLOW FEVER.			
Costa Rica, Port Limon	July 4th	1	
Cuba, Cienfuegos	July 15th	1	
Mexico, Vera Cruz	June 30th to July 6th	6	4
CHOLERA.			
India, Bombay	June 11th to 18th		3
Calcutta	June 8th to 15th		53
Madras	June 1st to 14th		1
PLAGUE.			
Africa, Cape Town	To June 22d	735	234
	June 15th to 23d	21	
China, Hongkong	May 25th to June 1st	215	207
India, Bombay	June 11th to 18th		54
Calcutta	June 8th to 15th		48
Karachi	June 29th	28	25
Japan, Formosa	June 23d	Epidemic	
Nagasaki	June 1st to 10th (1 death on U. S. S. Kintuck.		
Mauritius	June 13th to 20th	2	1

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgement will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

LES PROCESSUS GÉNÉRAUX. By A. CHANTEMESSE & W. W. PODWYSSOTSKY. Royal octavo, 428 pages, illustrated. C. Naud, Paris, France.

PROCEEDINGS OF THE NINTH ANNUAL MEETING OF THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES, held at New York, May 31 and June 1 and 2d, 1900. 8vo., 514 pages, illustrated. R. R. Donnelley & Sons Co., Chicago, Ill.

CHIRURGIE GASTRO-INTESTINALE. By Henri Hartman. Folio, 152 pages, illustrated. George Steinheil, Paris, France.

CLINIQUES MÉDICALES ICONOGRAPHIQUES. By HAUSHALTER, ETIENNE & SPILLMANN. Folio, 48 pages, illustrated. C. Naud, Paris, France.

DIE SERUM-, BATTERIENTOXIN- UND ORGAN PRAPARATE. 8vo. By DR. MAX V. MOLDHEIM. 408 pages. U. Hartleben's Verlag, Leipzig, Germany.

PRACTICAL SURGERY. By NICHOLAS SENN, M. D. 8vo. 1133 pages, illustrated. W. B. Saunders & Co., Philadelphia, Pa.

THE HYGIENE OF TRANSMISSIBLE DISEASES. By A. C. ABBOTT, M. D. 8vo. 350 pages, illustrated. W. B. Saunders & Co., Philadelphia, Pa.

ESSENTIALS OF REFRACTION AND OF DISEASES OF THE EYE. By Edward Jackson. 12mo., 201 pages, illustrated. W. B. Saunders & Co., Philadelphia, Pa.

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Original Articles.

HÆMOLYSIS.*

By S. J. MELTZER, M.D.,

NEW YORK.

FROM THE DEPARTMENT OF PATHOLOGY, COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA UNIVERSITY, NEW YORK.

Introductory.—In the Transactions of this Association of 1898[1] a remark of mine is published in which I refer briefly to some experiments which I had made to determine the modifying influence of the peritoneal cavity upon the deleterious effect of alien blood. According to Hamburger,[2] salt solutions or serous fluids of an osmotic pressure differing from that of the blood of the animal, be they hypertonic or hypotonic, when introduced into the peritoneal cavity of an animal assume, after a while, the osmotic pressure peculiar to the blood serum of their host. This fact suggested to me the possibility that alien blood, too, might acquire a degree of adaptability to the new species by a preliminary stay in the peritoneal cavity of that species. To test this hypothesis, I introduced fresh defibrinated bullock's blood into the peritoneal cavity of a rabbit, left it there for three hours, removed it and strained it. Blood thus prepared, when introduced through the jugular vein into the circulation of a normal rabbit, proved to be less harmful than unprepared bullock's blood. Recently I have taken up this problem again, but studied it in the test-tube by the precise quantitative methods now in vogue in the recent marvelous studies of immunity and hæmolysis. The primary object of this paper is the communication of the results of my recent studies. However, since the entire subject of hæmolysis, as it has been developed in the biological investigations of the last two or three years, is of such immense importance, it was suggested to me to present also a review of the recent hæmolytic studies. This suggestion is the more justified as there is in the medical literature of this country, at least so far as I know, neither an original contribution to, nor a collective presentation of, this fascinating subject.† Acting on this suggestion, I shall therefore attempt to present a general review of the recent studies in hæmolysis before giving the results of my own studies.

Normal Hæmolysis.—Hæmolysis means in general the solution of blood. The term, however, is now chiefly employed to designate the separation of the hæmoglobin from the stromata of the red blood corpuscles. This end can be attained by a great number of different agents. In the present article, however, we shall, in conformity with other writers on this subject, deal only with biologic agents, the foremost of which is alien blood, or alien serum.

The early attempts at transfusion of animal blood into man showed that the normal blood of one animal is often detrimental to another animal. The fact was recognized quite early,[3] that the serum of one animal can dissolve the erythrocytes of another animal. Even the agglutinating effect of alien serum was recognized long ago,[4,5] although it must be admitted that its importance was not understood until the recent advent of the knowledge of bacterial agglutination, when the fact of hæmo-agglutination was rediscovered some six years ago by Bordet.[6] How dangerous, however, alien serum may be, was only recently demonstrated by the discovery by A. Mosso[7] of the extreme poisonous effect of eel's serum. One kilogramme of a mammal is killed by an intravenous introduction of 0.1 c.c. of eel's serum within three to four minutes. This serum is extremely hæmolytic, a trace of it rapidly dissolves mammalian erythrocytes in the test-tube.

Recent investigations have brought to light hæmolytic properties in a number of other biologic products. Cobra venom and some other snake poisons possess hæmolytic properties. Ehrlich[8] discovered that the tetanus toxin contains a hæmolytic agent—the tetanolysin. Bulloch and Hunter[9] describe the hæmolytic effect of filtered pyocyaneus cultures. Neisser and Wechsberg[10] discovered staphylolysin. Kobert[11] discovered the agglutinating effects of the four vegetable poisons, abrin, ricin, crotin, and robinin. Crotin exerts also a hæmolytic influence upon the blood of certain animals.

The development of the method of studying the hæmolytic effects of alien serum quantitatively in the test-tube was undoubtedly one of the most important factors in the rapid progress which has been recently made in the studies of hæmolysis and allied subjects. However, the all-dominating point in this new field of extremely important and interesting investigations was the discovery of hæmolysis by immunization, about three years ago. This discovery is so closely interwoven with the recent development of our knowledge of bacterial immunity that we shall devote a few remarks to the latter subject.

Bacteriolysis.—In the first period of the new bacteriological era, infection meant invasion of bacteria, and immunization was accomplished in a general way by inoculation with bacteria. After the toxins were discovered, followed soon by the marvelous successes of active and passive antitoxic immunizations—to mention only the toxins and antitoxins of diphtheria and tetanus, or ricin and antiricin, abrin and antiabrin—the opinion became prevalent that all immunizations are probably of an antitoxic nature; and so the bacterium or the cell in general became less conspicuous. By the excellent studies of Richard Pfeiffer and his coworkers, at about the middle of the last decade, it was, however, established that there is a distinct and specific antimicrobic immunization which does not protect against the evil effects of the toxins. The sera of animals immunized against cholera and typhoid, do not protect against the toxins of the bacteria in question, but are distinctly bactericidal. Pfeiffer found further that this bactericidal process has a morphological aspect, and is accessible to

*Read at the Annual Meeting of the Association of American Physicians, May 1, 1901, in Washington, D. C.

†Since reading this paper I find that the literature on this subject has been connectedly abstracted by Ludwig Hektoen in his excellent report on Pathology in "Progressive Medicine," Vol. I., 1901.

ocular observation. When, for instance, cholera vibrios were brought into the peritoneal cavity of a guinea-pig which contained serum of an animal immunized against cholera, the vibrios broke down into granula, and soon dissolved entirely. The process, which is termed bacteriolysis, is extracellular (is, therefore, not phagocytic), and is distinctly specific; that is, the immune serum of cholera dissolves only cholera vibrios and no other bacteria. Gruber soon discovered another specific morphological effect of the immune sera. Previous to their dissolution, the bacteria often gather into clumps or masses. This is the phenomenon of "agglutination" which has become so widely known in its practical application in the diagnosis of typhoid. The phenomena of bacteriolysis and bacterial agglutination are independent of one another, and are, it must be said again, distinctly specific. Thus it has been established that there are two distinctly different immunization processes: Immunization against bacteria and immunization against their toxins; or, as some toxins, like ricin, abrin, erotin, etc., are not the products of bacteria, we may express the broader conception by the terms immunization against foreign cells and immunization against their toxic products.

This conception of immunization against foreign cells apparently prepared the minds of the investigators for the studies which followed. While the lively discussion over bacterial agglutination was going on, Bordet, as mentioned above, rediscovered the agglutination of the red cells by alien serum. This, in conjunction with the already well-known lytic effect of serum of one animal upon the red blood corpuscles of another animal, brought out the parallelism between hæmolysis and hæmoagglutination on the one hand, and bacteriolysis and bacterial agglutination on the other hand. The effects of alien serum are also specific, as not every serum affects the red cells of all the animals, but serum of a certain species is hæmolytic or agglutinative for the erythrocytes of a certain other species of animals. Another point which is common to both processes is the fact that heating to 55° C. for half an hour deprives immune serum of its bacteriolytic property, and deprives also the alien serum of its hæmolytic action. When now, in view of the many points which the relations of immune serum to bacteria have in common with the relations of alien serum to erythrocytes, and when, further, the experiments of Belfanti and Carbone brought out the fact that the serum of animals in whom rabbit's blood has been injected is fatal to rabbits, the way was prepared for the last conclusion from these parallelisms, viz., that it ought to be possible to immunize against the red cells, just as it is possible to immunize against the bacterial cells. This explains how it came about that three investigators, independently of one another, have purposely planned the discovery of hæmolysis by immunization. The investigators were Bordet in Paris,[12] von Dungern in Freiburg,[13] and Carl Landsteiner in Vienna.[14] Bordet, whose publication of this discovery appeared a little ahead of those of the other investigators, has since followed up this subject with great ingenuity.

Hæmolysis by Immunization.—Now, what is "hæmolysis by immunization"? Let us illustrate it by one of the experiments of Bordet. The normal serum of the guinea-pig has very little or no effect upon the red blood corpuscles of the rabbit, even when brought together and kept in the thermostat at 37° C. for many hours. If, however, a guinea-pig is treated several times at different intervals by subcutaneous or intra-peritoneal injections of rabbit's blood, the serum of this guinea-pig acquires the capacity of dissolving the red cells of the rabbit with great rapidity, just as the serum of an animal which has been treated by bacterial injection dissolves such bacteria. This acquired hæmolysis is specific. The serum of a guinea-pig immunized by rabbit's blood dissolves rapidly only the cells of rabbits, while it retains its normal indifferent behavior toward the red cells of other animals. The serum of immunized animals acquires also a specific agglutinative power towards the red cells of the animals in whose blood the immunization was accomplished. The addition of the serum to such blood causes a rapid falling out of the red corpuscles which clump together at the bottom of a test-tube to a dense mass.

Hæmolysis by immunization and hæmo-agglutination have now been studied with uniform results in a great many species of animals, of which chickens and pigeons (von Dungern[15]), geese (Metchnikoff[16]), and frogs (Krompecher[17]) deserve special mention. With the nucleated red cells of the blood of these animals a quantitative study of the hæmolytic effect is possible not only in the test-tube, but also in the hanging-drop under the microscope. The number of free nuclei indicates the degree of hæmolysis. Furthermore, with these characteristic corpuscles also the specific character of hæmolysis and agglutination is conveniently demonstrable in the hanging drop. When, for instance, chicken blood and the blood of a mammal, say a guinea-pig, are thoroughly mixed, and to a drop of this under the microscope a droplet of the serum of a rabbit, immunized by chicken blood, is added, it can then be observed that during the period of agglutination the nucleated red cells of the chicken gather into small heaps, while the red cells of the guinea-pig remain evenly distributed throughout the entire field. In a later stage, when the hæmolysis takes effect, the red cells of the guinea-pig remain unchanged, while nothing but nuclei can be seen of the chicken cells.

Immunization is accomplished by the usual methods, *i. e.*, by subcutaneous, intraperitoneal, or intravenous injections. In a very recent communication, however, Metalnikoff[18] reports that he attained immunization also by feeding one animal with the blood of another animal. In a previous communication by Uhlenhuth[19] on anti-proteid immunization, of which we shall speak presently, the possibility of an intra-stomachal immunization is mentioned.

Other "Immunization" Reactions.—Before continuing further our report on hæmolysis, we shall stop to call your attention briefly to a number of other remarkable results which the very recent studies in hæmolysis and immunity have brought to light. In the first place the conception of immunization against foreign cells, which was derived, as stated above, from the possibility of immunization against red cells as well as against bacteria, was soon extended with success to other body cells. V. Dungern[20] has immunized animals against ciliated epithelia. When these epithelia are introduced into the peritoneal cavity of a normal animal, the cilia continue their movements for quite a long time. If, however, the animal has been treated beforehand with injections of an emulsion of such epithelia, the cilia stop their movements very soon after introduction in the abdominal cavity, and the entire cell becomes rapidly degenerated. The same differences can be observed in the sera of the animals within test-tubes.

In connection with these results, the idea found expression that it might be possible to obtain a serum protective against malignant epithelial growths. Metchnikoff[21] has immunized animals against leucocytes. These cells become rapidly dissolved in the

peritoneal cavity or the serum of animals which have been previously treated by injections of the emulsion of the spleen or lymph glands. Metchnikoff,[22] Landsteiner[23] and Moxter[24] have immunized sheep against spermatozoa. These cells lose their motility very rapidly in the peritoneal cavity of animals that have previously received injections of the same kind of cells. All these immunizations are distinctly specific. If, for instance, the animal has received injections of sheep's spermatozoa, its peritoneal cavity will exert no influence upon the spermatozoa of the horse, etc. Spermatozoa of immunized animals show also the phenomenon of specific agglutination.

Furthermore, the hæmolytic studies brought out facts which stimulated researches regarding immunization against animal substances of a non-cellular character, and these have had extremely interesting results. Tchistovitz,[25] Bordet,[26] and Nolf[27] found that the specific immune sera which affect the red cells by agglutination and dissolution cause also a distinct precipitate in the blood serum of the species by whose blood or serum the immunization was accomplished.

Bordet[28] found, further, that after the injection of milk into an animal the serum of this animal, when added to milk, causes a precipitation of the proteids of the milk. And Wassermann[28] has shown that this reaction is a specific one. For instance, when the injections are made with cow's milk the serum will cause precipitate in cow's milk only, and not in the milk of any other animal.

Walter Myers[30] and Uhlenhuth[31] found after the injection into animals of certain proteids the sera of these animals produce a precipitate in the proteids employed in the injections; and this reaction, too, is distinctly specific. For instance, when a rabbit is immunized by the whites of hens' eggs the serum of this animal gives no precipitate with any other kind of a proteid except with the egg-albumen of a hen's egg.

Practical Application.—The specific precipitation of the immunized blood serum found recently a very interesting practical application. Uhlenhuth[32] and Wassermann and Schuetze[33] have evolved from it a very delicate method for distinguishing with absolute certainty human blood from that of other animals—*except that of monkeys!* After the injection of human blood into rabbits the serum of the latter causes a characteristic turbidity and flocculent deposit in the human blood, even if this is in the form of an old small dry spot. The reaction is present even when the human blood is diluted 1:50,000 (Stern[34]). The forensic importance of this method is apparent. Further studies have shown that the immunization in question can be accomplished not only by human blood, but also by peritoneal exudates;[35] and what even is more striking, by albuminous human urine.[36] Serum made to be immune by any of these methods gives a precipitate not only in the human blood, but also in dilute albuminous human urine. The outlook for further progress in this direction is very bright.

Mechanism of Hæmolysis by Immunization.—Turn in again to hæmolysis by immunization, I have to record the great progress made in the understanding of the mechanism of this process, and here again we have to recur to bacteriolysis. In the bacteriology of only a few years ago we often met the term "Pfeiffer's phenomenon." It meant the observation of Pfeiffer that immune sera dissolved bacteria only within the peritoneal cavity, not outside of the animal's body. Metchnikoff,[37] however, has shown that the bacteriolytic process can be observed also in the test-tube, if peritoneal exudate is added to the immune serum; and Bordet[38] has shown further that even the immune serum alone will dissolve bacteria outside of the body, if it be very fresh. The immune serum loses something by standing, but this can be regenerated by the addition of serum from a normal animal. Immune serum which has been made inactive by heating at 55° C. for half an hour can also be made active again by the addition of such normal serum. Reviewing all these facts, Pfeiffer[39] has formulated a theory which has met with nearly universal approval. Fresh immune serum according to this theory, consists of two parts; one component is not easily destroyed by heat—it is thermo-stable; the other one is destroyed by such a low temperature as 55° C.—it is thermo-labile. The latter substance is a ferment-like body, and is present in the normal serum of animals. The thermo-stable part—which is the new, immunized part of the immune serum, and therefore is the real immune body—is in itself harmless to the bacteria; but it forms the means of bringing the normal proteolytic ferment, present in the normal serum, to act upon the bacteria, to dissolve them. The fresh immune serum contains both; the ferment-like body, however, is very sensitive to all abnormal influences, perishes soon, and is readily destroyed by a temperature of 55° C. When this occurs, the immune serum is then inactive, and contains only the inactive immune body; but by the addition of fresh normal serum new ferment bodies are added, and the immune serum becomes regenerated or "reactivated," to use the technical term.

When Bordet had discovered the hæmolysis by immunization, he subjected it to the same tests employed in bacteriolysis, and found that heating the serum to 55° C. deprived it of its hæmolytic power, and that the addition of normal serum restored this again; thus the inactive serum is regenerated. Bordet, therefore, assumes that the hæmolytic immune sera, like the bacteriolytic sera, also consist of two parts—a new, thermo-stable, harmless immune body, and a thermo-labile, sensitive, enzyme-like body, which latter is present also in the serum of normal animals.

We may mention briefly that the hæmo-agglutinating and the precipitating properties of the immune serum show a resisting power, equal to that of the immune body. A temperature of 60° C. for one hour does not affect them.

Ehrlich and Morgenroth's Studies of Hæmolysis.—In a long series of ingenious experiments the mechanism of hæmolysis has been subjected to a profound analysis by Ehrlich and Morgenroth,[41] who brought to light a number of important facts and general principles, and whose views are now accepted by a majority of the investigators in this new field. The terminology of those writers is new and somewhat complicated, and has its origin in Ehrlich's so-called "lateral-chain theory of immunity." As Ehrlich's theory has been very fruitful in the discovery of many new facts, and is now accepted as the best working hypothesis by a great number of leading bacteriologists, it will not be out of place to give here a brief sketch of it.

Ehrlich's Lateral-Chain Theory.—Ehrlich's color-analytical studies led him to the conception[42] that the living protoplasm has, besides its essential part, a great number of lateral mechanisms. The essential part (*Leistungskern*) is that which distinguishes one cell from another—for instance, a nerve cell from a blood cell—while the object of the lateral mechanism, which Ehrlich termed lateral or side chains (*Seitenketten*), is to catch external substances and chain them to the main body of the cell. Thus the process of assimilation, Ehrlich thinks, is carried on by means of these mechanisms; the highly complex large food molecules are trapped by these catchers, split by means of some ferment, and made ready for the use of the cell body. These

mechanisms Ehrlich designates now as *receptors*. According to him, each receptor is adjusted for only one kind of substance, is specific, receptor and substance being fitted for one another like key and lock. By means of these receptors not only food, but many other things can be grasped and firmly fastened to the cells; for instance, ferments and toxins, provided these cells have the receptors specifically adapted to these toxins or ferments. Animals whose nerve cells, for instance, have no receptors for the tetanus toxin are immune to tetanus. At present Ehrlich distinguishes three orders of receptors:

First Order. single, uncomplicated receptors; these receive, among others, toxins and ferments.

Second Order. single receptors, complicated by ferments; these receptors serve, as mentioned above, the process of assimilation.

Third Order. double receptors; these Ehrlich now terms *amboceptors*. We shall encounter these terms later in discussing hæmolysis.

When the receptors have trapped and fastened corresponding substances, they, too, become fixed, and therefore are lost to the cell body; the loss, however, is soon made up by the cell regenerating new receptors. Now, Ehrlich assumes that when by frequent introduction of substances the loss and regeneration of the receptors become a repeated occurrence, the cell body, if not succumbing to the overtaxation, is stimulated to overproduction of the receptors—compensatory hypertrophy (Weigert)—which then, Ehrlich further assumes, are thrown off into the surrounding fluid, and are finally brought into the blood-stream. Hence immunization—*i. e.*. frequent introduction of a specific substance—leads finally to an overflooding of the blood-stream with corresponding specific free receptors. If now the specific substance, say tetanus toxin, is introduced into the blood, it is caught and fixed by the free-swimming receptors within the blood, and thus is prevented from getting within the reach of the nerve cells and their receptors—hence the success of active immunization. Furthermore, if such blood containing free-swimming specific tetanus receptors is injected into another animal, it will protect this animal also against the effects of the toxin, because the free receptors within the blood of the new host will catch and fix the invading toxins, and thus prevent them from doing further damage. Antitoxin, according to Ehrlich's theory, is the specific receptor torn away from the cell body and swimming within the blood, ready to catch its special associate, the specific toxin.

Moreover, according to Ehrlich, not only the cells, but also all other units of living protoplasm consist of two parts, an essential part and a part whose task it is to form specific unions with other substances or cells. For instance, ferments and toxins consist of a *toxiphoric* or *toxizymotic* group through which each toxin or ferment differs from every other, and exerts its specific activity, and a *haptophoric* group through which the ferments or toxins become fixed to the receptors still attached to the cells or detached from them.

From the foregoing statement it may be seen that according to the kind of immunization, the blood contains detached receptors of the first or second order, *i. e.*, single receptors, uniceptors or receptors of the third order, amboceptors, *i. e.*, bodies which, like double clamps, contain two receptors. With this latter kind of receptors, according to the views of Ehrlich and Morgenroth, we have to deal in hæmolysis, to which we now return.

The thermo-sensitive component of the hæmolytic body (hæmotoxin) was at first termed by Ehrlich and Morgenroth "Addiment;" they call it now "Complement." The thermo-stable part they previously termed "Immune body" in hæmolysis by immunization, and "Intermediary body" in normal hæmolysis; now they term it, as stated above, "Amboceptor" in both cases. The latter term has not yet been employed by any other writer. The terms "immune body" and "complement" have the advantage over other designations, inasmuch as they express the facts irrespective of any theoretical interpretation.

For the proper study of the exact relations of the complement and immune body to one another and to the red-blood corpuscles, it was indispensable to obtain each component separately. This is an easy task as far as the immune body is concerned. The heating of the serum to 55° C. destroys the complement in most cases, thus leaving the immune body in the inactive serum in practically a pure state. It was quite a difficult task, however, to obtain the specific complement free from the immune body and other complements always present in any serum. The study of the ingenious methods invented by Ehrlich and Morgenroth to throw light into the intricate problems, is quite interesting and instructive. I shall, however, restrict myself here to the relation of only one of the fundamental experiments.

A certain number of the red-blood corpuscles which were used for immunization were added to the immune serum and immediately put on ice, where the mixture remained for some time; then by means of the centrifuge the blood cells were separated from the serum and mixed with a proper quantity of physiological salt solution. In this state no solution of the red cells took place. Neither had the addition of inactive (heated) serum (immune body) any effect; but the addition of normal serum (complement) led immediately to hæmolysis. Then again the addition of fresh red-blood cells to the decanted immune-serum cells caused no solution of the blood corpuscles; such a solution, however, soon took place on the further addition of inactive serum. The different phases of this experiment show clearly that during the stay on ice the red-blood corpuscles took up from the immune serum all the immune bodies and none of the complement, which remained in a pure state in the centrifugated immune serum.

From this and many other experiments, the details of which cannot be given here, Ehrlich and Morgenroth conclude that immune body and complement exist in a separate state within the immune serum. The red blood corpuscles, when brought in contact with the immune serum, take up a certain amount of the immune body and form a firm union with it, but take up nothing of the complement. The latter, however, is taken up by another receptor of the immune body, and through this connecting link the zymotic complement exerts its dissolving influence on the red cells. Accordingly, the immune body is provided with two receptors, a sort of a double clamp; it grasps with one of the receptors the red cell and with the other binds the complement. The immune body, however, has a greater affinity, at least within the artificial immune serum, for the red-blood corpuscles than for the complement. The junction between immune body and red cell can be accomplished in a shorter time and at a lower temperature than that required for a successful union of immune body and complement. According to Ehrlich's theory the immune body is a receptor of the third order which by the act of immunization has been thrown off from the red

cells into the blood stream of the immunized animal.

In connection with the foregoing we should mention that, according to the experiments of Nolf,[43] it is the stroma and not the hæmoglobin of the red corpuscles which binds the immune body. Furthermore, according to v. Dungern[44] immunization produces only immune bodies, while the proportion of complements which are normally present in the serum remains unaltered.

By a further analysis Ehrlich and Morgenroth have proved that normal hæmolysis is similar in nearly all respects to the hæmolysis caused by artificial immunization; the hæmolytic body—the normal hæmotoxin—consists also of the same two components, and the relations to one another, as well as to the red corpuscles, are the same as described above for the immunization hæmotoxin. Normal hæmolysis is nothing else than a result of immunization which has taken place at one time or another during the life of the animal. Furthermore, when the normal serum of one animal species dissolves the red blood corpuscles of two or three or more species of animals, this serum has been found to contain just as many separate specific hæmotoxins. In normal goat serum which possessed the power to agglutinate human blood as well as the blood of rabbits and pigeons, Malkoff[45] found that upon the addition of human blood to the serum, which was followed by a rapid agglutination of the red cells, the supernatant serum retained its agglutinating power for the blood corpuscles of the other two species in question. Again normal goat serum dissolves the red blood corpuscles of the rabbit as well as those of the guinea-pig. By adding guinea-pig's blood to inactive serum, and then centrifugating it, Ehrlich and Morgenroth proved that the sedimented blood cells contain the immune body for the guinea-pig's blood, while the supernatant serum contains the immune body for the rabbit's blood. By filtration of normal goat serum through a "pukalla filter" Ehrlich and Morgenroth established further, that the filtrate contains the entire complement of the hæmotoxin for the guinea-pig's blood, while nearly nothing of the complement for the rabbit's blood passes through the filter. All of which goes to show that the normal serum of the goat, which dissolves the blood cells of two species, contains separate immune bodies, as well as complements for each species.

Ehrlich and Morgenroth have also studied the effect of injections of blood of one individual into another individual of the same species. They found in fact that the serum of the receiving individual exerts a hæmolytic effect upon the blood of a limited group of individuals of the same species. The individuals of this group, however, may differ among themselves in their behavior towards the serum of another immunized individual. The hæmotoxins affecting the individuals of the same species Ehrlich and Morgenroth term "Isolysins" in contradistinction to the hæmotoxins affecting those of another species which they term "Heterolysins." Ehrlich and Morgenroth could not establish the existence of "Autolysins," *i. e.*, the serum of an animal which was treated by injections with its own blood, did not acquire a dissolving power over its own red blood corpuscles.

Finally it has been established by Ehrlich, Bordet, and many other investigators, that by injections of immune sera, or normal sera containing specific hæmolysins, specific *antihæmolysins* are produced in the serum of the receiving animal, the efficiency of which can be easily demonstrated in a qantitative way in the test-tube. According to Ehrlich the antibodies enter into a combination with the haptophoric group of the complement, thus preventing it from joining the immune body and affecting the red blood corpuscles. A. Schuetze[46] and Paul Mueller[47], however, report that in their experiments the antibodies were attached to the immune bodies.

There are some differences between the views of Ehrlich and Bordet which deserve to be pointed out briefly. The ferment-like component of the hæmotoxin (Ehrlich's complement) is termed by Bordet and Buchner[48] "Alexin," and both writers assume that it is one and the same proteolytic enzyme which causes all the specific cases of hæmolysis as well as bacteriolysis. We have seen above that Ehrlich assumes the existence of a specific complement (alexin) in each and every case of specific hæmolysis, and it seems to me that Ehrlich's view is conclusively borne out by his experiments.

Another point of difference is the way both authors conceive of the relation between the complement (alexin) and the red blood corpuscles. Ehrlich's view we have stated above; the complement becomes attached to the immune body which in turn is attached to the red cell, and hence the name "intermediary body" for the immune body. Bordet assumes that the alexin (complement) directly attacks the red blood corpuscle, but not until the latter has been prepared in a certain unknown way by the immune body, and hence Bordet's name for the latter, "Substance sensibilatrice."

Metchnikoff[49] terms the immune body "fixator" and the complement "citase," which latter connotes Metchnikoff's theory that the ferment has its origin in the white cells. (Paul Mueller[50] uses the term "copula" for the immune body.)

A few words should be said regarding the term "immunization" employed by all writers for the different specific reactions enumerated in this paper. With the term immunization we are wont to combine the conception of the preparation of an entire complex organism to resist the effects of an infection or intoxication. In the present line of studies the term "immunization" is employed to indicate that by the repeated invasion of foreign organic substances a new element, probably of cellular origin, is created in the blood, by means of which the intruder is unfavorably affected. It cannot be denied that in the abstract both definitions have a common ground, since by repeated attacks multicellular or unicellular organisms acquire offensive powers against their assailants. In *praxi*, however, the new application of the term "immunization" is bound to lead to some confusion. Here is an illustration, for example, taken from my own experience: In order to immunize a rabbit against the red cells of the guinea-pig, I injected blood of the latter animal into the ear-vein of a rabbit. The third injection completed the immunization, and the serum of the rabbit dissolved the red cells in a few minutes; this successful immunization, however, sometimes kills the rabbits. The stromata of the dissolved red cells of the guinea-pig form thrombi in the vascular system of the rabbit. Here is a successful immunization which kills the immunized animal. The immunization of a cell is one thing, and the immunization of an animal is quite another thing. It seems indeed desirable to have for the unicellular reactions a separate designation, leaving the term "immunization" for the acquisition of defensive powers by the complex organism. However, hæmolysis is already crowded with new terms, and I do not feel impelled to the invention of another.

My Own Experiments.—I come now to my own experiments. As stated in the introduction, my original undertaking was the study of the changes which alien blood might undergo by a temporary stay in the peritoneal cavity of the receiving species. In the present line of investigation the question was more precise, *viz.*, Do the hæmolytic and agglutinating prop-

erties of alien serum suffer any changes by such a stay? This question can be studied in the test-tube with the reasonable expectation of obtaining precise, quantitative results. But for that purpose I had to employ serum instead of blood, and this serum had to have hæmolytic and agglutinating properties which not all sera possess. In my previous experiments I tested the effect of bullock's blood upon rabbits. The preliminary work in my present experiment was therefore to establish the effects of bullock's serum upon the red blood corpuscles of the rabbit. As far as I can see, there are no statements regarding this point in the recent literature on hæmolysis. It will be, therefore, not out of place to give here a brief account of the results of my preliminary experiments.

Agglutinating Power of Normal Bullock's Serum.—Regarding agglutination the statement can be very brief: In the numerous tests I have made I have never observed that normal bullock's serum exerts any agglutinating influence upon the red blood corpuscles of the rabbit.

Hæmolytic Power of Normal Bullock's Serum.—It is different, however, with hæmolysis. Bullock's serum dissolves the rabbit's red cells. Before going into particulars I have to say a few words regarding my method. Fresh defibrinated rabbit's blood was employed and always diluted 1 to 10 of 0.85 per cent. salt solution. Two c.c. of this diluted blood was put into a narrow test-tube and a variable quantity of fresh bullock's serum was added. The test-tubes were then kept either in a thermostat at 37° C., or at the room temperature, and then the degree of the eventual solution and the time of its apperance were noted.

As stated above, the red blood cells of the rabbit are promptly dissolved by bullock's serum. The degree of the hæmolytic effect varies with each individual from which the serum has been obtained—a condition which bullock's serum shares with many other normal hæmolytic sera. The variation, however, in our case was confined to narrow limits, 0.5 c.c. of the weakest bullock's serum dissolved two c.c. of rabbit's blood (1:10) in one hour at room temperature, while there were bullock's sera, 0.2 c.c. of which dissolved the same quantity of rabbit's blood within ten minutes, also at room temperature. Higher temperatures, of course, hastened the solution in every case. By the term "solution" I mean that the blood became laky, perfectly translucent, with no sediment; the stromata, however, could be seen as a fine, flocculent suspension; shaking the test-tube could not alter the condition.

Heating the serum to 55° C. had hardly any influence. To deprive the serum of its hæmolytic power it was necessary to keep it at 57° C. or 58° C. for at least fifty minutes. The serum lost its hæmolytic power when kept at room temperature for ten to fourteen days. At a low temperature the hæmolytic power was preserved much longer.

The hæmolytic property of bullock's serum differs from that of many other hæmolytic sera with regard to regeneration; of this, however, we shall have to speak later.

Influence of a Stay of the Bullock's Serum in Peritoneal Cavity.—After this preliminary statement I can now turn to the problem in hand. The chief result can be briefly stated. *When normal fresh bullock's serum is brought into the peritoneal cavity of a rabbit, and left there for three hours, the recovered serum is found to have lost all or most of its hæmolytic power.* The loss is less when the stay is shorter. It is impossible to keep the serum in the abdominal cavity much longer than three hours, for the animal usually dies after three and a half hours.

In most of the experiments a part of the serum was absorbed during its stay in the peritoneal cavity. I saw, however, two animals from which I recovered, after three hours, more fluid than I had introduced. In neither of these cases was there any difference regarding the loss of the hæmolytic power. In two experiments in which I found the hæmolytic power only considerably reduced, I introduced the recovered serum into the peritoneal cavity of another rabbit, and removed it again after fifteen minutes. The serum was now found to possess no hæmolytic power whatsoever. On the strength of these observations we can base the following statement: The normal hæmolytic power of bullock's serum for the red blood corpuscles of the rabbit disappears during a stay in the peritoneal cavity of this animal; the disappearance is the greater the longer the stay, and is independent of the absorption of the fluid; disappearance takes place even during the first fifteen minutes.

I will transcribe a few notes of experiments for illustration:

1a. 2 c.c. rabbit's blood + 0.5 c.c. nor. bullock's serum=after 50 minutes, clear solution.	19° C.
1b. 2 c.c. rabbit's blood + 0.5 c.c. per. bullock's serum=slightly dissolved above dark sediment after 17 hours.	19° C.
2a. 2 c.c. rabbit's blood + 0.5 c.c. nor. bullock's serum=in a few minutes perfectly laky.	In thermostat at 37°C.
2b. 2 c.c. rabbit's blood + 0.5 c.c. per. bullock's serum=after 24 hours undissolved.	In thermostat at 37°C.
3a. 2 c.c. rabbit's blood + 0.5 c.c. nor. bullock's serum=after 10 minutes dissolved.	21° C.
3b. 2 c.c. rabbit's blood + 0.5 c.c. per. bullock's serum=after 70 minutes very slight solution; after nine hours quite laky, black deposit.	21° C.
3c 2 c.c. rabbit's blood + 0.5 c.c. per. per.* bullock's serum=after 9 hours no change whatsoever.	21° C.

Absence of Hæmolysis Not Due to Antihæmolysin.—What is the nature of this change in the hæmolytic power which takes place in the peritoneal cavity? The disappearance of the hæmolytic power may be due either to the subtraction of one of the components of hæmolysis, or to the addition of antihæmolysin. I shall discuss the last proposition first. I tested it by determining the minimum quantity of normal bullock's serum, which still dissolved fairly distinct in a reasonable time, and then adding to it peritoneal bullocks' serum. The outcome was negative. Even the addition of 1 c.c. of the peritoneal bullock's serum had no visible influence upon the hæmolytic effect of the predetermined minimum of the normal bullock's serum. I have also washed out the normal peritoneal cavity with physiological salt solution, and tested the fluid for antihæmolysin—with a negative result!

Disappearance of Hæmolytic Power in the Peritoneal Cavity of a Dead Animal.—Moreover, the following interesting fact speaks also against the assumption that the loss of hæmolytic power within the abdominal cavity is due to an addition of some factor. I have repeatedly established that the hæmolytic effect disappears also when the bullock's serum is kept for a few hours in the peritoneal cavity of a dead rabbit. The loss is somewhat smaller than that which takes place in the living animal. Now, it is not very probable that a secretion of an antihæmolysin takes place in the peritoneal cavity of a dead animal That absorption of fluid from the peritoneal cavity of a dead animal takes place, we know from the experiments of Hamburger[51] and of Adler and myself.[52] With the definition of absorption, as given by Adler and myself, the process is easily understood. We divide absorption into two phases. The first

*Per. per. means that the peritoneal serum was transferred into the peritoneal cavity of another rabbit for 15 minutes.

phase is the entrance of fluid from the peritoneal cavity into the interstitial spaces; the second phase is the entrance of the fluid from the interstitial spaces into the blood stream. The latter phase does not occur in the dead animal, as there is no blood stream. The first phase is effected chiefly by imbibition, a process which takes place also in dead tissue. Therefore the entrance of the whole fluid, or part of it, from the peritoneal cavity into the surrounding interstitial tissue can and does take place also in dead animals.

The disappearance of hæmolytic power of the serum from the peritoneal cavity is apparently due to a subtraction, to an absorption of one of the components of hæmolysis. But which of the components is it, the immune body or the complement? Regarding the immune body, the determination was easy. Bullock's serum, heated at 57° C. for one hour, as a result of which it becomes inactive (immune body), was added to the inactive peritoneal serum, and both were added in sufficient quantities to rabbit's blood. It had no influence. It is, therefore, not the immune body which becomes absorbed in the peritoneal cavity.

It would thus appear that it could be only the complement which became absorbed. However, the test was disappointing. Following the lead of Bordet Ehrlich etc., I have tried to regenerate the inactive peritoneal serum by the addition of normal serum. I have tried fresh normal serum of the rabbit, guinea-pig and the sheep; I have tried horse serum,* which is said to be rich in various complements—but all failed! I followed out the suggestion of Delezenne[53] and obtained by centrifugation of rabbit's blood fresh serum ready for use half an hour after the blood was drawn—but all in vain! So far, I have not succeeded by the addition of any normal serum in regenerating the peritoneal serum.

Inactive Bullock's Serum Cannot Be Regenerated.—However, the failure to regenerate by normal serum does not necessarily indicate that it is not the loss of the complement which made the peritoneal serum inactive. According to universal experience, the inactivity of the heated serum is surely due to the destruction of the complement. Nevertheless, I did not succeed in regenerating the heated bullock's serum by any normal serum. Neither could I regenerate bullock's serum which had become inactive by standing fourteen days at room temperature. It is a singular and interesting fact that the hæmolytic force of normal bull's serum, when once made inactive cannot be regenerated, at least not by the usual methods. The only other similar exception I know of is that of eel's serum, of which Ehrlich and Morgenroth[54] report that, if it is once made inactive (by heating it fifteen minutes at 54° C.), it cannot be made effective again.

Effect of the Peritoneal Cavity upon "Immune Serum."—The next step in the line of my investigation was the inquiry whether "immune serum" also becomes inactive by a temporary stay in the peritoneal cavity. I have selected for my study the serum of rabbits, immunized by guinea-pigs' blood. To save material and time, I immunized the rabbits by injecting guinea-pigs' blood into the circulation through the ear veins. I shall record here a few observations made, which I have not seen reported elsewhere. I used for each injection only 1.5 c.c. of the blood, repeating them at intervals of five to six days. I could never make more than three injections—a fourth injection was sure to kill the animals; they usually died under convulsions within four to five minutes after the injection. They die sometimes even soon after the third injection, and therefore one must, when the third immunizing injection is made, be ready to obtain the blood, if one is not to lose the experiment. Intravenous injection of blood into an animal against which it is already immunized, kills the animal, probably through the formation of thrombi in vital points, either by the agglutinated foreign blood cells, or by the masses of the stromata from the dissolved red cells.

Before making the second or third injection, I often obtained some blood from the ear vein of the rabbit, and tested the effect of the serum upon the blood cells of the guinea-pig. I thus observed that agglutination of the red-blood curpuscles was the first effect which appeared in the serum of the immunized animal. It appeared sometimes even after the first injection, while there was as yet no sign of hæmolysis. After more injections, when the hæmolytic effect became intense and rapid, the process of agglutination could hardly be observed. In some cases, however, both phenomena were distinctly present. In these cases the agglutinating effect starts immediately on the addition of the serum to the blood, and soon dense red masses are seen to accumulate at the bottom of the test-tube, in which the hæmolytic process progresses quite slowly. Heating the serum for thirty minutes at 55° C. destroys hæmolysis, but not agglutination. By this means the process of agglutination can be made visible even in cases in which the process of agglutination can hardly be observed.

We come now, again to our leading experiment. Serum of an immunized rabbit was introduced into the peritoneal cavity of a normal rabbit, left there for three hours, and then recovered. Such peritoneal serum, when added to guinea-pigs' blood, *agglutinated it, but caused no hæmolysis whatsoever.* Addition of immunized rabbits' serum, made inactive by heating, to peritoneal serum, had no regenerating effect. But addition of fresh normal rabbits' serum to the immunized peritoneal serum regenerated it completely; the mixture of both sera dissolved guinea-pigs' blood as readily as the active immunized serum alone. The following notes of the experiments are sufficiently illustrative:

4a. 2 c.c. "g.-p. bl."* + 0.5 "C. im. ser."=dissolved in a few minutes.
4b. 2 c.c. "g.-p. bl."* + 0.5 "C. per. im. ser."=after 8 hours undissolved.
4c. 2 c.c. "g.-p. bl."* + 0.5 "C. im. ser. 55"=after 8 hours undissolved.
4d. 2 c.c. "g.-p. bl."* + 0.5 "C. per. im ser." + 1.0 "fr. rab. ser."=dissolved in a few minutes.
4e. 2 c.c. "g.-p. bl."* + 0.5 "C. im. ser. 55" + 1.0 "fr. rab. ser."=dissolved in a few minutes.

There was prompt agglutination in every one of the five tests.

These experiments teach us that immunized serum also, when kept for a few hours in the peritoneal cavity, becomes inactive. But here we have seen that on the addition of fresh serum of a normal rabbit, it becomes active again, and this furnishes us with the looked-for proof that the loss of the hæmolytic power in the peritoneal cavity is due to the disappearance of the complement from the remaining fluid in the peritoneal cavity. Agglutination does not seem to become visibly affected by a stay in the peritoneal cavity.

Chief Conclusions.—Normal and immunized serum lose their hæmolytic power during a prolonged stay in the peritoneal cavity. The loss is due to the dis-

*I wish to thank Dr. William H. Park, who kindly provided me with horse serum.

*"g.-p. bl."=guinea-pigs' blood, 1:10. "C. im. ser."=serum from immunized rabbit C. "C. per. im. ser."=Peritoneal serum from immunized rabbit C. "C. im. ser. 55"=serum from immunized rabbit C. heated at 55° C. "fr. rab. ser."=fresh serum from normal rabbit.

appearance of the toxic component, the complement of Ehrlich, or the alexin of Bordet and Buchner. The disappearance means absorption; and the disappearance of the complement in a much greater proportion than the balance of the fluid means elective absorption. However, as this elective absorption takes place also in a dead animal, it cannot be a vital phenomenon; it is rather probable that it has its explanation in some laws of osmosis and imbibition.

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THE PRINCIPLES OF DIAGNOSIS OF LESIONS OF THE SPINAL CORD.*

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As we stand upon the threshold of a new century it is both interesting and instructive to pause and review in detail the principal features that have marked the progress of medical science during the past decade. That the relative importance of thees may be variously estimated from different standpoints is possible, but it is very certain that modern medical advance owes more allegiance to the practical power and development of microscopical research than to all other agents combined. It is the microscope, therefore, and its various collateral appliances that we recognize to-day as furnishing us the most useful knowledge, as well as practical results, and that which underlies all scientific medical progress. More especially is this true when we come to study the complex architecture of the nervous system and the nature and character of the lesions causing its derangement. It is to certain principles thus obtained that I desire to call attention, and more particularly those that directly pertain to the diagnosis of lesions of the cord. Prior to the introduction of the microscope into practical medicine by Leuwenhoeck in 1690, nothing whatever was known concerning that which we regard to-day as the most essential knowledge concerning the finer structure of the nervous system. But with all the marvellous changes incident to perfecting the microscope, together with the various processes of staining, as well as methods of hardening the tissue (more especially those developed within the last decade), a complete revolution has taken place in our former conceptions of the structure and function of the cell and its histological appendages, resulting in the creation of the neuron theory. This is gradually but certainly becoming more firmly established by the correction of former erroneous inferences and the displacement of fancy by ascertained fact, thus furnishing a more correct and complete knowledge not only of its normal anatomy and physiology but also its pathology. In this connection it is interesting to note that, in the progress of medical science, it seems to be a constant fact that just in proportion as we gain exact knowledge of the anatomy and physiology of a part, does our knowledge of the symptoms which belong to its derangement increase and advance. Hence the trend of modern medical laboratory investigation is to associate symptoms with lesions, and this has been done to a remarkable degree of late, chiefly through the instrumentality of the microscope. In the diagnosis of nervous diseases, therefore, it is necessary to recognize the relative value and importance of the discoveries which recent laboratory investigations furnish, for it is by the practical utility of knowledge thus gained that we are supplied with a rational basis for the establishment of principles which govern the diagnosis of the several lesions, and in no portion of the nervous system is this found to be more true than in the spinal cord. If it be true, as already stated, that the prin-

*Read before the Tri-State Medical Association at Keokuk, Iowa, April 3, 1901.

ciples which govern the diagnosis of lesions of the cord are necessarily based upon the anatomy and physiology of the parts involved in the morbid process, it is hardly necessary to emphasize the extreme importance of their special study. Indeed, the diagnosis of such lesions presupposes a thorough knowledge on the part of the diagnostician of the histological details concerning the finer structure and function of the cord as well as its relation to other organs. With this in mind the physician or surgeon is well prepared to solve the many obscure problems in clinical neurology, and in fact reduce many of them to a matter simply of logical deduction. It is not the purpose of this paper, however, to enter into an extensive discussion of the technical details relating to the anatomy and physiology of the cord, as this can be found in the many excellent textbooks devoted to the subject. Moreover, time would not permit more than a hurried reference to a few of the more important anatomico-physiological considerations.

The cord consists of a long rod or tube of nervous matter extending from the foramen magnum to the second lumbar vertebra; two fissures in its median line almost completely divide it into two lateral symmetrical halves. Each half represents gray, white, and yellow tissue, each of which differs in appearance, structure, and physiological endowment. Generally speaking, the white matter surrounds the gray and corresponds to the nerve fibers, which are arranged in layers, masses, or columns. The gray tissue forms the most internal portion of the cord and corresponds to the cells, which are arranged in groups. They differ in size and diameter in different portions and are surrounded with the various histological units which comprise the neuron. The gelatinous or yellow tissue forms a cap on the posterior horn and differs from the rest by being composed of a translucent material, forming a fine network. Although it is developed from the same embryonic elements as the true nerve structure it has not the same nervous function and must therefore be regarded more in the light of a supporting structure. The fibers which make up the various tracts of the cord represented by the white matter are of two kinds, long and short. The long or projective fibers connect the different parts of the cord with the brain, and the posterior spinal ganglia with nuclei in the upper part of the cord. The short or association fibers connect different levels of the cord with each other, and also the two halves of the cord at the same level. Not all the tracts extend the entire length of the cord; for instance, the direct pyramidal terminates about the mid-dorsal region, while the crossed pyramidal extends the entire length of the cord. Taken as a whole the cord may be said to consist of a series of spinal segments or units placed one upon the other, each segment comprising that portion of the cord to which a pair of spinal nerves is attached. The segments vary in size in different regions. The spinal nerves have both a motor and a sensory root, which unite to form a complete physiological unit or circle of influence known as the reflex arc. There being thirty-one pairs of spinal nerves, so there are thirty-one segments as well as thirty-one reflex arcs, the whole comprising the spinal cord proper. Anatomically the segments consist chiefly of the white and gray matter already referred to, while physiologically they represent specific functional powers of a highly specialized character. Moreover each unit represents the origin of some, the extension and termination of certain other cells and fibers, together with other histological elements which go to complete their neuronic architecture. The correlation of all these anatomico-physiological elements in health constitutes the functions of the spinal cord. In this connection it is well to remember that each segment constitutes a center from which voluntary motor, reflex-motor, vasomotor, and trophic influences are distributed to, and to which peripheral impressions producing reflex movements and sensations proceed from a limited area of the body, viz., that portion to which the pair of spinal nerves is distributed. In addition each segment represents a conducting medium, through which the motor, sensory, inhibitory, and other tracts of fibers pass; these latter also connect the brain with all the segments of the cord as well as with the peripheral organs. In the diagnosis of any lesion affecting the cord, therefore, it is the disturbance of these various functions that constitutes the disease giving rise to special symptoms and which serves as a guide to their elucidation.

As the functions of the cord chiefly pertain to motor, sensory, reflex, and trophic mechanisms, a brief reference to their normal architecture may be in order.

Motor.—Motor impulses are discharged in obedience to the command of the will, by the generating motor centers on the cerebral cortex. The motor impulses thus liberated from the cortical cells are transmitted to their destination by means of the fibers which are the outgrowths of these cells and which constitute the great motor tract; this consists of the direct pyramidal tract or the column of Turk, and the crossed pyramidal tract of fibers. The column of Turk descends through the cord directly on the same side from which it is given off in the brain, while the crossed pyramidal tract partially or wholly decussates at the medulla, to terminate as does the direct tract in the large cells found in the anterior horn of the cord. From thence the fibers pass on to be ultimately distributed to the peripheral muscles. These two sets of fibers, taken collectively, therefore constitute the great motor tract or cerebrospinal system, which consists of medullated fibers whose function it is to control the voluntary movements of the body. The involuntary movements on the other hand are largely under the control of the sympathetic system, which consists chiefly of non-medullated nerve fibers, and they receive their innervation chiefly from the centers residing in the spinal cord. The functions of the cerebrospinal and sympathetic systems are normally more or less correlated, so that in morbid conditions of the cord the symptomatology of each is usually represented. Moreover it should be borne in mind that the motor tract can physiologically be divided into two portions, an upper cerebrospinal, and a lower spinomuscular portion, and the symptomatology of each differs materially. Hence, in estimating the relative value of symptoms, much depends upon the seat of the lesion, as on the character of its effects depend the symptoms. In addition to their control of voluntary movements, the fibers of the motor tract normally exert a continual inhibitory influence on the motor cells, so that when they are destroyed there develop spasmodic conditions of the paralyzed part.

Sensory.—In considering the sensory system, we find that the fibers which conduct sensory or afferent impressions enter and pass through either the lateral or posterior columns of the cord in various ways. The exact position which they occupy is not fully settled, but it is certain that each decussates at or about its point of entrance into the cord, this decussation being similar in character to that which occurs at the medulla with the motor fibers. After leaving the cord the main sensory tract passes through the medulla, pons, and other portions of the brain to terminate finally in the different sensory cerebral centers. The exact location of these also

is not as yet definitely settled, but much useful knowledge is already furnished in regard to their physiological effects that materially aids us in differential diagnosis. In a general way, the anterior and lateral ground fibers, as well as those of the lateral limiting layer, have the function of associating different levels of the cord and connecting them with nuclei in the medulla and centers in the cerebellum. The column of Gall conducts special sensations from the muscles, articulations, and tendinous sheaths through the root of the same side. When diseased there is a loss of the sense of position of the limbs, of the power of estimating weights, and of co-ordination of muscular effort, *i.e.*, ataxia. These fibers cross over in the medulla. The columns of Burdach conduct to a certain extent tactile sensation coming from the opposite posterior root. They also contain many associative fibers connecting different levels. Pain-sense fibers and excito-reflex fibers from the posterior roots run through these columns to reach the commissure of the anterior horns; hence, as Dana says, this is a pathway of all kinds of afferent impulses. When they are diseased there may be pain, anæsthesia, ataxia, and loss of reflex. The fibers of this tract cross over at once to opposite sides. The direct cerebellar tracts carry impulses to the cerebellum. The fibers originate in Clarke's cells and assist in maintaining the equilibrum. The antero-lateral ascending tract of Gowers conducts sensations of pain and temperature coming in from the opposite side through the anterior commissure.

Reflex.—As already stated, every segment of the cord represents an individual reflex arc. Peripheral irritation of all kinds often produces reflex movements in the muscular area, to which the fibers of the anterior nerve root proceed. As a general proposition, the superficial reflexes are probably conducted by those fibers of the posterior foot which pass directly into the posterior horn of the gray matter, while the deep reflex impulses are probably carried by those fibers which pass through the post-external column. All observation tends to prove that reflex movements may be inhibited by an effort of the will, and that the fibers which control the inhibitory reflex probably pass down the cord in the crossed pyramidal tract. It is doubtful whether there are distinct inhibitory fibers, but it is quite possible that the same fibers that conduct voluntary motor impulses conduct inhibitory impulses also.

Automatic Centers (Dana.)—The cord also represents centers which respond to certain stimuli, the action of which is purely automatic in character. They are the ciliospinal, secretory, vasomotor, genital, vesical and rectal. These centers lie deep in the gray matter on either side of the central canal, but nearer the base of the posterior horn. The ciliospinal center extends from the seventh cervical to the second dorsal segment inclusive. Its stimulation causes the pupil to contract. The genital centers, including those for erection and ejaculation, reach from the first to the third sacral segment inclusive. The bladder and rectal centers are in the fourth and fifth sacral segments, the bladder being perhaps the lower. The spinal vasomotor centers extend from the second dorsal to the second lumbar segments. The vasodilator nerves, according to Gaskell, pass out by the anterior roots, while the constrictors pass out by the posterior. The fibers from the trophic centers for the joints, bones, and skin pass out by the posterior roots also.

Trophic.—It is a well established fact that the cells in the anterior horn exert a trophic influence on motor nerves supplying the muscles, and that when these cells are destroyed the fibers arising from them undergo rapid degeneration while the muscle fiber atrophies. In addition, we know that the gray tissue exerts a trophic influence through the posterior root ganglia upon that portion of the skin to which the fibers arising from them pass, hence injuries to these parts produce a liability to rapidly developing bed sores. Moreover the direct and crossed pyramidal fibers of the motor tract have their trophic center in the motor area of the cerebral cortex. Lesions which sever this connection, therefore, are followed by descending degeneration of the pyramidal tracts in all segments below their seat Moreover the fibers of the posterior nerve roots and their upward prolongations have their trophic centers in the posterior root ganglia. Lesions which sever their connection will be followed by ascending degeneration.

From the foregoing anatomico-physiological summary it follows that, in the clinical examination of persons suffering from diseases of the cord, it is necessary to recognize the specific functional endowment of each separate spinal segment, its relation to the spinal processes, its blood supply, together with the character of the symptoms expressed by its derangement, consisting in the loss of some and exaltation and perversion of others. Clinically they may be classified into those affecting the motor, sensory, reflex, trophic, and visceral functions.

As the diagnosis of the seat of the lesion, as well as of its nature and character, involves the two most important problems in every diagnosis, it follows as logical sequence that the principles that apply in its solution elsewhere apply also in the case of disease of the spinal cord. It is scarcely necessary to repeat therefore that they are based upon a thorough knowledge of the functions of each individual segment of the cord, together with ability to interpret correctly the nature and character of the symptoms expressed by their derangement; this largely depends upon their mode of onset and duration, taken in connection with other facts pertaining to the family, personal, and clinical history of the case. When we come to consider specifically the diseases of the spinal cord we find the lesions producing them are even more limited than those of the brain, as already shown in a former paper. (See "Principles of Diagnosis of Lesions of the Brain," by the author, in the *New England Medical Monthly*, February, 1901)." Indeed they are comparatively few in number, while their effects vary greatly in character. Vascular lesions, for instance, we are told by Gowers, are very uncertain in the production of symptoms, hence such conditions as anæmia and hyperæmia, or even hemorrhage of the cord, are exceedingly difficult to demonstrate or recognize. New growths or tumors of the cord are extremely rare, so that the most common and consequently the more important diseases of the cord are those due to inflammatory and degenerative processes. The diseases which they produce, while clinically presenting a wide range of variability, consist chiefly of the different forms of meningitis, myelitis, and neuritis, primarily, together with their secondary effects, resulting in the various kinds of sclerosis, as seen in tabes and lateral sclerosis, besides the atrophies, dystrophies, and paralytic states. In this connection it must not be forgotten that the cord is liable to suffer not only from lesions that primarily affect the nerve elements proper, but also from those secondary influences that begin outside them, as, for instance, compression of the cord due to new growths or tumors, inflammatory products, or even hemorrhage. These conditions often determine degenerative and sclerotic secondary changes, giving rise to many symptoms

in common, but to others in particular that denote their special seat and nature. Moreover, in some affections of the cord we find the lesions are strictly limited to definite physiological areas or tracts of fibers, while in others they have no such limitations, but are indiscriminate in their invasion and influence. The former of these are recognized as *systemic* diseases while the latter are known as *non-systemic*. Occasionally we find a combination of these conditions, but in the majority of cases the lesion is not limited in its pernicious sphere of influence. While it may be convenient to classify these two groups of lesions clinically into intra-medullary and extra-medullary, yet this implies restrictions which are not justified in fact, and the classification can be retained only as a matter of convenience. It is certain from what has already been said that the majority of the diseases of the cord are due to organic lesions that are readily demonstrable by modern methods of investigation and technique, while functional disorders are comparatively rare and when present play a very uncertain rôle in the production of symptoms, which only a thorough knowledge of the functions of the cord can differentiate. Deliberate exaggeration or imposture may be suspected when there is no evidence of organic disease and when there is some obvious inducement for deception, for patients frequently exaggerate their complaints, sometimes purposely to deceive, at other times more or less unconsciously. It may be stated as a principle that the facts which lead to a definite opinion of imposture are usually of a non-medical character, the deception in most cases being easily recognized, while in others the recognition is surrounded with some difficulties. In summarizing the various steps that constitute the principles of diagnosis of lesions of the cord, we find they can be arranged as follows:

1. Determine whether the symptoms are due to a lesion affecting the spinal cord by reference to your knowledge of the function of its several parts, thus excluding those symptoms due purely to cerebral or peripheral lesions.

2. Next determine whether the symptoms are due to an organic or to a functional lesion, or are simply produced by malingering. This can usually be done by careful methodical examination of all parts involved in the process, together with a study of the mode of onset of the symptoms, their duration, nature, and character, and other facts connected with the family, personal, and clinical history of the case.

3. Next determine the exact location of the lesion, whether it be extra-medullary, intra-medullary, systemic, or non-systemic in its invasion. This calls for ability to interpret correctly the nature and character of the symptoms produced by these lesions, taken in conjunction with their causes and the known liability of certain structures to such lesions.

4. When all these questions are correctly answered we are then prepared to make our diagnosis, and upon this the prognosis and treatment are based.

In concluding I desire to acknowledge my indebtedness to such authors as Dana, Gowers, Bramwell, Berkely, and many others, whose works I have consulted and freely quoted, beside culling from recent literature.

ALTMAN BUILDING.

The Cost of a Hospital Patient.—A French statistician has found the average daily cost of a hospital patient to be three francs seventy centimes (about seventy cents), divided as follows: Administration, .08; repairs on buildings, .17; heat and light, .32; materials, .54; food, 1.20; medical treatment, 1.16; sundries, .23.

CEREBRAL ABSCESS; OPERATION, RECOVERY.*

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BLOOMINGTON, INDIANA.

F. A. W., aged twenty-one, was referred to me on March 21, 1901, by Dr. P. C. Holland.

Family History.—His father died of consumption when the patient was three months old. A sister died of "brain fever" (cerebro-spinal meningitis), at about four years of age. The family history was otherwise negative.

Personal History.—The left ear has suppurated almost constantly since the patient was four weeks old. He has not been free from ear trouble more than two years altogether in his entire life. He has been subject to "fits of acute indigestion" lasting a day or two, and accompanied by constipation or diarrhœa and vomiting. With this exception he has been ordinarily well and has taken great interest in athletic sports.

Status Præsens.—March 21, 1901. The patient is a pale, rather slender, anæmic young man of medium height. On inspection the left tympanic membrane appears as a grayish, thickened, opaque curtain with a perforation in the upper anterior quadrant from which pus is exuding slowly. The external canal is red but not much swollen. The patient hears the watch at one inch or less. There is slight tenderness over the mastoid.

The ear was thoroughly washed out with hydrogen dioxide and at the next sitting a paracentesis was done in the lower posterior quadrant with a view to improve the drainage. An ice-bag was ordered over the mastoid and a brisk cathartic was given. The temperature at this time was only slightly elevated. After forty-eight hours' conscientious use of these measures, as the patient was complaining of pain in the mastoid and left eyebrow, and was evidently becoming somnolent and stupid, and had a temperature of 103° to 104°, an operation was decided on and done on the morning of March 24th.

Operation.—Assisted by Drs. John F. Potts and Lucy W. Gardner, I opened the mastoid, doing a Schwartze-Stacke exenteration, removing the contents of the middle ear, the posterior wall of the meatus, and the whole of the mastoid except the tip. The outer wall of the mastoid was at least a quarter of an inch thick and very hard. The inner portion was soft and easily removed with the sharp spoon. One or two cholesteatomatous masses were found and one suppurating focus.

The cavity was packed with iodoform gauze and the patient was put to bed. He reacted excellently and twenty-four hours later had a temperature of 99° with a pulse of 84.

The stitches were removed ninety-six hours after the operation. A small stitch abscess was found which healed without trouble but was held accountable for a temperature of 100°.

With the subsidence of fever following the operation a paraphasia affecting principally nouns became noticeable. Words were misused according to similarity in sound or meaning. For instance "doctor" became "lobster," the patients' temples became "houses," and he employed periphrastic expressions to avoid the use of nouns. At this time there was nearly complete word and letter blindness and complete agraphia. The axillary temperature remained at $98\frac{2}{5}$° with unimportant variations, and the pulse fluctuated between sixty (during sleep) and eighty-four. On April 2d the paraphasia which had

* Read before the Lawrence County (Indiana) Medical Society, May, 1901.

seemed to be clearing up increased slightly, but the temperature was normal and the pulse seventy-two.

On the morning of April 3d I had Dr. Holland see him with me. At this time the aphasia was nearly complete, almost the only utterance being "picture, picture" in a drawling tone. The temperature was normal, the pulse fifty to sixty. The patient had ptosis of the left eyelid, slight paresis

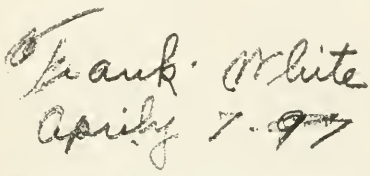

Fig. 1.—Signature of Patient Ninety Hours after Evacuation of Abscess.

of the right foot, and deviation of the tongue to the right. He was able to read one or two short words. When asked to write his name he made only the first stroke of "F." Tenderness was not found either on pressure or percussion anywhere over the head. He complained of severe pain over the right eye, in the eye, and at the root of the nose. The breath was very foul. There was no word-deafness at any time. An operation for abscess was decided on and was performed that afternoon, the more hastily because pressure symptoms were increasing. The operation was done by myself assisted by Drs. Holland, Potts, and Lucy W. Gardner. The first few minutes of anæsthesia caused considerable alarm, but strychnine was administered freely and ether was substituted for chloroform, and the operation was proceeded with as rapidly as possible.

A large flap was turned back with the base down, and the trephine pin was placed one and a quarter inches behind and the same distance above the external auditory meatus. As soon as the button of bone was removed the brain bulged into the opening without pulsating.

A grooved director was immediately passed through an opening in the dura in the direction of the ala of the opposite nostril. This line is the axis of the temporosphenoidal lobe and is most apt to pass through an abscess, when one of any size exists in that part of the brain.

The first thrust at a depth of one-half inch opened into an extremely foul collection of pus estimated at two ounces in quantity. The cavity was washed out with a hot boric-acid solution and a rubber tube about one and a half inches in length and three-sixteenths inch in caliber was passed through a button hole in the scalp and secured by a stitch. The scalp flap was stitched fast all round. A voluminous bichloride dressing was applied and the patient was put to bed. The operation proper occupied about thirty-five minutes. At the end of eight and of eighteen hours afterwards the dressings were changed, being wet with offensive pus and serum. Eighteen hours after the operation the patient asked for food, answered several questions rationally, asked to have his hands washed, and so on.

Ninety hours after the operation the motor aphasia was much improved, although he still called flowers "pictures." He wrote his name correctly (see figure 1) but could not read it when written. Word blindness was nearly complete but the young man recognized a few single letters and short words such as "and," "the," "our." The stitches were removed this time.

Five days after the operation, I examined him with Dr. Ernest H. Lindley, professor of psychology at Indiana University. We found the visual field slightly contracted; color sense normal according to the Holmgren wool tests; letter blindness, except for "E;" any uncertain letter was called, "W;" "and," "will," "the," "pay," were recognized in the newspaper. Of the sentence "and the boy ran" in script he recognized only "and the," but with slight prompting he recognized the other words and spelled out "ran." He wrote his name partly but desisted on account of fatigue.

The rubber drain was shortened on the seventh day, and removed entirely on the tenth day, gauze being substituted. The gauze was removed on the thirteenth day. From the tenth day on the man was able to sit up. The axillary temperature was never higher than 99° after the second operation.

The later history of the case is one of steady progress. The patient has gradually added new words and names to his vocabulary and new words in reading and writing. At present, three and a half months after operation, he is entirely well. He reads and writes perfectly and his speech would not be recognized as abnormal by any one unacquainted with his history.

The localization and diagnosis of this case before operation were very difficult. We had nothing definite

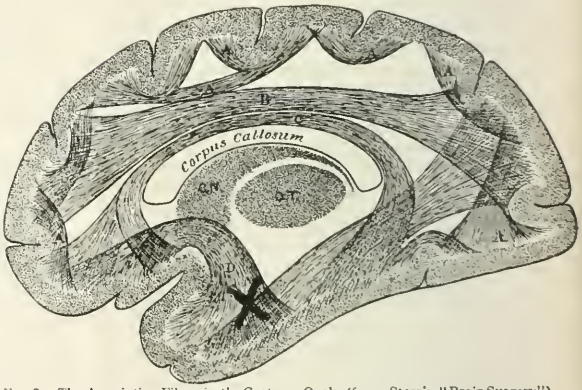

Fig. 2.—The Association Fibers in the Centrum Ovale (from Starr's "Brain Surgery"). A, between adjacent convolutions; B, between frontal and occipital lobes; C, between frontal and temporal lobes, the cingulum; D, between temporal and frontal lobes—lesion of this tract causes paraphasia; E, between occipital and temporal lobes—lesion of this tract causes word-blindness; CN, caudate nucleus, OT, optic thalamus; X indicates the seat of lesion in the present case.

except the aphasic group of symptoms to go on. There were (1) motor aphasia, (2) alexia, and (3) agraphia, more complete than either of the first two; there was no paralysis anywhere till just before the operation; there were no pressure symptoms until immediately before, when a fall in temperature and pulse took place (pulse 60 and 56, temperature 97°), and epileptiform convulsions occurred; there was little pain, and that located in the eye, and there was no tenderness on pressure or percussion.

The surface localizations of these centers are quite wide apart, and it is only since the operation that I have found the key to this, which is the fact that from the temporal lobe proceeds to the frontal lobe a band of association fibres, which have to do with speech, and any lesion of which causes paraphasia. A second band proceeds to the occipital lobe and a lesion of this causes alexia. It is probable that the agraphia, total aphasia, ptosis, etc., were pressure symptoms entirely.

The only author, of a large number whose works I have examined either in full or in abstract, who mentions lesions of the association tracts is M. Allen Starr,

and he does so both in his text-book on "Brain Surgery" and in an article published in the MEDICAL RECORD of December 11, 1897.

With these symptoms I thought it best to trephine at the point mentioned. and expected to explore the cerebellum through an extension downward and backward if necessary, and to trephine over the frontal lobes and the speech center if unsuccessful in my first attempt. Fortunately the abscess was easily found, and as easily drained, so that a more prolonged operation was unnecessary.

The surgical moral is that aphasia in the presence of ear disease calls for exploratory trephining. The neurological moral is that more emphasis should be placed on subcortical aphasia in teaching and writing.

As before mentioned the pus found in this abscess was excessively foul, having an odor like that of a decomposing cadaver. On several occasions bubbles of gas were seen to issue from the drain. Bacteriological examination of the pus taken sixty-six hours after operation showed a diplococcus, which was probably the prime cause of the trouble, and a new or rare bacillus, having an end spore like the tetanus bacillus, but the whole organism was much smaller. This bacillus forms a gas of most obnoxious odor. The identification has not been completely carried out, but the bacillus presents affinities with a saprophytic form isolated by Pasteur from a cadaver.

LIMITATIONS OF SURGICAL WORK FOR THE INSANE.*

By WILLIAM J. MAYO, A.M., M.D.,
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MODERN civilization demands that the surgical diseases of the insane shall be as carefully treated as those of persons of sound mind. The successful invasion of the cavities of the body by the surgeon has stimulated attempts at operative relief for some of the more or less important phenomena which accompany insanity, and it is worth our while to go over the field occasionally and see to what end the efforts have led and to what extent they have been beneficial. For the past eighteen years I have had the privilege of operating upon the inmates of the Rochester Minnesota State Hospital for the Insane and for eight years at the St. Peter Minnesota State Hospital for the Insane. This work has been done under the general direction of the Superintendents, Dr. A. F. Kilbourne and Dr. H. A. Tomlinson. These hospitals have a total capacity of more than 2,200 inmates, and the opportunities for observation have been good.

In the earlier years of my acquaintance with the care of this class of patients, the asylum idea was predominant. The primary object was to prevent these unfortunate wards of the State from injuring others and, if possible, themselves, and this to be done as cheaply as possible. The surgery was that of dire necessity, such as operation for strangulated hernia, the results of traumatism, and malignant disease. Inadequate nursing facilities added to the difficulties to be encountered, and it must be admitted that surgery itself was in the transitional period between the "laudable pus" and the antiseptic eras. The results, taken as a whole, were not encouraging. The advent of the hospital idea with its trained nurse and skillful care, coming as it did with the enlarging field of modern surgery, gave tremendous impetus toward progress, and the hospitals for the insane of to-day are well managed in this respect. The surgical possibilities have increased in a corresponding ratio, with most gratifying results. This is true as to the physical infirmities of the insane; but has this improvement manifested itself, surgically speaking, in the cure or marked betterment of the mental condition? Mental instability is aggravated by physical disease and modified by its cure, but insanity itself does not often lie within reach of the surgeon's knife. The layman usually, and the physician too often, seems to think that the forty to fifty ounces of brain substance would functionate properly if it were not for a reflex impulse having its origin in some physical ailment in another part of the body. If the victim happens to be a woman the source is promptly traced to the generative organs. From the standpoint of the alienist, the most important factor is the predisposition of the patient, and upon tracing the histories of even those cases in which traumatism seems to have been the one important feature, the number of cases in which hereditary predisposition to unsound mind exists is nearly equal to the average of the so-called "idiopathic" cases. Disease or traumatism may be the immediate exciting cause, but the inherited mental instability is the essential etiological factor, without which the mental defect would probably not have appeared.

The writer does not possess special knowledge as to the general subject of insanity. The work which has been performed has been purely surgical, but it has extended over a period of time long enough to allow the ultimate result on the physical and mental condition of the patient to become apparent. From a scientific point of view it is absurd to speak of insanity as though it were a malady of fixed proportions, and an opinion drawn from such an indefinite picture of mental disease is of little value. To say that an operation restored to the normal the mentality of an insane person without detailing the exact nature of the brain lesion does not convey much information. We do not expect that relief from a physical ailment will greatly benefit the mental condition of an individual suffering from chronic dementia, although it might aid recovery from acute melancholia. The influence of an operation upon the mental symptoms of an insane individual depends more on the nature of the insanity than upon the surgical procedure which has been performed.

For the purpose of study, the indications for the surgical treatment of the insane may be divided into three general classes. First, the surgical relief of physical ailments without regard to the mental condition; second, operations for the purpose of relieving the mental condition of the patient; third, operations performed with the public welfare in view.

As to the first class there can be no question regarding the wisdom of giving to the insane the greatest possible relief from the suffering or discomfort of physical infirmity, and this without regard to the mental condition. It is a common experience to see an amelioration of the mental symptoms follow the cure of a hernial protrusion or the removal of a cataract. It can be stated, without fear of successful contradiction, that this improvement does not depend on the location of the disability, I have seen as much relief follow the removal of hæmorrhoids as after the repair of lacerations of the cervix and perineum. For the past eight years in both institutions an attempt has been made to perform a radical operation for the cure of hernia in patients otherwise in good condition. The necessity for this is obvious. The insane, by reason of their infirmity, are incapable of wearing a mechanical appliance for retention of the protrusion, and strangulations were, previously, frequent and often fatal. In the past

*Read by invitation before the American Medico-Psychological Association at Milwaukee, June 11, 1901.

four years some attempt has been made toward the operative relief of prostatic hypertrophies, and a few operations have been performed with fair results. In many wards, especially male, the smell of decomposing urine is present in spite of the best of ventilation. The cause usually lies in the mental condition of the patient, and is covered by the term "filthy habits," but a certain proportion of these unfortunates are the subject of lesions of the urinary apparatus, which are amenable to surgical relief. Under the direction of the Superintendents a careful physical examination has been instituted among this class of the insane with a view to bettering their condition when possible. The number of prostatic hypertrophies did not prove as large as expected, perhaps not greater than among the sane of the same age, yet the relief afforded has been well worth the effort. I would suggest that urinary disturbance be made a cause of special examination with a view to ascertaining if there be a physical disability, and that prostatic hypertrophy, calculus, stricture, etc., should be considered surgically. Gallstone disease is frequent among the inmates, ten per cent. of the autopsies showing biliary calculi. Not all of these patients present marked symptoms, but a considerable percentage suffer greatly, and they should be relieved, other things being equal, by operation. The cases we have operated upon have been most satisfactory. Acute or chronic gastric distress should call attention to the possibility of gallstones, and repeated examinations made to detect their existence. Diseases of the genital organs in the male, such as phimosis, hydrocele, and occasionally, a symptom producing varicocele, may need operative treatment. Diseases peculiar to the female are common; uterine and ovarian tumors, retroversions, accompanied by inflammatory symptoms, lacerations of the cervix and perineum, etc., all demand attention and, in properly selected cases, should be surgically treated.

A large number of cataracts are to be found among the insane and they should be removed. These few common indications for operative interference are but examples of the immense field for surgery in which its good results cannot be questioned. The patient has a right to the largest measure of relief which can be given, and our duty is not finished when we have fed and clothed him well; this is important, but not enough. Surgery offers much to the sane, and mental disease should increase rather than diminish our efforts in behalf of its victims.

The second group of cases in which operation is undertaken for the relief of the mental condition of the patient has but a limited sphere of usefulness and the enthusiastic claims of the few are more than counterbalanced by the experience of the many. Traumatic epilepsy and insanity following injury certainly would seem to be the type most fruitful of surgical results. Generally speaking, cure of traumatic epilepsy follows in only four per cent. of cases operated upon, and of these the number in which cure has followed operation when more than two years have elapsed since the beginning of the epilepsy is exceedingly small, and few epileptics are admitted to the hospitals for the insane within two years of the beginning of the epileptic seizures. The predisposition, as manifested in the family history of those who became insane from this cause, is usually too marked to allow of much hope of cure, even if undertaken early.

In a considerable operative experience in traumatic epilepsies and periodical attacks of insanity from the same cause, I have seen but two cases in which relief was marked and lasted long enough to deserve attention. In neither case was there a return of the mental vigor, but in both there was amelioration of the periodical outbreaks, and both cases remain sufficiently well to warrant home treatment now for more than three years. These cases were not cured, but benefited.

The hopeless outlook may lead both the alienist and the surgeon to consider operative attack, and in suitable cases it is not only warranted but commendatory. The lesson to be learned from past experience is that a more careful selection must be made for operative treatment. The surgical cure of insanity, supposed to be due to a reflex irritation in a distant organ, needs but little discussion. The cases are usually reported early or the mental condition is greatly exaggerated, and the future progress seldom justifies the early prospects. The most energetic work along this line has been done by the gynæcologist. In an extensive experience we have seen few, if any, cures brought about in this way, but much relief in suitable cases. The insane woman suffering from disease or injury of the generative organs should be relieved surgically, not because she is insane, but because she has physical disease. The proposition that the diseased condition should be removed because the patient is insane and would not need operation if she were of sound mind is not tenable, and cannot be justified by ultimate result. Asylums of any size for the insane will usually contain a considerable number of women whose ovaries have been removed in the vain hope that cure of the mental disturbance would result, and too often the operation but aggravates the condition. The removal of the clitoris to prevent masturbation and in this way cure insanity had its advocates at one time. Fortunately this distorted view of the nature of mental disease has passed away, and while other misconceptions as to cause and effect have taken its place, the combined experience of the alienist and surgeon renders such delusions short-lived.

Operations performed for the public welfare are of questionable propriety, and at the present time would not have legal sanction. Dr. A. J. Ochsner, in a paper read before the Chicago Medical Society, calls attention to the ease with which the vas deferens can be divided without danger to life and, by the local use of cocaine, painlessly. This would absolutely prevent propagation in men, and would not necessarily interfere with the physical use of the generative organs. Dr. Daniel Brower, in a general address before the American Medical Assoiation at the Columbus meeting, advocated the procedure, and he believes the public will eventually demand that some such measure shall be taken to prevent the insane and habitual criminals from continuing their kind. The heredity of psychological defects is more marked than that of physical deformities, and the position taken by Drs. Ochsner and Brower is logical.

An analogous operation in women would hazard life, and as insanity is not a crime but a misfortune, we would have no moral right to subject them to operation. At my request Drs. Tomlinson and Kilbourne caused to be prepared a short synopsis of one hundred surgical cases operated upon and especial attention has been given to the question of the effect on the mental condition of the patient. The cases were selected at random from a large number of operations and without any attempt to prove preconceived opinions. The patients chosen had a complete history with records of the mental and physical condition before operation, during convalescence and for a sufficient length of time thereafter. The examination includes sixty females and forty males. Of the females sixteen per cent. were improved mentally more or less by the operation, and of the

males twelve per cent. In most cases the mental improvement was such as we would naturally expect from the physical relief afforded. The patient looked brighter and appeared more cheerful, and, in a few cases, the restoration was sufficient to enable the patient's return to home life. Only one patient was discharged cured in this series. This was a case of acute depression in a man admitted to the St. Peter State Hospital, suffering from chronic appendicitis. The process became suppurative, and the improvement mentally and physically, after operation, was coincident. As an equal number of patients was chosen from each of two hospitals situated at some distance from one another, and as the proportion of mental improvement was nearly the same in each, a comparrtive table prepared by Dr. E. Z. Wanous, first assistant at the Rochester State Hospital, has considerable value.

The physical improvement was marked in nearly all the cases operated upon. The results, however, do not justify the statements which have occasionally been made as to the influence of bodily disorders, especially those of the female generative organs, in the production of insanity. Surgery has done much for the physical comfort of the majority, benefited the mental condition of a few, but rarely has materially dontributed to a perfect restoration both mental and physical.

In conclusion let me say that the insane, from a surgical standpoint, have the same right as the sane—no more, no less.

THE PRIMARY TREATMENT OF INFECTED WOUNDS WITH TINCTURE OF IODINE.

By CARL BECK, M.D.,
NEW YORK.

While the treatment of wounds made by the aseptic surgeon has nowadays reached a state of perfection which might nearly be called ideal, it is yet practically impossible thoroughly to disinfect a wound, in the common sense of the word, after infection has occurred.

Schimmelbusch (*Transactions of the XXII. and XXIII. German Surgical Congress*, Berlin, April 15, 1893, and April 18, 1894) went so far as to deny the possibility of disinfection, even though an antiseptic fluid was applied immediately after infection. He had used bichloride of mercury, carbolic acid, lysol, acetate of aluminum, chloride of zinc, and caustics like nitric and acetic acids, without seeing the slightest effect. These solutions, even if they could be borne in full strength, did not seem to permeate the tissues invaded by the bacteria. Wound products containing albumin combined with the antiseptic solution, thus weakening or annulling its influence. This result seemed to show that the bacteria permeate the tissues very rapidly and get beyond the reach of antiseptic liquids. Five minutes after the introduction of pathogenic as well as non-pathogenic bacteria into fresh wounds, some of the internal viscera contained them. The experiments of Schimmelbusch, consisting in the inoculation of anthrax-bacilli at the distal end of a mouse's tail, are well known. No matter what the kind and strength of the disinfecting agent used immediately after inoculation, mice so treated died of sepsis, except when the tail was amputated within at most five minutes after infection.

Richter found the bacillus anthracis in the lungs, kidneys, liver, and spleen half an hour after inoculation.

Fortunately, these experiments do not, as a rule, correspond entirely to the conditions found in surgical practice, because they were made with the pure cultures of highly virulent bacteria, while our patients are ordinarily not inoculated with pure cultures of that bacterial species, and clinical experience has taught us that much can be done in infected wounds, especially by mechanical means.

So Henle (*Transactions of the XXIII. German Surgical Congress*) claimed that he was well able to disinfect wounds inflicted upon rabbits' ears, and infected with streptococci, with solutions of bichloride of mercury (1:1000) and carbolic acid (4:100) applied two hours after inoculation. When applied six hours afterwards, disinfection was imperfect, but the severity of the infection was considerably diminished.

In view of these facts, it became a surgical axiom to rely more upon combined bactericidal measures than upon a single antiseptic drug.

The inability to combat directly the invasion of the enemy suggested indirect means of attacking it. If a position cannot be taken by storm, the enemy must be starved out. In order to accomplish this, the supplies must be cut off first—in other words, the soil that nourishes the bacteria and offers shelter to them must be destroyed. Besides, there must be ways found to prevent their development and multiplication. This is accomplished especially by broad incisions, removal of mortifying or necrosed tissue, and the absorption of the wound secretion by gauze, preferably iodoform gauze.

Of course, a drug which would penetrate the deeper layers of the infected tissue, as the Roentgen rays do, for instance, is a great desideratum. The latter exert, as experiments have shown, a disinfecting influence if a strong current is used, but, in the present form, their practical utilization meets with too many difficulties.

As I have emphasized previously (see my book on fractures, page 199), the tincture of iodine is an antiseptic which, to some extent, possesses a permeating power. It was originally used only for the disinfection of the skin and the deep-skin bacteria, but I have also tried to use it methodically in all infected wounds. Practically all wounds which are not inflicted by the aseptic surgeon on an aseptic field are to be regarded as infected.

The tincture was liberally applied once over the carefully dried wound-surface. Fifteen minutes afterwards, examination of the tissues showed the evidence of permeation, and no cultures could be obtained from such areas. While this does not prove that bacteria were destroyed in these regions, it can be assumed that the soil was rendered unfavorable for their further development.

No general disturbance has yet been observed in the large number of patients in whom the iodine treatment has been tried, although in two cases iodine reaction was found in the urine three and four hours after the application. The further treatment was carried out on general principles. All the cases treated in this manner ran a favorable course.

Further observations will be reported later.

Persistent or Cyclic Albuminuria without Clinical Symptoms.—G. E. Tyler says that in order to reach a diagnosis the following things are necessary: 1. The demonstration of a persistently intermittent albuminuria unaccompanied by casts or other evidence of renal disease. 2. The elimination of diseases of other organs, especially of a left ventricular hypertrophy. The condition is probably harmless, though some assert that it always means ultimate organic change. No medicines have any effect on the condition. A well-regulated life, free from all excesses, is the best treatment.—*Denver Medical Times.*

Auscultation of the Mastoid.—J. A. H. Andrews advises the use of the stethoscope and tuning fork in examining mastoid cases. The test for the density of the mastoid is made by using a stethoscope with a small bell over the tip and placing the handle of a vibrating tuning-fork against the mastoid in the neighborhood of the antrum. It is found that when the mastoid cells are filled with pus or granulations, or when the density is increased from bone proliferation, the sound waves are transmitted to the ears of the examiner with greater intensity and for a longer time than when the stethoscope and tuning-fork are placed in the same relative position over the opposite or a normal mastoid. In the examination of the two hundred mastoids in which there was no history of disease the following results were obtained: (1) The length of time in which the fork could be heard over apparently normal mastoids varied from fifteen to twenty-two seconds. (2) The average length of time the fork could be heard was about eighteen seconds; (3) The length of time the patient could hear the fork by bone conduction was, as a rule, slightly less than the time the surgeon could hear it with the stethoscope, *i. e.* bone conduction was slightly less than auscultation. (4) If the conducting properties of the stethoscope are greater than the conducting properties of the one used the difference between bone conduction and auscultation will be increased, while if the conducting properties of the stethoscope should happen to be less the relation between bone conduction and auscultation may be reversed; (5) Tuning-forks vary greatly in the time they can be heard by the normal ear. The principles underlying the method and upon which conclusions have been based are: (1) The greater the density of the medium, the greater will be its sound-conducting property; (2) The more nearly uniform the medium, the greater will be its sound-conducting property; (3) Solid media of the same density transmit sound waves, within certain limitations, in proportion to their relative thickness.—*The Laryngoscope.*

Tuberculosis in Cattle.—J. P. Penberthy believes that the main factor in causing tuberculosis in dairy cows is the congregating of the animals for a long period indoors. Sheep leading a life in the open air are very rarely affected. Cows in mild climates, such as Jersey, where housing is little followed, enjoy comparative if not complete freedom. In fact, overcrowding with bad ventilation and lack of sunlight is accountable for a large percentage of cases. But all these bad conditions alone are not sufficient for the development of the disease. There must be the exciting factor, the specific microbe which is introduced by an infected animal. Hence the necessity for removing diseased cattle from the herd, and the careful inspection of meat and milk, in order to prevent the spreading of the malady in mankind. The necessity of careful inspection is all the more evident when it is remembered that the general effect of the tubercle germ on the constitution of the animal affected, apart from the destruction of the portion it invaded, is usually marvellously little. It is not uncommon to find the most extensive tuberculosis in cattle in apparently prime condition and perfect health. It will be thus seen that the flesh of animals might contain the germ, and as it is a truism "that any man or animal taking the tubercle bacillus into his system runs a risk of becoming tuberculous," there is a certain amount of danger associated with the consumption of flesh from tuberculous animals.—*Medical Press and Circular.*

The Influence of the Climate of Colorado on the Nervous System in Health and Disease.—J. T. Eskridge says that in health, and with the unacclimated, no unpleasant effects are experienced from the altitude, provided the newcomer does not over-exercise. Mentally and physically he is stimulated. If over-exercise is indulged in, the muscles speedily become sore and are affected by cramps, while sleeplessness follows. Under normal conditions sleep is refreshing. Women, especially those of a nervous temperament, are apt to become distinctly hysterical. Irritability and peevishness are not uncommon. The process of acclimatization for healthy individuals is short and simple. Many seem to experience no inconvenience from the altitude, although they exercise from the first day of their arrival in Colorado and begin to ascend high altitudes.

In regard to climatic effect on the nervous system in disease the author reminds us that most health-seekers who come to Colorado are suffering from tuberculosis of the lungs. Many nervous and mental disturbances frequently develop during the course of this disease The most prominent of these are insomnia, nervous irritability, mental depression, sometimes amounting to melancholia with suicidal tendencies, and meningitis Insomnia is generally relieved if the case is one the tuberculous features of which are favorably affected. Nervous irritability is often almost entirely thrown off. Mental depression among tuberculous cases is more common than at sea-level. Many factors, such as absence from home, etc., enter into this question entirely apart from climate. Hysterical patients do better at sea-level, and the same may be said of neurasthenics, choreics, sufferers from sick headache, epileptics, and the nervous and impressionable in general.—*Denver Medical Times.*

The "Monoma."—Herbert Snow calls attention to the existence of a progressive and malignant growth, for which he proposes the new term "monoma." It is important that it should be differentiated from the comparatively harmless myoma by this or some other distinctive word. The disease is malignant, and if once recognized should be immediately removed, but the important question of diagnosis is as yet unsettled. The presence or absence of vaginal hemorrhage, as insisted on by Lawson Tait, is untrustworthy. With that event alcoholic habits have much to do. If we encounter a solitary, rounded, doughy central uterine tumor which is growing rapidly, while the patient is losing weight, if we find an indistinct fluctuation so that we wonder whether it may be an ovarian cyst, and if there has been much recent trouble and anxiety, then the author holds that we are justified in diagnosing a monoma and in advising prompt excision.—*Medical Press and Circular.*

Remarks on the Summer Diarrhœa of Infants.—J. D. Windle holds that bottle-fed children are especially thirsty in summer because they are usually given their food as concentrated as in cold weather. They take the bottle ravenously and so get over-fed. By the diarrhœa, vomiting, and perspiration the amount of water lost is out of all proportion to that taken in, and thirst causes the restlessness wrongly attributed to physical pain. The indications are to stop food and stimulants, and give cold boiled water as much and as often as the child may take. It may object to the first teaspoonful, but is greedy for the remainder. This exclusive water diet may be continued for forty-eight hours with safety, but is rarely required longer than twelve or twenty-four. Tepid sponging if there is fever, hot dry packs if there is collapse, large linseed-meal poultices to cover the abdomen if there is pain, are valuable auxiliaries.—*The Clinical Journal.*

Idiopathic Peritonitis.—H. Nothnagel is of the opinion that the possibility of a true primary idiopathic peritonitis has not yet been demonstrated. Besides the portal through the female genitalia, the only way by which micro-organisms can directly reach the peritoneum from without is via the blood current, and this, the author believes, never takes place. Even in cases in which the tonsils are taken as the sites of the infection, it is more likely that the bacteria, in consequence of enteric processes, pass through the intestinal wall. The great power of absorption possessed by this serous membrane is another safeguard which, no doubt, is particularly active in preventing peritonitis in the acute infectious diseases.—*Wiener klinische Rundschau.*

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THE STUDY OF PLAGUE IN MANILA.

SCARCELY has there been time for digesting the contents of Army Circular No. 2, on tropical diseases in the Philippines, when No. 3 appears, treating the subject of plague. As we remarked on a previous occasion, too much praise cannot be accorded to the admirable work being done in the army laboratories in Manila. The results show how much can be accomplished by governmental patronage for bacteriological work and by the systematic publication of the practical findings on given lines of investigation. Assistant Surgeon H. W. J. Calvert, U. S. A., makes this report.

Although much has been written recently on plague, there are many points regarding its bacteriology which are not so well understood as they might be. It becomes quite evident that the more we study the disease by modern methods, the more is it robbed of its terrors. The thoroughness with which the whole subject is treated in the present instance leaves hardly anything to be desired in making the practical deductions well up to date.

It is interesting to learn that the plague organism—the bacillus pestis bubonicæ (Kitasato)—is quite long-lived in dark places, having been recovered as late as the forty-fifth day, but that sunlight destroys it within three hours. It is also very easily killed by ordinary disinfectants and is very susceptible to heat.

From observations in the Manila laboratory it would appear that infection occurs mostly through abrasions of the skin or external mucous membrane. Contrary to the statements of many authorities, the alimentary canal appears to be a main port of entry for the bacillus. The infected breath in pneumonic cases, blood from the nose and lungs, menstrual flow, vomitus, fæces, secretions from pustules and carbuncles, and pus from buboes may each in their turn serve as media for direct infection. Clothing, exposed fabrics, or merchandise infected by dead rats, may also transmit the disease. The emigration of rats from district to district is also an important factor in the spreading of the plague.

The experiences in Manila are in accord with those in other places as to the gradual spread of the pest. Usually considerable time elapses between each case, and the disease may linger for two or three years before becoming epidemic. When once introduced, however, plague continues from year to year, with an occasional intermission of a year, for an indefinite period. The yearly prevalence of plague usually lasts but a few months, when it dwindles into sporadic cases of mild type. In the severe forms of seizure, the so-called septicæmic variety, death may occur within twenty-four hours after the onset. In the second week the fatal issue is due to secondary infections following extensive necrosis of the vital organs. In contrast to many other infectious ailments, one attack does not insure absolute immunity.

For convenience of pathological study the disease is classified as pestis minor, pestis bubonica, septicæmic plague, and pneumonic plague, the bubonic form being the most common. In respect to the particular lesions of each variety, nothing new has been noted.

The most important practical deductions from the studies in question bear upon prophylactic measures. An early diagnosis of the first cases is essential. Suspected cases should be isolated and closely observed, and those associated with them should be isolated in a detention camp for at least ten days. Unhygienic localities should be cleansed and disinfected. Burning of buildings is advocated as the surest of all methods of preventing the spread of the pest. Short of this radical measure, carbolic acid, bichloride of mercury, or any other cheap disinfectant may be used. The best disinfectant for clothing is steam. Those coming in direct contact with the disease are advised to disinfect the hands with carbolic acid or bichloride of mercury immediately after exposure; such precaution being founded on the bacteriological theory of skin infection.

Rigid quarantine regulations are very properly insisted upon, no passenger or animal being allowed to leave an infected port until after a detention of ten days.

The general treatment of plague is based on the usual indications for meeting a depressing disease, and it is advised merely to open bubonic abscesses rather than attempt to remove the glands. Protective inoculation does not find favor, as at best temporary protection only can be expected.

THE REDUCTION OF SHOULDER DISLOCATIONS.

So much has been written about dislocation of the shoulder-joint that it is not easy to invent a really new method of treatment, but the injury is so frequent and important that good suggestions should always be considered. F. Hofmeister, of Tübingen, has proposed in the *Beiträge zur klinischen Chirurgie Band XXX.*, September 2, 1901, a method which is practically new, although it is to a certain extent adapted and modified from older procedures. He reports seven cases, in all of which the method was successful, though in three instances the injury was more than eight days old.

The plan is very simple, and requires for its execution only a vertical extension apparatus and some weights, up to about twenty kilograms in aggregate. The patient is laid upon the uninjured side, and the injured arm is bandaged as high as the insertion of the deltoid, so as to secure a firm hold for the extension cord. The latter is passed over the pulley and a weight

of about five kilograms (eleven pounds) is attached. This, of course, holds the limb in complete vertical extension, and exerts a continuous pull against the muscles of the shoulder girdle. After a few minutes, more weight is added, and this process is kept up until the contraction of the muscles is overcome, and the head of the humerus is drawn to the edge of the glenoid fossa into which it either slips spontaneously or may be pushed very easily. The amount of time required for the success of the manœuvres varied from fifteen to forty-five minutes, and the weight from five to twenty kilograms. The advantages claimed are avoidance of anæsthesia, simplicity, and entire absence of danger.

The avoidance of anæsthesia is often of very great importance when we are dealing with such an injury as an uncomplicated dislocation, so that this point is in favor of the new method, especially when we remember that when the weights are attached, there are no painful manipulations to be carried out. In regard to simplicity, everyone is, of course, aware that nothing can be simpler than Kocher's method of dealing with the sub-coracoid displacements of the humerus, but Kocher's method is not always successful; it frequently requires an anæsthetic, and not uncommonly some extension method has to be substituted for it. The heel-in-axilla method also commonly requires an anæsthetic, both on account of pain and to secure the relaxation which is so important when the muscles are spasmodically contracted from the irritation of the injury. There is a certain small percentage of danger in the reduction of a dislocation under an anæsthetic, on account of the possibility of injury to nerves, tendons, blood vessels and even bones. With care, this percentage is exceedingly small, but it is claimed, with apparent justice, for this new method, that such dangers do not exist, and it is an advantage to avoid a percentage of danger, no matter how small. Such a vast majority of dislocations of the shoulder are either sub-glenoid or sub-coracoid, that in considering special methods the rarer forms may be disregarded, and for these ordinary forms this new method is well adapted, and worthy of trial. There seems to be no reason why the weight of twenty kilograms should not be exceeded, if necessary, especially in muscular patients, though it is the highest weight mentioned in the article which we have quoted.

THE FIGHT AGAINST TUBERCULOSIS.

THE statement made by Koch just before the meeting of the Congress on Tuberculosis in London last week, that the danger of acquiring tuberculosis through the milk of tuberculous cows is so slight that it may in practice be ignored, quite naturally excited considerable comment both in the daily press and among sanitarians and physicians generally. In the paper read subsequently before the Congress, and published in the current issue of the *Journal of the American Medical Association*, we find that this question does not occupy such an all-important place in the article as the cabled interview with the author had implied.

The paper begins with the argument that tuberculosis is a preventable disease, a fact, Koch says which ought to have become clear as soon as the tubercle bacillus was discovered, and of which he himself was fully aware from the moment he had made his famous discovery. He then says that no one system of preventive measures will apply to all pestilences, instancing the various means employed in the suppression of plague, cholera, hydrophobia, and leprosy, and that tuberculosis is no exception to this rule. The main source of infection in tuberculosis is the sputum, and others, such as heredity and the ingestion of milk or meat from diseased cattle, may practically be ignored in the fight against the disease in man. The experiments which he cites as disproving the liability of the transmission of tuberculosis from cattle to man are in every practical respect the same as those previously made by Theobald Smith in this country. Koch admits that he has been conducting these experiments only during the last two years; that is, Koch *began* his experiments in 1899. Theobald Smith *published* the results of his in the first half of 1898; yet Koch has the hardihood to say (italics ours): "Comparative investigations regarding human and bovine tuberculosis have been made *very recently* in North America by Smith, Dinwiddie, Frothingham, and Repp, *and their result agreed with ours.*" It is a pity that a man who has done so much for science cannot be content with what he has really earned, without taking to himself credit for the prior discoveries of others.

The measures which Koch recommends for the suppression of tuberculosis are an increase in the number of hospitals specially devoted to the care and treatment of the subjects of established tuberculosis, notification, disinfection, and the education of the public regarding the infectiousness of the disease and the best means of protection against it. He expresses himself in favor of sanatoria for consumptives in the early stages of the disease, but warns his hearers "against an over-estimation of their importance which has recently been observable in various quarters, based apparently on the opinion that the war against tuberculosis can be waged by means of sanatoria alone, and that other measures are of subordinate value." In reality, he says, the contrary is the case.

The tone of Koch's article is one to give encouragement to all who are striving and hoping for the suppression of this scourge of mankind, and the author's conclusions are marked by an optimism which it is refreshing to note. "If now," he says, "in conclusion, we glance back once more to what has been done hitherto for the combating of tuberculosis, and forward to what has still to be done, we are at liberty to declare with a certain satisfaction that very promising beginnings have already been made. Among these I reckon the consumption hospitals of England, the legal regulations regarding notification in Norway and Saxony, the organization created by Biggs in New York—the study and imitation of which I most urgently recommend to all municipal sanitary authorities—the sanatoria, and the instruction of the people. All that is necessary is to go on developing these beginnings, to test and if possible to increase their influence on the diminution of tuberculosis, and wherever nothing has yet been done, to follow the examples set elsewhere." These are words of inspiration to all engaged in this modern crusade, and we can but hope that Koch himself will long be spared to aid in the combat (giving proper credit to his colleagues for their share in the struggle), and that he will live to

see the final victory which has been made possible by his glorious discovery of the bacillus tuberculosis.

HOSPITAL ADMINISTRATION.

The bitter quarrel which has been pending for the past few years among the members of the medical staff of the National Hospital for the Paralyzed and Epileptic, in London, reached a crisis some months ago, and the public have had since that time ample opportunities to judge of the situation for themselves. Both parties to the controversy have aired their grievances in medical and lay journals, and it is the general opinion that it is now full time that the matter should be settled definitely, not only for this hospital, but for all others.

The burning question is, Should laymen wholly control hospitals, or should medical men have something to say with regard to the management? *The Practitioner* for June is entirely given up to a consideration of the subject and contains several contributions by men of note, medical and lay. All these writers, without an exception, express the opinion that it is essential to the successful management of a hospital that the medical staff should be represented on its governing body, although none advises that the ultimate control should be taken out of the hands of the non-professional element. In fact, the medical men are very modest in their demands, simply claiming that they should not be absolutely precluded from exercising a certain amount of influence in deliberations affecting the welfare of the institution to which they are attached.

As regards the specific case which gave occasion to the discussion, it is satisfactory to learn that a committee of inquiry chosen by the governors of the hospital have found the complaints of the medical staff justified, and as a result have recommended, among other things, that the staff be accorded the representation on the Board of Managers that it demanded as necessary for the welfare and successful administration of the affairs of the institution. Such representation, the report of the committee says, "would, beyond all other methods, secure the best and most satisfactory means of intercommunication between the staff and the medical board, and it would be to the great and permanent benefit of the hospital." The trouble arose largely from the officiousness and tactlessness of a layman, who was at once secretary and general director, and whose prototype, unfortunately, can easily be found in other institutions. The recommendation was made further that the position of general director be abolished, and that the members of the medical and resident staffs and their subordinates be independent of the authority of the secretary, but responsible to a resident medical superintendent, to be appointed. The entire report should go far to correct the opinion that seems to prevail in some quarters that hospital administration is a mere business matter for the conduct of which only laymen are qualified and medical men are especially disqualified.

The conclusions come to by the writers in *The Practitioner* that the practice of debarring medical men from taking a part in the management of hospitals is anomalous and absurd, will commend themselves to the medical profession of this country as eminently reasonable. It has been shown, in the case of many hospitals in this country as well as in Great Britain, that lay and medical members of the governing body can work together, without friction and to the good of all concerned, and it will be to the best interests of hospitals generally if such a course be pursued.

News of the Week.

The Tuberculosis Congress.—On Thursday afternoon, Earl Spencer, one of the vice-presidents of the Congress on Tuberculosis, severely criticised Koch's assertion that human beings are in no danger of contagion from tuberculous cattle. He said he hoped that it was true, but he hoped more that the dissemination of such views would not tend to cause laxity on the part of dairymen and cattle owners, or less vigilance by the authorities charged with protecting the consumers of milk. The speaker earnestly trusted that the congress would not indorse the heretical and at present unjustifiable statement that it was unnecessary to take measures to prevent the transmission of tuberculosis from animals to human beings. Prof. John MacFadyean read a paper on tubercle bacilli in milk in which he criticised Koch's views, contending that the grounds upon which the Berlin professor based his belief were either not well founded or had little bearing upon the question, and he asserted that the strongest grounds existed for regarding milk from tuberculous cows as distinctly dangerous to human beings. Dr. Ravenel, of Philadelphia, gave an instance of the infection of ten persons from tuberculous cattle, but said he considered such instances rare. Mr. James King, a London veterinary surgeon, dissented flatly from Koch's belief in the non-transmission of bovine tuberculosis to human beings, and urged the adoption of more stringent measures to prevent the sale of tuberculous meat and milk.

The closing session of the Congress was held on Friday under the presidency of the Earl of Derby. At this meeting resolutions were adopted recommending legislation toward the prohibition of expectoration in public places, the notification of the proper authorities in cases of phthisis, and the use of pocket spittoons. It was asserted that these sanitary provisions were indispensable in order to diminish tuberculosis. A resolution was also adopted expressing the opinion of the Congress that health officers should continue every effort to prevent the spread of tuberculosis through milk and meat. As, however, the question concerning human immunity from bovine tuberculosis was of vital importance to the public health and the agricultural interest of the country, it was urged that the Government immediately institute a rigid inquiry into the identity of human and bovine tuberculosis.

At a banquet given to the delegates in the evening, Dr. E. G. Janeway, of New York, responded, in behalf of his American colleagues, to the toast "Our Foreign Guests."

Increased Sickness among Children.—The trustees of St. John's Guild state that their floating hospitals are crowded with sick babies every day, as is also the Seaside Hospital on Staten Island, nearly ten thousand having been carried in one week. There are more cases of severe illness among the babies than have been known in the history of the guild. The Lewis Memorial Cottage, especially designed for the treatment of very ill babies, has not a single vacant bed, and applications for admission to the Floating and Seaside hospitals of very seriously sick babies are so numerous that some children with only slight summer complaints are perforce denied

admission. The Guild is making every effort possible to meet the unprecedented demand, but needs financial help, for which it has issued an appeal to the public. There can be little doubt that much of the increase in infantile disease this summer, as compared with previous summers, is due to the filthy condition of the streets of the city.

General Leonard Wood, who is convalescing from typhoid fever, arrived in New York on Tuesday of this week. He is still under the care of his physician, Major Dámaso T. Lainé, and will spend a few weeks cruising along the New England coast, returning to Havana as soon as his strength is fully restored.

Free Rides for Sick Children in St. Louis.—The St. Louis Transit Company has issued an order that, during the period of excessive heat, children ten years of age or under, and one member of the family, whose parents are unable to pay transportation, will be permitted to ride free on the cars of the company to the various parks on presentation to the conductor of a doctor's certificate certifying that in his judgment they would be benefited by an outing.

Charges against a Coroner.—George W. Delap, a Coroner of Brooklyn Borough, was arrested a few days ago on the complaint of a detective of the District Attorney's office. The charge was that of bribery, a woman having reported that she had paid the Coroner money to have the death of her husband, who, as alleged, committed suicide, certified to as accidental. The arrest was informal, the accused being accompanied to court by his bondsman, who gave bail of $5,000 for his appearance at the formal examination.

The Yellow Fever Serum.—Dr. Bellinzaghi, who was in New York last winter endeavoring to organize a company for the manufacture and sale of his alleged specific for yellow fever, has gone to Havana with a Dr. Caldas, of Brazil, with the object of experimenting further with the serum. There have recently been a few cases of yellow fever in Santiago de las Vegas (not the large city of Santiago de Cuba), but there is no opportunity elsewhere on the island for the making of satisfactory tests, and it is probable that even this small outbreak will be over before the serum arrives. It is said another attempt will be made to organize a company to exploit the serum. But if yellow fever is to be abolished in Cuba, there will be little demand in this country for prophylactic inoculations.

Typhoid Fever is prevailing to an unusual extent in Chicago, eight deaths occurring on Saturday of last week. The entire week previous there were but thirteen deaths, and the week before that ten. On Sunday there were thirty-eight cases in the Cook County Hospital, an increase of seventeen cases in one week.

The San Juan de Dios Hospital in Manila.—The Philippine Commission has offered to purchase the San Juan de Dios Hospital, which is the only general hospital in Manila. The proposition is under consideration by the church authorities, to whom the building belongs. The Commission proposes to convert the hospital into a public institution, if it can be secured.

The Study of Cancer.—During the reception at Marlborough House of the foreign delegates to the Tuberculosis Congress, King Edward urged them to direct their attention as well to the study of malignant disease, saying, "God grant that before long you may be able to find a cure for cancer or check its course." This incident has revived the rumor that his sister, the Empress Frederick of Germany, who is again reported to be seriously ill, is suffering from cancer.

The Canadian Medical Association.—The annual meeting of this society will be held at Winnipeg on August 28, 29, 30 and 31. The address in surgery will be delivered by Dr. O. M. Jones, of Vancouver, and the address in medicine by Dr. J. R. Jones, of Winnipeg. The railroads have promised a single fare return rate, on the certificate plan. The General Secretary of the Association, from whom all information as to rates, excursions and scientific programme can be obtained, is Dr. F. N. G. Starr, Biological Building, Toronto.

The Wisconsin State Medical Society.—At the annual meeting of this society, held at Waukesha, June 26-28, under the presidency of Dr. J. F. Pritchard, of Manitowoc, the following officers were elected: *President*, Dr. W. H. Nielsen, of Milwaukee; *Vice-Presidents*, Drs. A. J. Hodgson, of Waukesha, and L. H. Pelton, of Waupaca; *Secretary*, Dr. C. S. Sheldon, of Madison; *Assistant Secretary*, Dr. A. T. Holbrook, of Milwaukee; *Treasurer*, Dr. S. S. Hall, of Ripon; *Censor*, Dr. Wallbridge, of Milwaukee. The meeting of the society in 1902 will be held at Milwaukee.

Medical Excursions are the fashion now on the Continent of Europe. They are organized much on the plan of the Cook's tours, the object of the excursionists being to visit and inspect the various spas and other health resorts. The French and the Germans are most addicted to the "bath-journey" habit, but the English are gradually acquiring it. Recently a party of thirty-two English physicians visited Nauheim. They were received by all the doctors of the place, headed by Professor Schott, and conducted to the Hotel Augusta Victoria, where a banquet and fête were given in their honor. On the day following they visited the springs and baths, where explanations were given by Drs. Schott, Grodel, Friedlaender and Greubner. In the evening they were entertained at the Kurhaus by the management.

The Fourteenth International Medical Congress will be held in Madrid, under the patronage of King Alfonso XIII. and his mother, the present Queen Regent, on April 23-30, 1903. The fee for membership in the congress is thirty pesetas ($6), which may be sent at any time prior to the opening of the congress to the Secretary-General, Dr. Angel Fernandez-Caro y Nouvilas, Madrid. The scientific work of the congress will be divided among the following sections: 1. Anatomy (including anthropology, comparative anatomy, embryology, descriptive anatomy, normal histology, and teratology); 2, physiology and biological physics and chemistry; 3, general pathology, pathological anatomy and bacteriology; 4, therapeutics, pharmacology, and materia medica; 5, internal medicine; 6, neurology, mental diseases, and criminal anthropology; 7, pediatrics; 8, dermatology and syphilography; 9, surgery; 10, ophthalmology; 11, otology, rhinology, and laryngology; 12, odontology; 13, obstetrics and gynecology; 14, military medicine and hygiene; 15, hygiene, epidemiology and sanitary science; 16, legal medicine. The ladies accompanying members will be entitled to reduction in railway fares and to participate in all the excursions and other entertainments given in honor of the members of the congress. In order to secure these privileges they must have a personal card, obtained on payment of a fee of twelve pesetas ($2.40). The executive committee of the congress is constituted as follows:

President, Prof. Julian Calleja y Sanchez; *Secretary-General*, Dr. Angel Fernandez-Caro y Nouvilas; *Treasurer*, Dr. José Gomez y Icaña; *Members*, the presidents and secretaries of the several sections.

A Medical Historical Museum.—Dr. Cabanès is about to establish in Paris a museum designed to show by books, pictures, instruments and prescriptions the exact state of medical science at different epochs in the world's history, and also the gradual progress made in the healing art through the ages.

The French Surgical Society.—The fourteenth annual meeting of the Association Française de Chirurgie will be held in Paris in the week beginning October 21. The subjects announced for the set discussions are "Surgery of the Spleen," to be opened by Dr. Ferrier of Nancy, and "Treatment of Tuberculous Adenitis," to be opened by Dr. A. Broca ot Paris. The president of the Association is Dr. Lucas-Championnière of Paris.

The League against Seasickness, a French association, the laudable object of which is the study, with a view to prevention and cure, of naupathia, announces the first annual exposition of remedies against seasickness. The exposition will be held in August and September at Ostende, under the patronage of the King of Belgium. Among the exhibits will be suspensory appliances designed to reduce the movement of the cabins on ships, apparatus for immobilizing the viscera, methods for the aeration and regeneration of the air in cabins, remedies for seasickness, and the literature of the subject. Public trials of the various appliances and remedies will be made off the shore of Ostende. During the course of the exposition, a congress for the study of seasickness will be held at the same place. Those interested in the subject may obtain further information by addressing the "*Ligue contre le Mal de Mer*," 82, Boulevard Port-Royal, Paris.

A Collecting Agency and the Failure of Its Plans.—We noted a few weeks ago the attempt of an alleged collecting agency to obtain money from a number of Brooklyn physicians on the strength of a contract which the latter had inadvertently signed. As this agency is said to be working in other parts of the country, the following facts may be of interest and serve as a warning against the signing of any paper without a thorough understanding of its contents. The agent of an alleged collecting agency called upon a number of physicians, soliciting claims, especially old ones and those against parties who had removed from the State. There were two blanks to be signed by the physician, which he was led to suppose were duplicate contracts. The one given to him to read, and which was kept by him, was a very innocent paper, but the other was a hard and fast contract, in the form of a note, with so many requirements that it was practically impossible for any one to comply with all, and the breaking of any one of which made the physician liable for a considerable forfeit. The suits brought by the company against several physicians were decided in favor of the latter, on the ground that the company was not registered to do business in the State of New York, and also for the reason that its contracts were against public policy.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the Navy for week ending July 27, 1901: July 19.—Asst. Surgeon E. O. Huntington, detached from the *Newark*, when placed out of commission, and ordered home to wait orders. July 20.—Surgeon C. F. Stokes, ordered to the *Oregon*, immediately. Surgeon P. Leach, detached from the *Oregon*, upon reporting of relief, and ordered home to wait orders. P. A. Surgeon A. Frenholt, detached from the *Oregon*, and ordered home to wait orders. July 24.—Surgeon G. T. Smith, detached from the *Mayflower*, when put out of commission, and ordered home to wait orders. P. A. Surgeon D. N. Carpenter, detached from the Naval Hospital, Chelsea, Mass., and ordered to the *Franklin*. Asst. Surgeon R. R. Richardson, detached from the Naval Hospital, Newport, R. I., and ordered to the Naval Hospital, Chelsea, Mass. Asst. Surgeon J. R. Whiting, resignation accepted to take effect from August 3, 1901.

Obituary Notes.—Dr. Adolph W. Dunbar, of Brooklyn, died on July 20, of typhoid fever, at the age of twenty-eight years. He was a graduate of the Bellevue Hospital Medical College in 1896.

Dr. Michael A. Arnhalt, of Pittsburg, killed himself on July 25. He was graduated in medicine, in 1860, from a Cincinnati college, but had passed nearly all his professional life in Pittsburg. He was at one time a member of the Pennsylvania Legislature. He had been in poor health for two years.

Dr. Frank K. Paddock, of Pittsfield, Mass., died in that city on July 26, of disease of the heart, from which he had long been a sufferer. He was medical examiner for Berkshire County, and it is thought that his death was accelerated by the fatigue incident to a recent murder trial, in which he was an important witness. He was a graduate of the Berkshire Medical College in 1864. He was a member of the Massachusetts State Medical Society and of the American Medical Association.

Dr. Joshua Miller, of Prescott, Ariz., one of the foremost anthropological students of this country, died recently at Flagstaff, Ariz., of pneumonia, after a brief illness. He was born in Missouri fifty-five years ago, and was graduated in medicine at the University of Michigan, in 1872, Dr. Miller spent nearly a lifetime in the study of prehistoric races in the southwest, and had almost completed his researches, which he believed would establish the fact of a connection between the Pueblo Indians and the earliest inhabitants of this continent.

Dr. Leonidas Russell, a medical examiner in the Pension Office, died at his home in Washington, on July 26, at the age of sixty-six years. He was born in Indiana, and was graduated from the Jefferson Medical College, Philadelphia. He was practicing at Owensboro, Ky., when the Civil War broke out. He served as assistant surgeon to the Second Kentucky Volunteers, and was severely wounded in the battle of Shiloh. He was afterward a member of the Tennessee Legislature and received his appointment in the Pension Office in 1885.

Dr. William R. Argyle Watson died at his home in Newport, on July 27, at the age of seventy-four years. He was born in South Kingston, R. I., where his father, Dr. Daniel Watson, was the leading practitioner, and obtained his medical degree from the University of Pennsylvania. At the outbreak of the Civil War, Dr. Watson entered the navy as a surgeon and rendered valuable services in the Gulf of Mexico. After the war he practiced in New York.

Dr. Charles W. Hayt, of Corning, N. Y., disappeared from a steamer in Lake Erie, between Buffalo and Cleveland, during the night of July 23-24. It is believed that he fell overboard and was drowned, but his body has not been recovered. He was a graduate of the College of Physicians and Surgeons, New York, in 1889. He was a member of the Steuben County Medical Society and of the Corning Academy of Medicine.

Progress of Medical Science.

New York Medical Journal, July 27, 1901.

The Ophthalmoscopic Examination for Kidney Disease.—Edward Jackson, after a description of the method of examination, notes that swelling and opacity of the retina are usually confined to isolated patches, or to the region surrounding the optic nerve. The color of the patch may vary from a dirty red to a snow-white, or a gray-blue. The swelling is to be measured by the refraction of its summit. Sometimes it looks like a small detachment of the retina. But actual detachment may also occur. White spots arise from fatty degeneration. These are regarded as most characteristic when arranged in rows radiating from the centre of the macula. Large spots are confined to this part of the fundus or to the neighborhood of the optic disk, but small ones may be scattered in all parts of the eye-ground. White streaks are occasionally seen along the arteries or may wholly replace them. The optic nerve is often reddened and opaque It may even be swollen until it exactly resembles the choked disk of brain disease.

Some of the Conditions following the Bottini Operation for Prostatic Obstruction.—L. Bolton Bangs calls attention to a condition not referred to in text-books and which offers a serious impediment to after-treatment. The obstacle is in the membranous and prostatic urethra, and it consists of a firm and rigid contraction of both these portions of the deep urethra. The catheter may be introduced for a short distance beyond the bulbo membranous junction, and then it will be suddenly and firmly clutched, even while the patient is still under ether narcosis. That it is not due to rapid swelling Bangs is convinced from the fact that the muscular clutching can be felt and that it will let up in a degree when the catheter is slightly withdrawn, but when an attempt is made to introduce the instrument still further a forcible contraction takes place instantly, which holds the catheter so firmly that some force is required to extract it. In order to overcome this difficulty Bangs uses a series of special catheters made of metal, after the pattern of the Trendelenburg searcher, with solid tips. The results following forty-two Bottini operations in the author's practice were as follows: Over sixty per cent. of the subjects had thrown away the catheter, about twenty per cent. had an increased amount of spontaneous urination, and twenty per cent. received little or no benefit. There were three deaths directly attributable to the operation. Two of these were from sepsis, and the other was from shock.

Mental Disturbance in the Course of Cardiac Disease.—A. Zederbaum says that these abnormal mental conditions are easily referable to disturbed circulation through the brain. The character of mental disturbances in cardiac disease will largely depend on the altered circulatory relations inaugurated between the heart and brain by the specific pathological condition of the former. Thus in mitral incompetency, when there is an obstruction to the recurrent flow of the blood we would expect venous engorgement and passive hyperæmia. When the aortic orifice is narrowed, we expect cerebral anæmia, and the mental states from these two respective conditions will vary accordingly. In valvular insufficiency of the mitral, mental depression, gradually developing into simple and agitated melancholia, is the predominant form of psychosis. The patient appears reticent, downhearted, apathetic, and dissatisfied with both himself and his surroundings. Instances of suicide are not infrequent in this condition, decidedly more so than in affections of the aortic valves. Altogether, psychoses are more frequently observed in connection with aortic defects than in failure of the mitral. The symptoms of mental disturbance here partake more of the nature of mania, and resemble the delirium of alcoholic pneumonia. Extreme irritability, excitement, fretfulness, restlessness, inconsistency, and querulousness, make it sometimes very difficult to control the patient The contrast between his usual ways of acting and thinking and the observed change in temper, not infrequently amounting to violence, is so striking that suspicions of insanity even enter the mind of those who take care of him. These suspicions are often too well-founded, and become confirmed in the outbreak of a real mania with all the distressing features and consequences of this special form of psychosis. Troublesome and exhaustive sleeplessness is especially noticeable in aortic insufficiency.

Medical News, July 27. 1901.

A Nasal Condition Affecting the Ocular Muscles—Heber Nelson Hoople concludes from his studies that a moderate amount of pressure on, or mechanical irritation of the middle turbinate and adjacent septum will temporarily impair the function of the ciliary muscle; and to a less, or more variable, extent it will also impair that of the external ocular muscles. The effect of severe continuous pressure, like that from a spur or a bend in the septum, when it digs into a too closely-applied middle turbinate, will naturally be much more severe.

A Case of Embolism of One of the Right Lenticulo-Optic Arteries Complicating Pneumonia, with Autopsy.—Charles J. Aldrich reports the case of a boy aged eleven years, who was suffering from an attack of pneumonia. On the ninth day of his illness, he began to have general, jerky, choreic movements which continued without intermission for over twenty-four hours, at the end of which time it was noticed that he no longer moved the left arm or leg; the face, however, was not drawn to one side. The pupils were wide throughout his illness. There was no skin eruption and no complaint of stiff neck, nor was there any rigidity of the neck or spine. The head was turned toward the right with a conjugate deviation of the eyes toward the same side—away from the paralyzed side. The patient died from heart exhaustion following acute dilatation. On examination, the brain and membranes seemed normal, only that the vessels were slightly injected. An area of softening was found in the region of the posterior half of the right lenticular nucleus, and the hinder part of the posterior limb of the internal capsule, slightly involving the optic thalamus. There was complete embolism of one of the middle lenticulo-optic arteries. The other cerebral vessels seemed to be normal and there were no other areas of softening found. No embolism was found in spleen or liver.

An Improved Method of Treating High-seated Cancers of the Rectum.—Robert F. Weir describes this method as follows: With the fingers he freely detaches the divided peritoneum so that the bowel and the entire contents of the sacral curve are liberated behind nearly to the tip of the cocyx and in front to the edge of the prostate. This gives room to tie around the bowel, some three inches from the anus, a couple of iodoform tapes about one inch apart. The intestine is then cut through and, being free, is readily raised out of the abdominal wound and held aside by an assistant. The lower end of the rectum is seized by forceps in the hand of an assistant who draws it down and out of the anus in an everted condition. By untying the tape that closes the everted bowel its lumen is opened so that a long forceps may be carried through it up into the pelvis; then the end of the upper bowel is brought down within its clasp and by it the latter is drawn through the lower bowel out into the world. The passage of a couple of needles through the invaginated ends of the bowels, near their margins, allows easy union by suture of their edges with their knots inside the bowel; replacement of the latter is then effected. After the peritoneum is sewn together and to the bowel so that the pelvis and general abdominal cavity are separated from one another by the peritoneal shelf, the writer provides drainage from the peri-intestinal space below by a tube introduced from just in front of the coccyx. The results of this operation have been very gratifying.

Journal of the American Medical Association, July 27, 1901.

Unusual Anomaly of the Faucial Tonsil.—G. L. Richards says that in a woman of sixty years, who had complained for a long time of pain in the general region of the tonsils and extending to the ears, the tonsils were found to be enlarged. Attempted removal with the tonsillotome was found to be impossible and examination revealed a bony mass on the right side running into the tonsil and almost through to its outer border. This was removed with bone forceps and found to be a portion of the styloid process. A similar condition was found on the left side, though to a less degree.

Anomalies of the Frontal Sinus and their Bearing upon Chronic Suppurative Sinusitis.—R. W. Payne, commenting on the anatomical difficulties in working on the region named, says that his favorite operation is to make successive openings through the anterior wall, exposing every part of the sinus, but leaving bridges of bone to support the skin. He also leaves an opening at each angle of the wound, the external opening being at the limit of the external angle of the sinus. This allows for free irrigation. If the disease is of long standing and the cavity is large, permanent drainage is secured by making a large opening into the nose along the line of the infundibulum, and the recesses of the cavity are wiped over with a twenty-per-cent solution of zinc chloride. In five or six days the external wounds are closed, the edges being freshened and brought together, a trifling scar only being left.

The Effect which the so-called Catarrhal Diseases of the Nose and Throat may have upon the General Health.—Carolus M. Cobb says that diseases of the nose and throat affect the general health through obstructed nasal respiration, or by extension of the diseases of bacterial origin. The diseases of bacterial origin affect the general health: *a*, by extension upon the surface membrane; *b*, by the migration of bacteria to surrounding tissues or to distant parts of the body; *c*, by swallowing of the discharge; *d*, by the absorption of toxins. The migration of bacteria takes place through the lymph current or through the blood. Septic infection originating from disease of the nose and throat does not differ materially from infections from other sources. Much of the indigestion from which these patients suffer is caused or made worse by the swallowing of the secretion, and finally a condition of chronic sepsis may be caused by a purulent collection in the nasal chambers or accessory sinuses.

American Medicine, July 27, 1901.

Lithæmic or Recurrent Coryza.—B. K. Rachford states that an attack of lithæmic coryza is sudden in its onset, and is characterized by intense photophobia and hypersecretion from the eyes and nose. The profuse watery discharge from the nose irritates and causes redness and swelling of the lip over which it flows, and the eyes are also red and swollen. The patient is extremely nervous and irritable, and there is generally some elevation of temperature. These symptoms last for two or three days and then disappear as rapidly as they come. Within a few days the patient is quite well and may continue so for a variable length of time, when, without apparent exciting cause, a similar attack recurs. There seems to be every reason, clinically, to believe that these cases are produced by lithæmic poisons acting, as they usually do act, through the vasomotor nerves. The writer believes that lithæmic coryza is not an uncommon symptom group.

Inflammation of the Sigmoid and Colon.—R. D. Mason believes that diagnosis of the various inflammatory conditions of the large intestine is difficult because little can be determined by physical examination, and subjective symptoms must mainly be relied upon to arrive at correct conclusions. The chief symptoms of inflammation of the sigmoid and colon are diarrhœa and abdominal pain, although the latter is often not prominent, except in acute cases. Diarrhœa, however, is always present. In obscure cases, the sigmoid should be explored and treated. The writer mentions colostomy for the cure of amœbic dysentery and other inflammatory conditions. It has been so seldom tried, that its value has not been fully demonstrated. He believes that it will save many lives. He speaks of the value of high injections, emphasizing the importance of slowly filling the colon first, allowing the rectal pouch to be filled last so that desire for evacuation will be presented.

Philadephia Medical Journal, July 27, 1901.

Report of Cases Examined for the National Jewish Hospital for Consumptives at Denver, Colorado.—Saling Simon finds that out of the two hundred and four patients admitted to the hospital, one hundred and twenty-five were improved, thirty-nine were unimproved, seventeen became worse, and twenty-three died. A prominent feature was the predominance of involvement of the right lung over that of the left. A cold contracted in exposure necessitated by their work was assigned as the direct cause by eighty-three patients. The occupations were exceedingly varied. The largest number of patients had been employed as tailors, most of them in the sweatshops of New York and Chicago. The influence of indoor work and bad hygiene seemed clearly shown. The family history in one hundred and fifty-two cases was negative. A rapid pulse, even without fever, seemed to be almost the universal rule. In the treatment, climate, nutritious food, and personal hygiene were mainly relied upon. As to medication, the patients were treated symptomatically. Fever was best combated by putting the patient to bed.

Treatment of Infantile Diarrhœa.—William H. Robey, Jr., gives the following treatment for this affection: Cleanse the bowel of bacteria and their toxic products. Give the remaining bacteria as unfavorable conditions as possible for further production. Soothe the irritated intestines when the continuance of the condition makes this necessary. Support the patient against constitutional symptoms, such as fever, nervous irritability, etc., as in other acute diseases of childhood. Guard against infection of others by isolation, when possible, and by carefully washing the hands after handling the stools in order not to infect the food and common household articles. The writer prefers calomel as a purge. He believes in washing out the bowel, which is done by passing a large soft rubber catheter into the bowel, allowing the tepid salt solution to flow in during its passage, thus dilating the bowel and facilitating the introduction. At least two quarts of the solution are used, the bag of the syringe being held about three feet above the table. The washings are carefully studied. It is a good plan to tell mothers going into the country with their children to stop food for twenty-four hours at the very onset of a diarrhœa. When there is vomiting, the stomach as well as the bowel should be washed out. When feeding is resumed, a weak sterilized milk is used. When irritability of the bowel continues bismuth is administered. Opium is used only when pain is a marked symptom, and when the stools are frequent.

The Boston Medical and Surgical Journal, July 25, 1901.

Adhesive Plaster Strapping in Umbilical Hernia.—J. C. Hubbard says that an umbilical hernia is ordinarily cured by adhesive plaster strapping. The younger the child, the earlier the cure is to be expected. The danger of recurrence or failure is slight. The author reports twenty-eight cures out of sixty-six cases.

Diphtheria as a Complication of Measles.—David Newton Blakely and Fred Grant Burrows suggest that the existence of diphtheria or the possibility of its onset should be considered in every case of measles, the congestion of the mucous membrane of the tonsils and air-passages caused by the measles process rendering it especially vulnerable to the growth of the diphtheria bacillus. Nasal or laryngeal obstruction arising during an attack of measles almost certainly means diphtheria; disappearance of the initial fever, or a sudden rise later, or a brassy and paroxysmal quality of cough, or persistence of initial fever and development of aphonia, all point to diphtheria. So does a purulent or muco-purulent discharge. In all obscure cases the patient should be given the benefit of the doubt—*and antitoxin.*

The After-Treatment of Operation on the Nasal Accessory Sinuses.—Walter A. Wells says that the after-treatment in these cases requires not merely antiseptic applications to the sinus, but the patient's general state of health must be investigated, and a careful supervision constantly maintained over the conditions of the nasal fossæ. The latter must be kept free from secretions, and polyps and other obstructing conditions removed whenever found. Frequent and thorough irrigations constitute the most rational method of treatment. Protargol, in two to five per cent. solution, has given the most favorable results, especially when alternated with a thorough swabbing of all parts of the inner wall of the sinus with a twenty to forty per cent. solution in water or glycerine. Immediately after the operation the sinus is packed with iodoform gauze, which is left in from thirty-six to forty-eight hours. Subsequently the sinus is irrigated daily, and later on every other day. The walls of the sinus should be rubbed with the solution mentioned every three, four, or five days as required.

The Lancet, July 20, 1901.

Malignant Disease of the Testicle in an Infant.—H. J. Clark reports the following rare case: The second child of exceptionally healthy parents was born in January, 1899. At birth, the testicles had descended, and no abnormal condition was observed until the child was ten weeks old, when a slight enlargement of the left testicle was observed, without, however, any apparent cause. The enlargement in the gland increased gradually until the child was eleven months old, when it had attained the size of a small hen's egg. There was an entire absence of swelling in the inguinal or neighboring glands. On removal the testicle weighed twenty-nine grammes. After operation the child did well and at present looks healthy and is free from any neighboring glandular implication.

Headache.—A. H. Copeman says that intracranial headaches may be classified as follows, the classification suggesting in each case the appropriate remedy: (1) Headache the result of gross lesions of the brain or of the vessels or membranes of the brain; (2) headache occurring at the onset of the acute fevers, especially that of typhoid fever; (3) congestive headache; (4) anæmic headache; (5) nervous headache; (6) toxæmic headache; (7) sympathetic or reflex headache; and (8) migraine or sick headache. Concerning the last-named variety the author is strongly inclined to place it in the toxæmic group and to refer the symptoms to profound poisoning of the substance of the brain by a blood loaded with the toxic products of incomplete and faulty digestion. But little can be done for the unfortunate sufferer after the incidence of the attack. The author is in the habit of prescribing a powder consisting of five grains of phen-

acetin with two grains of caffeine, but from twelve to twenty-four hours' rest and a night in bed will be necessary before complete relief will be secured.

Infantile Scurvy.—E. Cautley reports four cases, the first being due to a prolonged diet of sterilized cream and milk, the second and third to patent foods, and the fourth to sterilized milk. In the first case the milk mixture was given boiled instead of sterilized, and in addition the child was given barley water, fruit juice, and a little meat juice Recovery was rapid and uneventful. The treatment in the other cases consisted in a diet of unboiled milk, fruit juice, meat juice, and barley water. In the fourth case vegetable purées were also given and mashed sieved potato. All these cases occurred in infants in well-to-do families, and they had all been more or less under medical supervision. Climate does not appear to have exerted any influence, though it is possible that the healthy hygienic surroundings and a copious supply of pure air may have postponed the onset of the disease. In all cases the diet consisted of a cooked food, but the disease did not develop for many months. The first case was the mildest, although the food had been continuously sterilized for eight months and it was not necessary to stop cooking the milk in order to cure the disease. The milk was boiled for a few minutes instead of for twenty minutes.

The Deciduous Dentition as a Factor in the Health of the Child.—W. H. Dolamore lays stress on the importance of caring for the first teeth. They should be cleaned thoroughly twice a day, and this habit cannot be begun too early. If an infant has only one tooth that tooth will be all the better for the cleansing. They should also be periodically inspected and small holes, when present, should be filled. He assumes that the teeth are cut in an approximately perfect state. During the earlier stages of caries of the teeth the constitutional effects are slight, and perhaps transitory; though in a delicate child the pain on attempts at mastication may lead to a refusal to take any but the softest food, and this might possibly not be without its permanent effect. But caries is, almost without exception, progressive—not only leading to exposure of the pulp in a particular tooth, but spreading to other teeth, including those of the permanent series, owing to the acids formed by the decomposition of the food which collects in the cavities of decay. Moreover, although the vessels of the pulps of the temporary teeth do not become so quickly plugged, owing to the larger size of the apical foramina, as they do in permanent teeth, yet the septic inflammation, which must necessarily ensue when the pulp is exposed, will inevitably in time cause their death. The septic condition of the mouth now becomes worse, for to the previous factors there are added the breaking up of the gangrenous pulps and the collection of food in the pulp-canals, where it remains free to decompose, unreached by the tongue or the ordinary cleansing processes, whether of the brush or the mastication of food or the drinking of fluid. Moreover, either by the direct spread of the inflammation or by the forcing of virulent septic organisms through the apical foramen by the piston action of a plug of food forced into the tooth cavity, acute inflammation in the surrounding tissues may directly follow. But even supposing this may fortunately not happen, the periosteum of such a tooth is almost always chronically inflamed, as is frequently seen when it is removed. Certainly, so long as the pulp is not exposed, probably so long as an exposure does not lead to any extensive disease of it, no germs or germ products will be absorbed into the blood stream; but when the pulp is dead this inevitably happens to a greater or less degree.

The Pathology of Hysteria.—T. D. Savill says that hysterical attacks differ from all other kinds of seizure in one very remarkable way, viz., that they can be produced in a large number of instances at will by pressing firmly and steadily on some part of the patient's body, usually the inguinal region. Pressure on the inguinal region on either side produces either a complete syncopal attack or the same disagreeable sensations which form its initial stage, and which are collectively known as the "aura." This sensation then rapidly rises up from the groin and the abdomen towards the chest and throat and terminates in the feeling as of a ball in the throat (globus hystericus). Sometimes the bystanders can hear the patient make a gurgling attempt to swallow "the ball." In other subjects pressure in this region produces sighing and a feeling of "faintness and sinking in the abdomen." The series of sensations so produced is generally called in England "ovarian tenderness," but nothing could be more misleading. It has not the slightest resemblance to the tenderness felt when pressure is exerted in this region. It is best to call it as the French do, the "ovary," or better, perhaps, the "inguinal or hysterogenic phenomenon," for it may exist in a very complete form in hysterical males. It only exists when the patient is or has been, the subject of some form of hysterical attack. It may thus terminate in rigidity of the limbs, or tremor, catalepsy, or convulsions, local or general. The points, pressure upon which will produce the sensations just described, are called in France "hysterogenic zones," and though the inguinal region is the most frequent, the submammary region is another situation, and altogether there may be, in some cases, a score of hysterogenic zones, in different parts of the trunk; never on the limbs. In some patients, in whom a number of such zones exist, pressure upon one of them will produce an attack, while pressure upon another point, or a second pressure upon the same point, will stop it. If these phenomena have anything to do with the ovary, it is curious that they should occur in the male, as they do, in a very marked manner. Nor are they connected with the testicle apparently, for in male hysterical subjects this organ is only very occasionally the seat of "ovarian tenderness," and then it is undescended. By far the commonest position of the hysterogenic zone in male patients is the inguinal region, the region which is supplied by the ilio-hypogastric (and sometimes, less or more in different subjects, by the ilio-inguinal) nerve. This nerve is centripetal. It starts from the skin over the buttock and the inguinal region, and passing into the abdominal cavity it joins the first lumbar nerve-trunk, where it comes into very intimate relation with the solar plexus, the largest mass of sympathetic ganglia and fibres, not only in the abdomen, but in the body. There are good reasons for believing that such attacks are due to the sudden dilatation of the abdominal vessels, and, if this line of reasoning is correct, we can understand how it is that pressure in the inguinal region may produce the aura and all the succeeding phenomena of an attack. The ilio-hypogastric nerve is apparently the centripetal depressor nerve of the abdominal sympathetic, and irritation of it by pressure in this region produces dilatation of the splanchnic area and consequently cerebral anæmia. There may, apparently, be other depressor nerves in patients who present other hysterogenic zones.

British Medical Journal, July 20, 1901.

The Treatment of Whooping Cough by Irrigation of the Nares.—Walter Lattey believes this method is worth a more extended trial. The child should be rolled in a shawl to confine the arms and laid face downward. A soft india-rubber tube is as good as anything. Tepid water should be slowly passed through the nostril and be followed by an antiseptic solution. Both sides should be treated.

Case of Snake-Bite.—J. Ronaldson Russell reports the case of a boy, aged fourteen. He was bitten by a common adder on the thumb. In a few hours he was in a state of collapse, sweating profusely, vomiting bilious fluid, and suffering great pain. He was given a hypodermic injection of strychnine and morphine, and meat juice with soda water was given internally. Hot fomentations were applied to the arm and hand. Later, the swelling extended over the chest into the neck. The blebs were punctured and very hot arm baths of an antiseptic solution were ordered every hour, the forearm being enveloped in antiseptic wool in the intervals. A saline laxative was also given. In a week the boy could use his hand. There was no suppuration.

Œdematous and Erysipelatous Anthrax.—John Henry Bell states that this affection has received its name from its resemblance to erysipelas, not that it is a compound of the two diseases. The virus may pass through natural openings of the skin or mucous membrane. The general symptoms are of a negative character. The freedom from pain and distress are remarkable. The striking local symptom is the extensive œdema, which may extend from the scalp to the pubes. The only proof of the existence of the disease is the finding of the bacillus by cultures or physiological tests with blood or serum taken from the body. This form of the disease is far more dangerous than the pustule. Probably the most promising method of treatment is the intravenous injection of non-toxic germicides.

The Danger of Anthrax from the Manipulation of Horsehair, and its Prevention.—Alexander Scott, after pointing out the danger from working in horsehair, suggests the following precautions for the prevention of anthrax: All workers should wear overalls. No one with any cut, sore, or abrasion of the skin should be allowed to work unless it can be absolutely protected from contamination. All workers should wash themselves frequently, and especially before taking food. All illnesses, especially if connected with any swelling or boil, should be at once reported to the manager. The bales

should be immediately immersed in water and raw material handled only in the wet state, for this microbe may be carried in the air. The hair should be boiled for thirty minutes, after which steam should be applied at a pressure of 0.15 atmospheres. Or boiling may be accomplished in a two-per-cent. solution of potassium permanganate, after which a three-per-cent. solution of sulphurous acid may be used for bleaching. All dust and residue must be carefully burned.

Münchener Medicinische Wochenschrift, July 2, 1901.

Removal of Fishbones from the Throat.—Max Breitung reports the case of a man who came to him for relief on the third day after having swallowed a fishbone which had lodged somewhere in the throat. Inspection with and without the laryngoscope showed no trace of the foreign body. Resort was then made to palpation of all accessible parts with the index finger, and a sharp point was detected on the surface of the right tonsil. Inspection thus guided revealed a white speck scarcely distinguishable from a drop of mucus, and by means of a forceps the offending bone was removed. The author argues from this experience regarding the necessity of palpation as well as inspection in any case in which a foreign body has lodged in the throat. The sensation of the patient is not to be relied upon, except as indicating the side where the body has stuck, for he almost invariably locates it too low down, referring the sensation usually to the level of, or even below, the larynx, when in reality the body may be imbedded in the tonsil.

The Albumin-Sparing Property of Alcohol.—R. O. Neumann says that, the results of some previous experiments having been called in question, he was led to submit himself to a careful and extensive test. His first experiment was as follows: After an abstinence of seventy days from alcohol, on a simple diet of bread, cheese, fat pork, and brain-sausage, he was in a state of nitrogenous equilibrium. Then he omitted half the quantity of fat from his diet, upon which there was an increased excretion of nitrogen. Now the missing fat was replaced by alcohol and after a short period, during which the system accustomed itself to the alcohol, the nitrogenous equilibrium was restored. When, with a full diet, alcohol was taken, its albumin-saving effect was shown by a further reduction in nitrogen elimination. In the fifth period the alcohol and part of the fat were cut off, and the excretion of nitrogen rose, but the equilibrium was restored again upon a return to a sufficient diet. The results of this experiment having been impugned the author submitted himself to a second one, in which the addition of alcohol to the diet was very gradual. The results were the same, demonstrating that alcohol is a true food, although not capable of taking the place of fat in every respect. But though a food in its action, it cannot be recommended for use as such, for it is in addition a poison when taken in quantities of 40 gm. and over. The author's conclusions are supported also by Clopatt in some personal experiments reported in the *Skandinavisches Archiv für Physiologie*, Nos. 5 and 6, 1901. Neumann asserts therefore that there can be absolutely no question as to the nutritive action of alcohol.

French Journals.

Experimental Tuberculous Meningitis and its Treatment by Zomotherapy.—Ch. Richet and Jean C. Roux have studied the effects of cooked and uncooked meat in experimental tuberculous meningitis. They experimented on twenty dogs. All were inoculated aseptically by means of a Pravaz needle which was used to puncture the occipito-atloidian membrane through the skin and muscles of the neck. A constant phenomenon noted was the progressive hypothermia which the animals presented during the entire duration of the malady up to the moment of death. Of eleven dogs treated with the uncooked meat, three survived; of nine dogs treated with the cooked meat, one alone survived; but it succumbed to an injection of tuberculin, while the animals which survived after the treatment with the uncooked meat, resisted an injection of tuberculin.—*La Presse Médicale*, June 26, 1901.

Treatment of Intestinal Occlusion.—Gabriel Maurange states that the diagnosis of chronic occlusion is generally grave. This condition can be caused by constipation. In order to combat this condition, the various well-known means may be used. The various treatments, hygienic, dietetic, and medicinal, should be tried. Women and the aged will fall particularly into this class of patients. When the occlusion is caused alone by a collection of feces, purgatives are in order. Castor oil gives the best results, and is well followed in two hours by generous injections of oil or glycerine. Saline and drastic purgatives are generally contraindicated. Injections of boiled water with the addition of a little sea salt are also recommended. The use of the continuous current has given remarkable results. Massage of the abdomen is frequently successful. However, the cause of constipation lies frequently in the organic alteration of the intestinal walls. In such cases an early diagnosis is important. The contraction may be syphilitic or cancerous. In the first case, specific treatment should be instituted; in the second, according to the case, colotomy or enterectomy should be practised.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, June 23, 1901.

Tuberculosis of the Entire Suprarenal Capsules without Addison's Disease.—Ch. Le Roy reports this case. The patient was a man thirty-nine years old. He had always been in fairly good health till September, 1900, he developed an anal fistula; later he began to suffer from headache, which was followed by convulsive movements of the arms and legs. Vomiting, apparently cerebral, supervened. There was incontinence of urine and feces. There was no fever, the pulse being between 90 and 100. Kernig's sign appeared. He seemed to be suffering from incipient facial paralysis of the left side. In less than three months from the development of the anal fistula, he died. Autopsy discovered an old pleurisy and total adhesion of the right pleura, but no or very few tubercles in the right lung. There were several caseous nodules in the left lung. There was old tuberculous ulceration of the small intestine. The kidneys were smooth and slightly congested. The suprarenal capsules were large, hard, and of unequal consistence. On section, large caseous masses had entirely replaced the normal substance. There was acute congestion of the meninges. The ventricles were distended with liquid. There were inflammatory areas at the level of the apparent origin of the cranial nerves. In a word, this case presents an old pleuro-pulmonary tuberculosis predominating on the right side, tuberculosis of the intestine and the suprarenal capsules; finally, tuberculous meningitis. The symptoms of Addison's disease were wanting.—*Journal des Sciences Médicales de Lille*, June 1, 1901.

Meditsinskoe Obozrenie, June, 1901.

A New Symptom of Local Asphyxia of the Extremities, or Raynaud's Disease.—A. I. Pospieloff showed several years ago that biting the nails is not merely a bad habit, but a symptom of Raynaud's disease. Among the so-called bad habits there are some which depend upon physiological processes and accompany the normal development of the organism, and others which are the expressions of pathological changes in the body. Thus, for example, *perlèche* is the result of repeated moistening of the corners of the mouth with the tongue. Intelligent persons who are addicted to the habit of biting their nails state that they are impelled to do this, especially when they are excited, by a feeling of weight and fulness at the finger-tips. Some medical students are addicted to this habit only when studying before examinations, and when these have been passed, they let their nails grow in the normal way. In some persons the habit begins in infancy and continues throughout life. The author reports the case of a woman aged thirty years who came to him with trophoneurotic alopecia areata and Raynaud's disease. She had ten children and all of these since infancy had bitten their nails. The father was sixty-four years old and since childhood had bitten his nails, while the same habit was present in the mother and in two of her aunts on the paternal side. The author thinks that this symptom is a result of the peculiar venous stasis in the ends of the fingers in these patients, and the gnawing of the nails is but a way of relieving the numb, heavy feeling in the finger-tips. Nail-biting is therefore a neurosis of the skin, comparable to Hallopeau's trichotillomania.

Syphilitic Lesions of the Heart and their Treatment.—S. I. Schwartz reports the case of a man aged thirty-seven years who had the symptoms and physical signs of mitral stenosis and who gave a history of syphilitic infection fifteen years previously. Iodides were used with success as regards the amelioration of the subjective symptoms. A year later, the heart symptoms became worse, and there appeared a swelling of the left wrist and of the left elbow with pain and a copper coloration of the skin over the affected regions. All these symptoms disappeared under mixed treatment. The author believes that the valvular lesion was due to the presence of a gummatous growth on the endocardium. Early and persistent treatment with the specific remedies will produce good results in these cases, but such treatment is of less value in the parasyphilitic lesions, *e. g.* aneurisms and heart affections with tabes At the end of the treatment the patient's heart gave almost normal sounds when he stood upright, and it is possible that complete cures may be effected in such cases.

The Treatment of Extrauterine Pregnancy.—V. P. Fiodoroff reports twenty-seven cases of extrauterine pregnancy in which he performed operations within the past three years. In these colpotomy was performed in two instances, total vaginal extirpation in two, and laparotomy in twenty-two. In all these pregnancies the gestation was tubal, the right side being involved in sixteen cases, the left in eleven. The indications for the operation were in two instances suppurating hæmatocele, in the other twenty-five, either the presence of hæmatocele or hæmatosalpinx, or the onset of acute symptoms of rupture. The author prefers laparotomy to all other methods of reaching the seat of the trouble, and his results show in twenty-two laparotomies but one death, that occurring in a case in which there was a pyosalpinx.

The Practitioner, July, 1901.

The Notification of Phthisis Pulmonalis.—Arthur Newsholme believes that notification gives greater opportunities of preventing phthisis by enabling disinfection of infected rooms to be carried out, enabling the medical adviser to give instruction to the patient and relatives as to the exact precautions to be observed, and facilitating the removal of insanitary conditions of home and work which may have caused the disease or favored its development. He does not consider voluntary notification sufficient, though admitting it to be a step in the right direction, and thinks that this will be finally followed by some modified system of compulsory notification. One of his arguments in favor of some modified form of compulsory information as to all cases of phthisis is that the compulsion involved would remove the ethical difficulty experienced by some practitioners when it becomes necessary to inform the medical officer of health as to the illness of their patients.

Tuberculous Infection Through the Air Passages.—St. Clair Thomson gives statistics showing that the nose is least frequently attacked by tuberculous infection, the lungs most often, while the larynx is between the two in susceptibility. The reasons for the infrequent infection of the nose lie in its defensive mechanism: microbes in the inspired air current may be entrapped in the lining vibrissæ; others penetrating further are enveloped in a sticky mucus, hindering their development, while they are finally expelled by the action of the ciliated epithelium. Phagocytic action also comes into play. Primary tuberculosis of the nose is of extremely rare occurrence. Primary tuberculous infection of the larynx is very infrequent. Regarding the mode of access of the germ to the lungs, it is inconsistent with our knowledge of physiology and all the laws of probability to assume that it is possible for the germ to run the gauntlet of the intricacies of the upper air tract successfully and reach the lung and be lodged in its upper extremity. The author believes that infection occurs in most cases by absorption through the lymphoid tissue of the pharynx and nasopharynx. He thinks there is nothing to support the commonly accepted idea that the bacillus is inhaled directly into the pulmonary alveoli.

Tuberculosis in Childhood.—George F. Still states that the incidence of tuberculosis is not the same at all periods of childhood, but that there is a more marked susceptibility during the first five years of life, particularly the second year. This age incidence bears a relation to the mode of infection, which should be determined in order that prophylaxis may be successful. Statistics show the theory of milk infection to be untenable. The commonest mode of tuberculous infection in childhood and especially in infancy, is by inhalation, there being good reason to believe that the respiratory tract during the first five years of life is especially vulnerable; milk infection is next in importance. A third factor is the frequency of ear infection, the middle ear forming a primary focus, the bacillus passing up through the Eustachian tube from the nasopharynx. Measles and whooping-cough are two potent factors in the causation of tuberculosis in early childhood, many cases following immediately upon these diseases. Glandular affection is prominent in the tuberculosis of childhood. Lung affection in children is more acute and more diffuse than in the adult. In accordance with this tendency to generalization, the outlook in pulmonary tuberculosis at this age is very grave; there is, however, post-mortem evidence that a tuberculous lesion in the lung or mediastinal glands, even in very early life, may heal. The author does not consider tuberculous meningitis as primary. In view of the fact that the majority of cases of tuberculosis in early childhood are due to the breathing of infected air and not to the ingestion of infected milk, fresh air is the foremost prophylactic agent. Sterile milk is next in importance. Inasmuch as tuberculosis frequently follows measles and whooping-cough, these diseases should be as carefully guarded against as are other specific fevers. Prophylaxis will accomplish more than treatment in the tuberculosis of childhood.

Zomotherapy in Phthisis.—Leonard Robinson gives a résumé of the treatment of phthisis by raw meat as based on the experiments of Richet and Hericourt; the latter considers that "raw meat or the plasma pressed from raw meat acts by the antitoxic agents therein contained, elements which effectively combat the tuberculous intoxication." These experimenters have not yet been able to decide whether the muscle plasma is an antitoxin, whether it stimulates phagocytosis, or whether it is solely a special tonic to the nervous system. The author suggests, in explanation of the action of the plasma, that the nerve-cell fixes the ptomains, leucomains, albumins, enzymes, and diastases of the muscle as they circulate in the blood. But the cell saturated with nutritive principles can no longer fix the tuberculin, and thus the evolution of the tuberculous disease can take place without danger to the individual; "the nerve cell has become refractory to the poison." The point of interest, however, to the physician is the fact that zomotherapy is not a method of hyper-alimentation, and also the fact that the success of zomotherapy depends on the maintenance of a minimum ratio between the weight of the patient and the quantity of muscle juice or raw meat ingested. Below the minimum limit the disease is ameliorated, but cure is not to be expected.

A Case of Lupus Vulgaris of Twelve Years' Standing Treated with Urea and Cured.—Arthur H. Buck presents the case of a man, thirty-six years old, whom he describes as possessing the tuberculous diathesis to the last degree. At the beginning of treatment, the lesion consisted of a large ulcerated surface extending over the forehead, root of the nose, and both cheeks. The upper lip had almost disappeared, the left lower eyelid was absent, and all of the nose was destroyed except an irregular bridge of tissue between the two maxillæ; through a hole where the nasal bones had existed one could see the nasopharynx. The palate was perforated. The patient was of the poor class and his habits and diet were not such as would facilitate the cure of any tuberculous trouble. On March 26, pure urea (20 grains in 1 ounce of peppermint water, with maltine ½ ounce) was prescribed. The ulcers were dressed with iodide of lead ointment. Within a fortnight the discharge diminished, the granulations appeared more healthy, and the nodules began to subside. April 23, the dose of urea was increased to 30 grains, in a week to 40 grains, and a week later to 50 grains. On May 27, the ulcer had nearly healed, and the urea was increased to 1 drachm three times a day. At the date of the report all nodules had disappeared with the exception of a small area in the center of the forehead, and the ulcerated surface was entirely covered. No bad symptom of any kind occurred throughout the treatment. Other cases of tuberculosis are being treated with urea with gratifying results, and the author thinks that the discovery of urea as a remedy for tuberculosis will mark an epoch in the history of this disease.

A Personal Experience of "Galloping Consumption."—R. Mander Smyth reports his own case in detail. His family history was good and he had never had influenza. He was twenty-eight years old, and weighed 154 pounds. In March, 1896, the disease appeared suddenly while he was in the midst of apparent health. The development was rapid and the symptoms very acute with high temperature; within six weeks the patient was too weak to walk. He was living in a country house 400 feet above the sea level and kept his windows open all the time. For two months he lived on liquid diet, at the end of that time taking solid food. In July he went to Nordrach, in Baden. At this time there was a cavity at the lower border of the upper lobe of the right lung, and he had copious expectoration teeming with tubercle bacilli. A severe reaction followed the journey to Nordrach, appearing five days after his arrival. The treatment at this place embraced rest, absolute quiet, exclusion of all visitors, keeping all the windows (nearly covering one side of the room) open day and night regardless of weather and three daily meals. A sample meal is given: "A plate of pork and potatoes, a leg and wing of a chicken, salad and more potatoes, and a large wedge of very solid pastry." This the patient was encouraged to eat, the mental stimulus adding greatly to his ability to dispose of the food. In five weeks he had gained twenty-two pounds and his temperature had dropped to normal. He was kept in bed until the temperature had been normal for twelve days, when he was allowed to walk fifty yards. Exercise was gradually increased and he continued to improve. The bacilli disappeared by the end of October and in December he walked fourteen

miles over rough mountain ways. In January, 1897, a relapse from over-exertion necessitated five months more of treatment. In July of that year he returned to England, where he has since resided, weighing now 192 pounds. He considers the open-air rest-treatment at home to have failed on account of inadequate feeding, rest not being absolute, and insufficient ventilation of his room.

The Scottish Medical and Surgical Journal, July, 1901.

A Case of Acute Fatty Degeneration of the Liver.—Arthur H. Lister reports a fatal case in a child of six years. The illness lasted only twelve days and was characterized by vomiting and drowsiness at the outset and later by jaundice, slight albuminuria, slight pain, fits, hemorrhages, and coma. At the autopsy, the liver was found to be enlarged and in an advanced state of fatty degeneration. Small hemorrhages were found in the mediastinal fat, the parietal peritoneum, the omentum and mesentery, the mucous membrane of the stomach and of the middle and lower part of the ileum. The history of the illness and the results found post mortem point to some powerful poison taken in by the alimentary canal and absorbed by the portal system, or to acute yellow atrophy (except that the liver did not shrink.)

Alopecia Areata.—Norman Walker and Marion B. Marshall-Rockwell give statistics of sixty-three cases of this affection occurring in Edinburgh. Their investigations were made with a view to ascertain the etiology of the disease. Ringworm would appear not to have had any causative connection, nor did their observations tend to uphold the theory that the disease is due to some nerve disorder. On the other hand, Saborand's theory that the disease is due to a fine bacillus, identical with that which is found in seborrhœa and in acne vulgaris, was supported by the fact that organisms were found in hairs taken from every case. Seborrhœa was found in a large proportion of the cases. Saborand holds that the organism produces a toxin which stimulates the oily secretion of the glands and leads, as does seborrhœa to the gradual death of the hair. He regards alopecia as an acute circumscribed form of seborrhœa.

Note on a Case of Perforating Gastric Ulcer Ending Fatally on the Eighth Day after Operation.—A. A. Scot Skirving reports this case of a young woman who had suffered from symptoms pointing to ulceration of the stomach for over eighteen months. A severe attack called for immediate relief, and laparotomy was performed. After a careful search, an air bubble appearing under a fold in the posterior wall of the stomach disclosed the rupture, which was so small that only a No. 3 catheter could be introduced. The site of the ulcer was one and a half inches below the middle of the lower curvature. Closure was effected by invagination of the stomach wall by a double row of Lembert sutures. Extravasation was so slight and the long operation was being so badly borne by the patient that only the upper part of the abdomen was flushed out. Death occurred of peritonitis on the eighth day and the conditions found post mortem would seem to indicate that rigorous flushing out of every recess, with a drain placed in the pouch of Douglas, should have been done.

OUR LONDON LETTER.

(From Our Special Correspondent.)

WEATHER—HEAT WAVES—ARMY MEDICAL SERVICE INQUIRY—LONDON WATER BILL PROMISED—SCHOOL BOARD REJECTION OF MEDICAL CERTIFICATES—DESTRUCTION OF BIRDS AND ANIMALS—SHOULD MILK BE BOILED?

London, July 12, 1901.

Each time we have read in our papers of your distress under a heat-wave some of our professedly weather-wise people have assured us that wave would surely come our way. Early in the week we were enjoying comfortably cool weather, and laughing at those who predicted without knowing. The tune has changed now. Whether it comes from you or not, we are having something of a heat-wave, and while the sun is up we are too languid to carry on a discussion as to whence it comes. Yesterday was our hottest day this year, 87° F. in the shade. This was exceeded in some places, 90° and above being reached. In one railway station under glass 100° was registered. In the country, especially by the sea, the temperatures reported were much lower, *e. g.* at Brighton the highest was 68°; Margate, 69°; Ramsgate and Hastings, 71°. In the evening in London there was a considerable fall, and driving out afforded a delightful change. During the day, a number of casualties occurred; at most of the hospitals cases of heat-stroke and syncope were brought in, and fatalities are reported from other large towns. In manufacturing centers furnace men have been unable to continue their work, and many have gone to help farmers in the open air for a time.

Optimists are rejoicing that the War Minister's "Committeee of Experts" contains names of well-known surgeons, and anticipate that good results will soon follow. But history scarcely justifies too great expectations. For about half a century the real reforms required to make the medical service of the army popular have been urged on successive governments, and, whatever may have been the good intentions and even decisions of ministries, they have been frustrated by military jealousy. It took forty years to carry out some of the reforms recommended by the Herbert Commission, and others are still blocked. If the new committee will speak plainly as to this, it may be of service, but I notice some indications that are not favorable to such a course. I sent you the names of the committee; those of the civil surgeons who have been to South Africa during the war will be familiar to you, and their experience will be useful. They are men, too, who will not hesitate to express their views. To enforce them may be another matter. Professor Ogston spoke out freely two years ago on the defects of the service, and he has been to South Africa since in a private capacity, so that his present views should deserve attention. Dr. Perry's experience as Medical Superintendent of Guy's Hospital should be of value to the committee. Colonel Keogh and Major James will represent the R.A.M. C., and Surgeon-General Hooper the I.M.S. But the influence of both civil and military surgeons is to be diluted by two members, to be nominated by the Commander-in-Chief. Further, much disappointment is felt at the absence of the name of some medical officer of the highest administrative rank, whose experience could not fail to be valuable. Remembering the obstinate obstruction of the War Office to every recommendation of previous committees and commissions, I cannot suppress some doubts as to the reforms that may result from this. It was only with the greatest difficulty that Lord Lansdowne carried out, in 1898, the recommendation of the commission of 1848 on army rank for the medical service. Forty years for a paltry concession that ought to have been granted in forty days! And other recommendations of that commission are still refused; for example, "study-leave," which is no doubt difficult to arrange for while the service is undermanned. But the remedy for that is increase of the number of officers, which could easily be effected if all grievances were redressed—not otherwise. The country is getting sick of the ways of the War Office and the obstruction of military incompetence. The starving of the medical service is a scandal the public is beginning to see through.

Mr. Long, President of the Local Government Board, in an after-dinner speech the other day (we seem to be in a fair way of being governed by dinners), made a statement on the London water question of considerable importance. He actually pledged the government to introduce a bill next session, and as his department would be responsible for such a measure, we may take it for granted that his colleagues have agreed to his views. What those views are we can only judge by his rather vague remarks. They show, however, that he is at one with the Cabinet in disfavoring the County Council. Further, he appealed to the residential districts around London, some of which are not within the limits of the county, to look at the matter from more than their own local point of view, and not to forget that they derived immense advantages from their proximity to the metropolis, nor to be too exigeant as to what they might consider their rights. He suggested an attitude of give and take as a fit one for all interested. It is to be hoped this does not foreshadow a measure of shreds and patches. If the government is afraid to trust the County Council, let it at least give London a measure worthy of the position of the metropolis.

Does a seat on the School Board interfere with the exercise of common sense? There have been many indications of such an influence. I do not refer to the manner in which many have, with the sanction of the Educational Department, extended their schools beyond their authority, necessitating an Act of Parliament to indemnify them, but to the manner in which they prosecute parents without due consideration of circumstances, and to the way in which they ignore medical certificates. In a recent case the parents were dragged before a magistrate for not sending a child to school, although the doctor who attended her certified that he had known her for twelve months, that she had been seriously ill, and although better, was unfit to attend school, on account of valvular disease of the heart. One would have supposed that this would be enough, but the Board's representative asked for an adjournment to allow the child to be examined by one of their own medical officers. The magistrate yielded, and so the parents were put to further inconvenience and expense. This is the way the School Board makes itself obnoxious and endangers the cause of education.

There is danger in our rural England that the man with

a gun, who calls himself a sportsman, will exterminate some of the most beautiful and innocent of the living creatures that adorn the country. Birds are the favorite mark, and some are rapidly becoming extinct, in spite of the partial protection that has been granted them. But it is not only birds—anything alive is made target of as soon as it comes within the range of the callous person whose delight is to "kill something." And yet these very people pretend to be so compassionate that they would forbid a physiologist to make a hypodermic injection into an animal. We have Lord Llangattock's authority for stating that the sportsman's object is to kill and his practice is to wound thousands of pheasants in pursuit of that "sport." The other day the newspapers reported the formation of a new club for the express purpose of killing the squirrels in the New Forest. But his lordship and other antivivisectionists make no objection. They only see cruelty when some good to humanity is the object of a rational experiment.

To boil or not to boil—that is the question this week in many a medical circle. For years we have been warned in terms of strenuous urgency to boil all our milk, with special disquisitions on the responsibility of not making sure that children under our care never tasted unboiled milk. A young practitioner a few years ago, talking with one of the staff of his hospital, was reproved in unusual terms because he confessed that he had not had boiled milk served for their tea. It was laid upon him as a duty to insist on his cook boiling all the milk as soon as it was delivered. Now that it has become a common belief with the public, as well as the profession, that unboiled milk is dangerous and boiled milk safe and wholesome, we are called upon to reconsider the conclusion. Nay, more than that—a counterblast against the growing practice of boiling milk is made. Dr. Clement Dukes, of Rugby, who is the medical officer of the great public school there, has opened a vigorous attack in the *Lancet*, on the boiling of milk, to which he attributes serious consequences, the principal one being that "the nutritive value is very largely diminished" thereby, and he further declares "this is true also of sterilized milk." Dr. Dukes is not alone in this opinion. Dr. V. Poore has expressed a somewhat similar one, and Dr. F. J. Smith, of the London Hospital, has hastened to throw his influence into the same scale, declaring that his out-patient clinic consists "to a very considerable extent of babies, and it is simply heartrending to see the numbers of such helpless creatures who are made peevish, fretful, and even seriously ill by the pernicious effects of boiled milk on their nutrition." Another supporter, Dr. F. P. Atkinson, says he has for years "denounced the boiling and sterilizing of milk," and suggests that if cows spread tubercle as much as some believe, the wonder is that any family escapes. He gives, too, a hit at the open-air treatment in the remark that cows have of late been fed on fresher and more natural food, and in the open. So much for what I venture to think the unpopular side of this question. The other side is sure of a spirited defense. The challenge has, in fact, been at once taken up by Dr. Variot, of Paris, who relates the plan which has been adopted in that city of distributing sterilized milk to infants, who are inspected once or twice a week, and instructing the mothers as to its use. He has had some 1,000 infants treated in this way during the last five years, with the best results. He has never seen a case of Barlow's disease, and rickets is rare in France, as also is infantile scurvy. The only accidents he has seen are anæmia and constipation, and these more common in winter than summer. It looks, therefore, as if the treatment prevented summer diarrhœa, as it might be expected to do in the light of recent researches. I believe that a similar experience to that of Paris has been obtained in Glasgow, though at present on a smaller scale. Sterilized milk has been for some time distributed there, and the reports hitherto have been most favorable, and similar results have been attained in some other localities. We are certain to hear a great deal more on this subject. The cry at present is for facts, and it looks as if the objectors to boiling are more free with opinions than facts.

OUR PARIS LETTER.

(From Our Special Correspondent.)

EPIDEMIC OF TETANUS—REPORT ON THE BUBONIC PLAGUE IN GLASGOW—AFTER-EFFECTS OF COCAINE INJECTIONS—NEW TREATMENT OF CARBUNCLES—ARTERIAL TENSION IN NEURASTHENIA—DIFFERENT VARIETIES OF HYPERTENSION (HUCHARD).

PARIS, July 19, 1901.

EPIDEMICS of tetanus are not often seen nowadays, but at a recent meeting of the Society of Surgery Dr. Reynier, of the Lariboisière Hospital, described one that had taken place in his service. Three patients were affected in two different wards, and two of them died. The last patient, who recovered, was given large doses of chloral, as much as 20 grams (300 grains) being administered, and these had a distinct effect on the symptoms. Dr. Guénu remarked he did not see how such epidemics could take place in a surgical service when proper precautions are taken. The treatment by antitetanic serum did not seem to be looked upon with much favor by those who took part in the discussion that followed. Dr. Delbet, who is one of the best surgeons in Paris of the younger generation, said he remembered a case in which a relatively benign form was very much changed after an injection, and the patient died the next day. Dr. Brun, a noted surgeon for children, spoke of a similar case in a child three years old, who died twenty-four hours after an antitetanic injection. On the other hand, Dr. Bazy said he always had administered these injections to patients who had open wounds resulting from street accidents. Since he had followed out this practice, he had only had two cases of tetanus, with patients who had not been injected. When treating cases of tetanus, he always gave large doses of chloral as well as the antitetanic serum.

Dr. Van Ermenghem, a Belgian physician, has published a report on the bubonic plague in Glasgow, which shows how quickly energetic measures may stop the spread of an epidemic. The infected quarter was inspected thoroughly, all the cases were removed to the Belvedere Hospital, the inhabitants of the houses where cases had taken place were removed, and the serum was injected into all persons who had been near a case of plague. The physicians of the Belvedere Hospital did not, however, fulfil the indications given by Calmette and Salimbeni, and inject 150 to 200 grams of serum. Only twenty cubic centimeters were injected at a time, and out of nine cases treated in this way five were cured. Seventy persons were immunized, and only two had slight forms of bubonic plague, eight and nine days after inoculation, so that it may be asked if they were not already infected.

At a meeting held by the Society of Biology on June 15 Dr. Ravaut and Dr. Aubourg described the changes they had found in the cephalorachidian liquid after cocaine injection. They repeated the puncture in a certain number of cases in which headache was present, and they noticed that when the latter symptom was severe, the flow of liquid was more intense. A histological examination was made, and they found that the proportion of multinuclear lymphocytes was in correlation with the turbid appearance of the liquid, and the intensity of the pathological symptoms noticed. If an examination was made later, it was found that the number of lymphocytes diminished day by day, which showed that there was no chronic inflammatory condition such as is seen in locomotor ataxia or general paralysis. The cause of the reaction which is thus produced can not be due to the water injected, though there is some isotonic difference between distilled water and the cephalorachidian liquid. It would seem to be due to the cocaine, the action of which would be similar to that of a toxin.

Dr. Thiriar, professor of clinical surgery at St. Peter's Hospital in Brussels, has been advocating a new treatment of boils and carbuncles by the use of oxygen. All that is needed is a receptacle containing oxygen at a pressure of 120 atmospheres, a rubber tube, and a Pravaz needle. The apparatus should be tried by placing the needle under water and regulating the quantity of oxygen that escapes; the needle is then inserted at the base of the boil, and a certain amount of oxygen allowed to pass through. The core of the boil should also be treated in a like manner. Four to six injections should be made into a carbuncle. If there is already sloughing of the cellular tissue, oxygen should be passed through it by inserting the needle into the orifices already formed. This treatment acts very quickly, the pain dying out rapidly and the œdema decreasing noticeably. In a few days cicatrization is complete.

Dr. de Fleury has recently made a report to the Academy of Medicine on the condition of arterial tension in neurasthenia. According to this author neurasthenic patients can be divided into two categories, those who present hypotension, and with whom rest and the usual treatment bring about the desired result, and others who show on examination that they are suffering from hypertension due to autointoxication, and who are affected with gout, alcoholism, diabetes, and kindred affections. In the latter case physical exercise, a lacto-vegetarian regimen, and diuretics are indicated. Professor Huchard spoke on this same subject of hypertension at the Society of Therapeutics, and described three varieties: hypertension in arteriosclerosis, which demands treatment by the usual regimen, massage, veratrum viride, trinitrine, nitrite of amyl; pulmonary hypertension, which is often due to mitral stenosis; and portal hypertension, which is best treated by a lacto-vegetarian diet and abdominal massage.

Society Reports.

AMERICAN ORTHOPEDIC ASSOCIATION.

Fifteenth Annual Meeting, held at Niagara Falls, N. Y., June 11, 12, and 13, 1901.

ARTHUR J. GILLETTE, M.D., OF ST. PAUL, PRESIDENT.

First Day—Tuesday, June 11.

The meeting was held in the International Hotel, Niagara Falls.

President' Address—Injuries to the Spine from an Orthopedic Standpoint.—Dr. ARTHUR J. GILLETTE, of St. Paul, delivered this address. After referring to the unfortunate and erroneous use of the term "spinal concussion," he present d a photograph from a case to show that the ligaments may be ruptured without fracture. In the living subject it was impossible to differentiate between dislocation and fracture except in cases of fracture of the posterior segment. Cases were cited to show that fractures of the vertebræ, even of the anterior portion, may exist without any paralysis. Operation in these cases was by no means easy, either for the patient or the surgeon. Excellent results often followed rest on a rigid bed with a weight-and-pulley extension. Waterbeds and air-beds should be especially avoided in these cases; far better was it to secure the requisite immobilization of the spine, and so remove the cause of bed sores. From our present knowledge it seemed to the speaker an open question whether laminectomy was ever justifiable.

Fracture of the Cervical Vertebræ with Report of a Case, together with Apparatus used in Treatment.—Dr. REGINALD H. SAYRE, of New York, read a paper with this title, reporting several cases.

The Treatment of Pott's Disease by Continuous Overextension of the Spine—Dr. ROYAL WHITMAN, of New York, read this paper. He said that pressure and friction were the most important of the factors contributing directly or indirectly to the advance of the destructive process; hence the actual separation of the diseased surfaces afforded the best chance for repair. If this could be accomplished in the recumbent posture only, recumbency would become an essential part of the successful treatment. He employed a modified stretcher or Bradford frame, and in practice had found it desirable to reduce the width of this frame so that the dimensions were one to five, instead of one to three, as in the original. He had also found it a distinct advantage to bend the frame in such a manner as to secure overextension of the spine and the obliteration of all of its curves, both normal and pathological. It was better also to have a supporting fabric made of a single piece of canvas. Additional support was secured by the use of strips of felt on either side of the spinous process. If the plaster jacket were used, the child should be placed upon the frame immediately after the application of the jacket. The object of the paper was to advance the proposition that horizontal fixation should be the routine treatment during the destructive stage of Pott's disease.

A Convenient Method of Applying Plaster Jackets.—Dr STEWART L. MCCURDY of Pittsburg, said that the Bradford frame had proved very unsatisfactory in his hands because of its yielding. In its stead he made use of two pieces of steel laid across two boxes. The latter could be obtained at any house, and when covered with soft material they afforded a perfectly satisfactory and thoroughly unyielding support.

Dr. H. AUGUSTUS WILSON, of Philadelphia, said that for some years he had made use of a similar arrangement but with the patient lying face down. This gave a very desirable degree of posterior leverage, with perfect access to the patient, and yielded results far superior to the method of suspension

Dr. R. H. SAYRE agreed with Dr. Whitman concerning the advantages of keeping the children horizontal, and had always preferred for this purpose the wire cuirass. He did not like the jackets made with the Goldthwait frame in the supine position.

Dr. A. M. PHELPS, of New York, said that there was no need for employing the recumbent position if good plaster of Paris and the requisite skill were used in making the jacket. The wire cuirass was the best support of its kind, though expensive.

Dr. V. P. GIBNEY, of New York, said that he had made much more satisfactory corsets with the patient recumbent. He had modified the kyphotone so as to do away with the patient's objection to the pulling out of the bars.

Dr. JOHN RIDLON, of Chicago, said that he did not see how the bars could be pulled out if Dr. McCurdy's method were used; moreover the position did not allow of the fullest hyperextension.

Dr. B. E. MCKENZIE, of Toronto, said that he had used with great satisfaction a modification of the Goldthwait frame in which no rods were employed. Enough felt was placed under the kyphos to give the proper support.

Dr. JOEL E. GOLDTHWAIT, of Boston, said that the particular form of apparatus employed was of secondary importance, the chief point being to secure that position which would give the desired hyperextension, and if this were done the jacket could be fitted better than when the patient was suspended.

Dr. R. TUNSTALL TAYLOR, of Baltimore, said that easy access to the patient was secured with the upright kyphotone. His objection to the rods was that they gave a false impression of the straightness of the spine

Dr. McCurdy, in closing, said that it was his practice to cut down the plaster jackets, and hence it was easy to remove the bars. The boxes could be tilted in order to secure hyperextension.

Traumatic Coxa Vara and Incomplete Fracture of the Femoral Neck.—Dr. NEWTON M. SHAFFER, of New York, presented a boy who for the past year had suffered with this condition When the patient was first seen by him, about the first of the present year, there was present the classical position of fracture of the neck of the femur; there was over an inch of shortening and any attempt at motion caused pain. An x-ray picture showed an incomplete fracture of the femoral neck. With a proper extension brace, the boy had done well, and the shortening had been reduced. This brace had an automatic snap at the knee and a traction arrangement at the upper portion. He expected to secure a useful limb in a good position.

Dr. V. P. GIBNEY remarked that if it could be demonstrated that it was possible to control the outward rotation and the spasm by this method it would certainly be a valuable one.

Dr. WHITMAN was of the opinion that there was a separation of the epiphysis rather than an actual bending of the bone. No apparatus like that presented could effect a cure, although the symptoms might be relieved; a cuneiform or a linear osteotomy would be required.

Dr. A. M. PHELPS said he had found that when a linear osteotomy was done the muscles separated the fragments; hence he was accustomed to do a cuneiform osteotomy.

Dr. JOHN RIDLON, of Chicago, said that he had treated at least one case of undoubted coxa vara in this way, and on removing the apparatus after two years and a half the coxa vara had increased. All that such treatment accomplished was to relieve pain and disability and apparently lengthen the leg.

Clinical and Radiographic Analysis of Twenty-four Cases of Fracture of the Hip.—Dr. H. AUGUSTUS WILSON, of Philadelphia, presented a summary only of this paper. As far as could be ascertained, all of the cases had been treated by extension for periods varying from four to six weeks. The maximum shortening had been two and one-half inches, and had been observed in three cases. While

the abduction function was excessive in one case, the adduction was excessive in ten cases. The rotation phenomena were absent in four cases and greatly impaired in two. The flexion phenomena were absent in one, slightly limited in sixteen, and normal in six cases. Eight of the patients had never attempted to walk. In twenty-two the mental condition had been good. Crepitus had been elicited in only three cases, bony union had occurred in nine, partial bony union in two, and fibrous union in thirteen cases.

Dr. B. E. McKenzie, of Toronto, said that Nelaton's line was totally unreliable. Dr. Wilson's final measurements would be vitiated by abduction or adduction. They should be taken from the tip of the trochanter or from the anterior superior spine.

Dr. Wilson explained how he had avoided this error, and remarked that the radiographs showed that this method was probably as accurate as any known.

An Operative Case of Intrascapular Fracture of the Hip.—Dr. Thompson, of Scranton, Pa., presented a specimen from a case of this nature. The patient, a man of sixty-two years, had been injured in a mine, and no diagnosis had been made up to the time that Dr. Thompson first saw him, three months afterward. He had then performed the operation advised by Dr. A. J. Gillette, using a bone-flap and a silver nail. At the end of a year the man could walk without a crutch or cane, and when seen about six months later, or shortly before his death from heart disease, there was free and painless motion to 99°, and the shortening was only three-fourths of an inch. Radiographs of the case were exhibited.

Neuroses as Seen in Orthopedic Practice.—Dr. B. E. McKenzie, of Toronto, was the author of this paper. In it he reported nine illustrative cases which had been treated by systematic gymnastics. The line of treatment should be well defined, and the patient must be convinced not only by strong words but by the conduct of the surgeon that every detail of the treatment was essential. The least vacillation on the part of the surgeon would lead to failure. Class work in the gymnasium afforded a stimulus which should not be despised.

Hysterical Paralysis in Children.—Dr. L. A. Weigel, of Rochester, reported a case illustrating this disorder.

Dr. Gibney supplemented this with a clinical report of a case of anterior tibial pseudo-paralysis.

A Study by Means of the Radiograph of Six Cases of Osteitis Deformans (Paget's Disease). Dr. Joel E. Goldthwait, of Boston, presented this paper. He said that he had come to the conclusion that osteitis deformans was not the rare disease it was usually supposed to be. This disease was not necessarily one affecting all the bones of the body. It was entirely different from syphilis, chronic osteomyelitis, osteomalacia, and other forms of bone disease associated with deformity. He thought it could be shown without question to be a diathetic disease. The disease embraced both an osteitis and a periosteitis. It must be differentiated from cases in which the joint itself is involved, and also cases of syphilis. All of the radiographs exhibited presented a peculiar striation or mottling of the bone.

Dr. Whitman was sure that hereditary syphilis attacks the interior as well as the exterior of the bone.

Dr. Weigel said that he had seen recently a case, apparently of hereditary syphilis, in which the entire exterior and interior of the tibia was involved. Contrary to his advice, an operation had been resorted to for the purpose of straightening the bone, and although this had been affected there had resulted in three days a gangrenous slough, and the gangrene was now spreading rapidly.

Multiple Pathological Dislocations of the Hip and Wrist.—Dr. A. J. Steele, of St. Louis, read this paper. He reported a case of double dislocation of the hip and wrist following typhoid fever; also several other cases of disease of the hip following fever.

A Case of Congenital Elevation of the Scapula Treated by Operation.—Dr. Joel E. Goldthwait read this paper, and presented photographs. The operation had consisted in making a long incision obliquely over the scapula and turning back the trapezius muscle. The rhomboidei were represented by tense bands, and the levator anguli scapulæ was much shortened. These were cut away, and the shoulder was pulled down. The functional result was good.

Dr. Gibney reported a similar case in which he had successfully operated about nine years ago.

Dr. Weigel said that he had recently reported a case of spontaneous dislocation of the hip following typhoid fever. As the patient would not consent to operation he had made two ineffectual attempts to reduce the dislocation. A radiograph taken two years later showed that the head of the femur had been converted into a small knob.

Dr. Whitman said that about a fortnight ago he had operated and reduced a dislocation occurring two weeks after an attack of scarlatina.

Dr. C. L. Starr, of Toronto, commented upon the similarity of the muscular condition found in Dr. Goldthwait's case with that observed in torticollis.

Dr. McKenzie said that he had recently seen a case of shortening of the trapezius and other muscles passing from the occiput to the cervical spine, acquired by years of assiduous practice on a violin.

Dr. A. M. Phelps said that if the dislocation could not be easily reduced an excision was better. Operations on dislocated joints were very prone to result in suppuration and ankylosis.

Dr. A. H. Freiberg, of Cincinnati, said that in 1899 he had reported a case of elevation of the scapula. The parents had refused operation at the time. A recent photograph showed how greatly the scoliosis had increased. He would divide these cases into groups; for example, one group would contain the cases in which there is synarthrosis between the scapula and the spine, and another would include cases in which the functions of the joint are normal but the scapula unusually high.

Report of a Unique Case of Dupuytren's Contraction—Operation by the Open Method.—Dr. Frank E. Peckham, of Providence, made this report. He expressed a preference for the open method, as it made the surgeon master of the situation.

The Report of a Case of Abscess in the Posterior Mediastinum Occurring in Pott's Disease, Reached by Costo-Transversectomy.—Dr. J. E. Goldthwait made this report. A child of five years of age with Pott's disease of the upper dorsal region, and in poor condition, suddenly developed a type of difficult breathing which resembled ordinary croup. This continued for two days. Thorough examination failed to show anything in the throat itself. An abscess of the mediastinum was suspected, and accordingly an exploratory operation had been done. The abscess was found and evacuated, and the child was now convalescing rapidly.

Three other cases of abscess of the mediastinum had come under his observation, all presenting the same symptoms.

Dr. Whitman said that he had had two cases, and had noted in them a peculiar asthmatic breathing. In one of the cases it had been almost impossible to anæsthetize the child; in both the abscess had been located directly in front of the spine, making it very difficult of access.

A New and Rapid Method for Excision of the Hip-Joint.—Dr. F. P. Downs, of Bridgeport, was the author of this paper. He said that excision was indicated earlier in feeble children and in those in poor circumstances. Aspiration never revealed the true extent of the disease. The curved incision should be made over the great trochanter down to the capsule, and the head of the trochanter should be removed and the acetabulum reamed out with the aid of the Doyen instrument. Little or no

hemorrhage occurs, and the operation lasts only a little over ten minutes.

Dr. S. L. McCurdy thought this instrument should prove useful for cutting bone in deep wounds, nevertheless it seemed to him too mechanical for use in eradicating diseased tissues. In a case of perforation of the acetabulum into the pelvis such an instrument might do a good deal of harm.

Dr. A. M. Phelps said that the instrument had been designed for making a new acetabulum, and for this purpose it was perfect. It had occurred to him to extend its use to the removal of extensive disease of the neck and head, and he had found that its action was thorough and rapid. The danger of slipping into the pelvis was purely theoretical, for the operator selects successively larger sizes of the instrument as he advances.

Second Day—Wednesday, June 12.

A Brace for Anteroposterior Curvature of the Spine.—Dr. Gwilym G. Davis, of Philadelphia, exhibited a brace intended for convalescents. It had two uprights, one on each side, extending from the anterior superior spine to in front of the shoulder joint. The vertical piece was continued horizontally around the hips between the greater trochanter and the crest of the ilium, and pads were provided to make pressure just below the clavicles.

Osteoarthritis of the Spine.—Dr. Joel E. Goldthwait made some remarks on this subject. He said that in this condition the back might be much deformed, or on the other hand it might be perfectly straight. He had found it perfectly possible to diagnose osteoarthritis of the spine in the beginning, and asserted that if proper treatment were instituted at that time marked deformity could be prevented. The patient often presented himself with pain in one leg, but instead of shooting along the whole trunk of the sciatic nerve the pain was referred to certain areas here and there. Frequently there was no pain in the back at all; at other times there was a characteristic pain which prevented the patient, on awakening, from changing the position in which he happened to be at the time. If the disease was in the lower dorsal region there would be a severe catching pain on coughing or sneezing. On account of the unilateral nature of the disease, motion was usually much freer on one side than on the other. The treatment of these cases in the early stage was most satisfactory, the affection yielding completely within a few months. It was not uncommon for most of the pain and disability to disappear in the course of four or five weeks. Tonics, stimulants, abundance of food and fresh air with absolute fixation of the parts, constituted the main features of the treatment—in other words, such measures as would be indicated for tuberculous conditions rather than for rheumatic affections.

Dr. Ridlon said that he had attempted to correct forcibly under anæsthesia three of these cases which had passed from the painful stage of rigidity. In the first case, that of a woman of twenty-five, the amount of straightening had been very great, and in the other two the improvement had been sufficient to make him feel that this treatment was safe and did not justify such a gloomy prognosis as had been hinted at by Dr. Goldthwait.

Dr. Phelps presented, in connection with this discussion, a pathological specimen removed during an excision of a joint. When fresh, the specimen had been of an indigo-blue color, and Dr. N. Senn, who had been present at the operation, had pronounced the case one of osteitis deformans. He believed that rheumatism was nothing more than a germ infection or else some disorder of the nerve centers. He agreed with Dr. Goldthwait that these cases should be treated just as if they were tuberculous spines.

Dr. Goldthwait said he felt sure that some of his patients had been made worse by attempts to break up the rigidity, though he had frequently broken it up in cases in which there were atrophy and fibrous adhesions without bony ankylosis. He had used forcible correction under anæsthesia in osteoarthritis of the spine, but felt more inclined to do so after having learned of Dr. Ridlon's experience.

The Study of Muscular Expression as an Aid to Diagnosis.—Dr. L. A. Weigel, of Rochester, was the author of this paper. He referred particularly to those conditions of the muscles of the back and extremities which all orthopedic surgeons were accustomed to take into consideration in making the diagnosis.

Difficulties in Making a Differential Diagnosis in the Bone Lesions of Nurslings.—Dr. R. Tunstall Taylor, of Baltimore, read this paper. Cases were narrated to illustrate these difficulties, and the point was made that blood examinations should form a part of the clinical record just as did the urinary examination. This was particularly important in cases of bone disease because of the important part played by the bone marrow. Hereditary syphilis was perhaps the best known cause of a relative lymphocytosis in children.

Dr. R. W. Lovett said that he had studied a good many cases of tuberculosis with reference to the blood count, and had been unable to discover any special relation between leucocytosis and tuberculosis. This conclusion had received the sanction of no less an authority than Dr. Richard Cabot. In the diagnosis of joint diseases in young children he had experienced difficulty in differentiating the nutritive disturbances occurring around the epiphyses.

Dr. McCurdy reported a case to emphasize the position taken by him a few years ago relative to syphilis as a cause of many of the bone affections of early life.

Dr. W. R. Townsend, of New York, remarked that it was well to remember that under the age of two years tuberculous lesions are comparatively rare while syphilitic disease of bone is relatively common.

Dr. Ridlon said that he wished once again to assert that all cases of multiple joint disease should be suspected of being syphilitic.

The Treatment of Abscesses of Tuberculous Bone Lesions.—Dr. Clarence L. Starr, of Toronto, presented this paper. He said that for practical purposes a tuberculous abscess should be looked upon as a tuberculous cyst rather than as an abscess, because most of the distinctive features of an abscess are wanting. Under no circumstances should the let-alone policy be adopted where a tuberculous abscess had already led to reddening of the skin. Aspiration seemed to serve no useful purpose. He did not consider it wise to incise and drain an abscess except when urgent symptoms were present. Complete excision of an abscess was theoretically the proper treatment, but the method was applicable to only a few cases. The plan which had given him the best results consisted in free incision or incisions, scraping of the wall, and complete closure of the wound or wounds. He had not had a single case of general infection following this treatment. The whole cavity might be swabbed out with pure carbolic acid after the scraping and before the closure of the cavity. In nearly all cases primary union occurred, and the cavity was obliterated. Following the suggestion of Tubby he had adopted the plan during the past year of flushing the cavity with a solution of one drachm of menthol in one ounce of methylated spirit, and the results had been most satisfactory. This plan of treatment was applicable in a general way to tuberculous abscesses in any situation. In the cervical region the abscess should not be evacuated ordinarily through the pharynx because of the danger of mixed infection. Abscesses from the last dorsal or first lumbar vertebra will point beneath Poupart's ligament. Incision should be made as far as possible away from the groin, preferably on the outer side of the thigh.

Dr. R. W. Lovett said that some years ago he had sutured the wounds after opening a number of hip abscesses, but most of them had broken down afterward and had been worse than before; yet if these abscesses

were left open they undoubtedly became infected in spite of all precautions. He had reported a series of cases of psoas abscess occurring from 1890 to 1900. The mortality in the first five years had been 50 per cent. and in the last five years, 25 per cent. In all but four cases the treatment had been by incision. He believed that about 50 per cent. of psoas abscess cases would result in recovery, and he was skeptical regarding the advisability of stirring up the pyogenic membrane of tuberculous abscesses. When he had employed both a lumbar and an iliac incision the mortality had been greater than when, as for the past two years, he had used simply iliac incision. His results with the early removal of the drainage tube had not been good, so it was his custom now to leave it in for about two weeks.

Dr. A. M. PHELPS said that all psoas abscesses should be opened and washed out under high pressure, and then a drainage tube shall be introduced up to the point of disease. Aspiration was worse than useless, for it lulled one into a feeling of false security. It was imperatively necessary to open the abscess and introduce the finger for purposes of exploration. It was a mistake to wash out the abscesses with sterile water; they should be washed out first with pure carbolic acid and then with alcohol. Gauze should be avoided, as it acted as a plug. If extensive curetting were done in a psoas abscess and a focus of disease still remained, the whole surface would become infected. It was a good rule never to scrape a sinus or abscess when there was dead bone at the bottom.

Dr. H. A. WILSON remarked that some of these tuberculous abscesses undoubtedly disappeared without evacuation. In his own experience, when abscesses had been incised and let alone, the patient being kept in bed, the abscesses had not done well and the patients had emaciated; on the other hand, when apparatus had been applied and the patients allowed out doors sinuses had been avoided. The primary object of treatment should be to develop the constitutional condition of the patient and improve the reparative process, and if this were done operation would often be unnecessary.

Dr. A. J. STEELE, of St. Louis, said that his treatment consisted in thoroughly emptying the abscess and then repeatedly injecting with a hard rubber syringe water at a temperature higher than could be borne by the hand. The results had been remarkably good, and when the disease was not active he expected prompt cure.

Dr. FRANK E. PECKHAM, of Providence, said that Dr. Steele had struck the keynote in the statement that everything depended in these cases upon whether or not pus formation had ceased. He had employed for some time past the method of treatment described in the paper. It was important that the abscess cavity should be obliterated by the use of a very tight compression bandage. He had never seen any emaciation or other trouble arise from keeping the patient in bed for a month.

Dr. JOHN RIDLON declared most emphatically that abscess was a mere incident in connection with tuberculous disease, and was not of the slightest importance. He had tried hot water, carbolic acid, and other irrigation fluids, and had discarded them as useless. When not operated upon these cases do not present bad symptoms; then why disturb them and make them sick? If a deep and inaccessible spinal abscess were left without operation and the patient escape with his life, then why not adopt the same course in the management of other and more superficial abscesses? All these abscesses close if left alone; hence, it was a matter of little importance if they remained open a few months, or even a year or two, provided the patient's general condition was satisfactory. This let-alone policy had been his method of treating these abscesses for twenty years, and his patients had recovered; hence, he felt that he had a right to speak with some emphasis in favor of the plan, particularly as he had also tried the operative treatment, and had found it unsatisfactory

Dr. E. K. ROOT, of Hartford, said that the remarks of the last speaker exactly coincided with his own views. He had seen many cases of tuberculous abscess end in spontaneous recovery, and he believed if a small quantity of pus could be absorbed, so also could be a larger quantity.

Dr. G. G. DAVIS also endorsed Dr. Ridlon's position, asserting that it was wrong to apply the rules of general surgery to orthopedic surgery. Dr. Phelp's method was perfectly applicable when one could eradicate the bone lesion, but not otherwise. He was not in favor of interfering with psoas abscesses except in a few rare instances, in which the psoas abscesses caused fever and intense pain. The cases of death in connection with tuberculous bone disease had, as a rule, been those in which there had been long-standing discharging sinuses.

Dr. L. A. WEIGEL said that he had treated tuberculous abscesses both by the operative and non-operative plan, and was compelled to take exception to Dr. Ridlon's statement, that all patients with tuberculous abscesses get well whether treated or not.

Dr. C. L. STARR, in closing the discussion, said that one point in favor of his method of treatment was that in the cases of amyloid disease coming under his care, there had always been a mixed infection and a discharging sinus. It had certainly not been his experience that tuberculous abscesses were of no importance, and to his patients, at least, it made considerable difference whether a discharging sinus remained for two months or two years. When the abscess was increasing in size and threatened to break down, it seemed to him criminal to allow it to go on and do so. The pus formation came in large measure from the abscess wall, and not from the focus of disease. As a psoas abscess was often made up of numerous pockets, it was obviously impracticable to pass up a drainage tube to the seat of the disease. If a tube must be put in, the earlier it was removed the better.

Deformity Arising from Injury to the Lower Epiphysis of the Tibia.—Dr. B. E. MCKENZIE presented a cast and reported a case of this kind occurring in a child of two years as a result of caries. When the child, then at the age of about ten years, was seen by him, he had operated, removing the epiphyseal cartilage but not the epiphysis of the fibula. Growth, he had reasoned, would naturally not continue for more than about ten years longer, and unless this had been done the deformity would have recurred. The operation had been done ten years ago and the boy still had a good foot.

Dr. COOLIDGE, of Chicago, said that one could get along fairly well with a certain lengthening of the leg from the growth of the tibia, and it seemed to him better to do this than stop the entire growth of the lower epiphysis.

Drs. G. G. DAVIS and A. H. FREIBERG reported similar cases.

A Hip Splint.—Dr. JOHN DANE, of Boston, was the designer of a new hip splint, which in his absence was exhibited by Dr. Lovett. Reference was made to some experiments by Dr. Dane on the fixative power of the traction splint. In several experiments the amount of motion had been found to be from 16° to 27°. The splint presented showed a possibility of only about 6° of motion. The lower portion was the same as in a former splint that Dr. Dane had devised and described, but an additional feature was an extra pelvic band.

The Treatment of Acute Hip Disease with the Exhibition of a Splint.—Dr. R. W. LOVETT, of Boston, read a paper with this title He said that cases treated by traction do not show as much wearing away of the femur as those treated without it, and it had been demonstrated clinically that traction adds much to the comfort of the patient. With the traction should be combined enough fixation to limit the play of the joint to the arc set by nature in the development of reflex spasm. The splint presented resembled closely the Lorenz splint. Fixation was secured by the use of the traction splint combined

with a plaster of Paris spica reaching up to the axilla. After the acute stage had subsided the plaster spica was used as a mold for making the leather attachment. Cases of hip disease permitting not over 15° of motion should be treated by the best obtainable fixation plus traction. Treatment by recumbency was not generally necessary if this apparatus were applied to the hip in the position of deformity—in fact, this ambulatory treatment sometimes seemed to be superior to recumbency. The splint should be removed as seldom as possible. Cases allowing from 15° to 45° of motion should be treated by Dane's hip splint with high shoe and crutches. The use of the ordinary traction hip splint he believed should be limited to cases allowing 45° of motion, and should be employed in connection with a high shoe and crutches.

Dr. ROYAL WHITMAN said that as long ago as 1892 he had applied a plaster spica beneath the ordinary hip splint, and had used this method more or less ever since. He believed thoroughly in combining traction and fixation in the treatment of hip disease, and rejected the notion that one might allow of motion to the limit set by nature. The ordinary hip splint allowed 15° or 20° of motion, and, in the majority of cases, this gradually diminished until, as shown by Drs. Shaffer and Lovett, it was altogether lost. Dr. Dane's splint was superior to the ordinary traction apparatus in that it gave better fixation.

Dr. RIDLON said that some years ago he had embraced the doctrine of fixation as opposed to the use of the long traction splint with limited motion, but of late years he had modified his views somewhat, and now laid it down as a safe rule, that whatever would most radically relieve the pain and muscular spasm should be the form of treatment to be employed. The great point was to secure the fullest possible hyperextension.

Dr. WALLACE BLANCHARD, of Chicago, said that eight or ten years ago he had presented a splint intended to immobilize and at the same time produce traction in the axis of the neck of the femur. He was glad to note the present trend of opinion in favor of using both traction and fixation.

Dr. G. G. DAVIS said he was glad that the use of two side-irons in the hip splint was gaining ground, but when such a degree of fixation was required as was indicated by Dr. Lovett's brace he would be disposed to keep the child in bed.

Dr. COOLIDGE referred to two cases in which the use of a spica in combination with the Thomas splint and traction had acted very well.

Dr. PHELPS claimed that the braces of Dr. Dane and Dr. Lovett were practically the same as had been in use for years in the New York Post-Graduate School.

Dr. Lovett dissented from this opinion, and said the splint had been designed with a full knowledge of the Post-Graduate splint, and differed from it materially.

Treatment of Non-Infected Sprains and Contusions by Forcible Manipulation, with Continued Free Use, Versus Partial or Complete Immobilization and Rest of the Part.—Dr. ARTHUR B. HOSMER, of Chicago, read a paper with this title. He said that since 1892 he had treated all his patients suffering from sprains or contusions according to the method advocated. The acute cases had required from one to fifteen manipulations, whereas chronic cases had often required upwards of fifty treatments, and he was accustomed not to accept the treatment of such cases in this way unless the patients were willing to come daily for three months. The method consisted in jerking, kneading, pinching, and hammering the parts. The hammer which he used was made of a leather finger-cot containing shot, and its solidity might be increased or decreased by means of an adjusting screw. Dr. Hosmer detailed an interesting and original series of experiments on the legs of rabbits in which trauma had been produced by the falling of a bag of shot under suitable conditions. The idea was to show the effect on injured limbs of manipulative treatment after traumatism. The animals were killed at a varying length of time after the injury, and the condition of the tissues was noted post mortem. Several rabbits' legs were exhibited to illustrate the points made.

Dr. G. G. DAVIS raised the question as to whether this treatment was applicable to that class of cases in which, although the ordinary symptomatology of sprains was present, the *x*-rays reveal the splintering off of pieces of bone.

Dr. PECKHAM said that for some years he had treated sprains by massage, hot air, and the use of a stockinette bandage, and had found that under this treatment a person with even a severe sprain would be able to go to work again within a week.

Dr. R. H. SAYRE said that from his personal experience he was in favor of immobilizing a sprain immediately after the injury rather than subjecting the injured part to manipulation.

Dr. MCKENZIE said that while theoretically sprains should be treated by rest at first, he was disposed to think that the results of massage were superior.

Traumatic Kyphosis of the Spine Due to Rupture of the Spinal Ligaments.—Drs. CHARLES F. PAINTER and R. B. OSGOOD, of Boston, presented this paper, which was read by Dr. Painter. They reported three cases of injury to the spine accompanied by rupture of the ligaments without luxation or fracture. Their conclusions were: (1) That the spinal ligaments during life may be ruptured without fracture or dislocation; (2) that nerve-pressure symptoms may occur from simple flexion of the vertebral column; (3) that recovery in these cases requires prolonged rest in a position which favors repair of ligaments; (4) that the force which commonly produces the injury is one which *a priori* would be most likely to produce ligamentous rupture. There was no suggestion of thickening of callus in any of the cases reported. The first two cases would seem to disprove the theory that they were ununited fractures because one patient had been in bed convalescing from an amputation of the arm, and the other was convalescing from a tedious fracture of the leg. In all of the cases found in literature, with one exception, in which there was a record of the manner of production of the injury it had been the same. The cases referred to in the paper were characterized by an absence of deformity immediately following the injury. As a rule, the injury became apparent only after the patient got up a considerable time afterward.

Drs. ROOT, PECKHAM, GOLDTHWAIT, MCKENZIE, and SAYRE also reported cases.

The Relative Merits of Osteotomy and Forcible Correction in Deformities at the Hip and Knee.—Dr. V. P. GIBNEY, of New York, read this paper. He said that osteotomy was often preferable to the application of a strong force with division of tendons and the like. It had seemed to him that when there was even a fair range of motion in the hip it was better to do an osteotomy, not that he was afraid of producing injury, but because he preferred an osteotomy between the trochanter major and trochanter minor and putting the limb straight, with the idea of securing a more lasting result.

An Apparatus for the Study of Scoliosis.—Dr. ROBERT W. LOVETT exhibited a simple apparatus for measuring and recording lateral curvature.

The Treatment of Scoliosis by Forcible Jackets.—Dr. LOVETT also read this paper. The chief object of treatment, he said, was to produce an extended position of the affected part of the spine, because the rotation of the extended position is the reverse of the rotation in the flexed position. To accomplish this he had applied forcible jackets with the patient lying prone on the hammock. There were two holes in the hammock through which his legs hung vertically. The lumbar spine was perfectly level. Heavy padding was applied over the hip, and the jacket was carried as high as de-

sired. Care was necessary not to use too much side pressure. He had changed these jackets at intervals of from three to ten days, and the best results had been when the interval had been from five to eight days. Only bad cases with fixed bony curves and marked bony rotation had been subjected to this treatment. The author detailed experiments that he had made on a scoliotic cadaver from a person about forty years of age. Flexion and hyperextension made a difference of five inches in the length of the spine measured along the spinous processes. Corrective side pressure seemed more efficient in the prone than in the suspended position. He had been struck with the greater mobility of the spine in the prone than in the suspended position. Careless attempts to diminish the rotation in a fixed curve result in an increase of the lateral deviation. If forcible correction were to be employed it should be antagonized in such a way that it would be expended on the thorax and not be dissipated through the spine. Suspension in stiff spines was a measure of comparatively little value. Lateral force was less effective when applied in suspension than in the prone position. When there was much rigidity the force could be applied to the curve itself accurately by means of an apparatus, or by changing the curved regions as a whole in relation to the spine. Both of these methods were desirable, but they should be separated in one's mind

The Proper Adjustment of the Clothing as a Part of the Treatment of Faulty Attitudes of the Spine and Shoulders.—Dr. JOEL E. GOLDTHWAIT, of Boston, was the author of this paper. He said that most of the ready-made clothing in children is so arranged that the weight comes on the shoulder, and the stocking straps are largely made to fasten either to the waist or to special shoulder straps, all of them coming well toward the outer portion; hence the weight comes on the tip of the shoulder, the part least capable of carrying weight. The result was that when the stocking straps were buckled up there was a weight of two or three pounds coming on the tip of the shoulder, and consequently the shoulders drooped forward after a time, and the stoop shoulder with the "angel wing" scapula was a common result. The child can stand any amount of pressure provided it is placed near the neck. This should be the arrangement of the clothing for children, very much as it is with properly adjusted suspenders in men.

Dr. A. M. PHELPS said that his anatomical specimens showed that if one ever expected to increase the compensatory curves the entire thorax must be changed. He believed that treatment in the future would be directed to making compensatory curves both above and below the primary curves.

Dr. WHITMAN cited a case of congenital rotary lateral curvature of extreme degree which he had had under observation and treatment for about six years. The child had been treated by plaster jackets, and the rotation and lateral deviation had been almost entirely corrected. Dr. Phelps' argument from adult spines was not applicable to orthopedic practice, which is concerned chiefly with young children.

Dr. A. H. FREIBERG, of Cincinnati, said that he had taken many photographs, by short exposures, of cases of scoliosis, sometimes almost daily, and had been surprised to note the great variations in the curves. It was also evident that it was an error to take the spinous processes as an absolute measure of the rotation or lateral deviation.

Club-Hand with Congenital Absence of the Radius; Plastic Operation.—Dr. ROSWELL PARK, of Buffalo, reported this case. He had, by operation, impaled the carpus upon the ulna, and had transplanted a fragment of the humerus of a rabbit into the gap. The result had been successful.

Operation in Severe Case of Spasmodic Wry Neck.—Dr. PARK also reported this case. So far as could be ascertained, this spasm of the muscle was the effect of an arsenical neuritis. He had first practically extirpated the sternomastoid and a large V-shaped piece of the trapezius, and had freely divided the trapezius on the side towards which the head was inclined. For a few weeks there had been marked improvement, but the patient soon returned nearly as bad as before. He then extirpated most of the left sternomastoid, and divided the contracted levator anguli scapulæ. The omohyoid was found to be exceedingly tense, and so it was divided, together with other shortened aponeurotic structures. The head then came fairly well into position, and was so held in plaster of Paris for a week. At this time the wounds had completely healed. The ultimate result was good. This was the worst case of torticollis that he had ever encountered, and the operation was the most extensive of its kind on record. The operation seemed to him to bear some analogy to the graduated tenotomies done by the oculists.

Dr. WILLIAM J. TAYLOR, of Philadelphia, remarked that he had assisted Dr. W. W. Keen in a similar operation some years ago. Both sternomastoids were removed by operation, yet the man had complete control of the movements of his head.

Dr. S. L. MCCURDY, of Pittsburg, said that he had reported in the *Transactions* for 1893 a case in which he had done on the carpus an operation similar to that just described by Dr. Park.

Further Observations on Rapid Osteoclasis for the Correction of Rachitic Deformities of the Legs.—Dr. WALLACE BLANCHARD, of Chicago, read this paper He reported on 260 cases of bow legs, knock-knees, and anterior tibial curves, and in not a single case was there any abrasion of the soft parts, in none was there delayed union, or, so far as known, any epiphyseal separation. He insisted that these crooked legs must be put up in the highly overcorrected position. He thought the time had passed when more than six weeks should be taken for the perfect correction of the majority of these deformities. In eighty per cent. of the cases in which the children came to him wearing braces, the bones had become so consolidated that nothing short of fracture or osteotomy could accomplish anything. The bones were usually not sufficiently consolidated in cases of rachitic curvature to justify osteoclasis until the age of six years, though occasionally there was sufficient consolidation at the age of four years. He used the original Grattan osteoclast, and operated with the utmost confidence, never taking more than eight seconds for the operation. In cases of anterior double curves, a lateral break must first be made, and often it was necessary to cut the tendo Achillis.

Third Day—Thursday, June 13th.

Fat Embolism in Orthopedics.—Dr. F. S. COOLIDGE, of Chicago, read this paper. He reported two cases. The first was that of a man bedridden with chronic rheumatism. The knees were straightened, and an impacted fracture occurred under the simple manual force employed. Soon after coming out of the ether, the man began to suffer from dyspnœa, and became cyanotic, and in twenty-four hours was dead. The second case was that of a man of twenty-four years who had been paralyzed for two years. An operation had been undertaken to straighten his knees. While extending the foot prior to a tenotomy of the tendo Achillis, he had been surprised to detect crepitus and an impacted fracture of the tibia. This accident was quickly followed by the development of cyanosis, intense sweating, a rapid pulse, and great restlessness. After two days, these symptoms disappeared. The author stated that in both instances the fracture produced by manual force had been of such a nature as to indicate that the bone was the seat of fatty degeneration, and he believed this was the essential point in the production of fat embolism.

Dr. CLAYTON, of Brooklyn, reported a case of fat embolism occurring in a little Italian child after he had done a Macewen osteotomy for the correction of rachitic knock-

knee. The temperature reached 108° F. before death, and the existence of fat embolism was proved at autopsy.

The Typhoid Spine.—Dr. William J. Taylor, of Philadelphia, presented in this paper the report of one case in order to reconcile certain discrepancies that had appeared in the reports of cases claimed to be examples of the typhoid spine. Dr. Keen believes that it is merely a functional neurosis, and Osler expresses the opinion that it always occurs in neurasthenic individuals. His patient was a man of twenty-seven, who developed typhoid fever on February 4, 1899, and was in bed for nine weeks. After having been out of bed for a few days he began to suffer from pain along the spine, chiefly in the lumbar region. The temperature ranged from 102° to 99°F. Every time the abdomen was exposed for a physical examination there developed a peculiar rhythmical tremor of the abdominal wall. It was true that the man presented certain stigmata of hysteria, but there was evidently a distinct lesion of the spine. He left the hospital cured early in September. When examined some months later the thickening previously observed in the lumbar region had disappeared.

Dr. Freiberg also reported a case occurring in a boy of sixteen years. The pain had been at once relieved on placing the patient upon a plaster bed in the prone position. After about one week of this treatment the temperature fell to normal, and the pain had almost wholly abated.

The Treatment of Spastic and Other Forms of Paralysis.—Dr. A. M. Phelps, of New York, was the author of this paper. His remarks were confined to a consideration of infantile paralysis, spastic paralysis, Pott's paralysis, and paralysis following fractures. In infantile paralysis, he said, there was paralysis of groups of muscles. It was generally conceded that this variety of paralysis was the result of infection. If treatment was neglected, contractions were bound to take place. In spastic paralysis all of the muscles were affected, and the stronger muscles, antagonizing the weaker, produced the deformity. In infantile paralysis one group of muscles was paralyzed, allowing the other muscles to act. If treatment were begun at the onset of the paralysis by proper bracing, the occurrence of deformity could be largely prevented, and if braces were not sufficient, tenotomy should be resorted to. When there was total paraplegia a stiff rod should be used so as to make the body and one limb one piece, and on the other side should be a brace with an automatic catch. The stops should be placed anteriorly so as to prevent flexion. At the age of sixteen excision of the knee should be performed. In his own experience he had found braces of absolutely no use in spastic paralysis of the severer forms. The lesion in these cases was located in the lateral columns of the cord, or more commonly in the vertex of the brain. His method of treatment was to make an incision and divide the hamstrings and the adductor muscles, and then apply suitable braces. One occasionally met with cases of Pott's paralysis in which the condition became progressively worse. When incontinence of urine and fæces was present and was becoming worse, he believed the sooner laminectomy was done the better. This operation was not especially difficult, and he had never regretted having done it. In cases of fracture of the spine producing paralysis, rest in bed should be insisted upon for a week, and if the patient survived, an operation should always be done.

Dr. Ridlon said that, in cases of spastic paralysis, he now made use of plaster for a few weeks only after division of the foot tendons and hamstrings. It was wiser to operate upon the latter by open incision.

Dr. G. G. Davis said that in recent years arthrodesis and transplantation of tendons had been brought forward as substitutes for braces. He did not feel justified in doing arthrodesis on the knee-joint, preferring a brace with a lock-joint. He thought in time braces would be largely discarded in these cases, and they would be treated by various operations for tendon transplantation.

Dr. W. R. Townsend, of New York, thought teachers should lay greater stress upon the necessity for bringing cases of infantile paralysis to the surgeon so early that deformity might be prevented.

Dr. Phelps, in closing, said that the severer forms of spastic paralysis must certainly be treated by braces. In infantile paralysis subcutaneous tenotomies were alone sufficient. He had found the results of tendon transplantation so disappointing that he had entirely discarded this method.

The Operative Treatment of Confirmed Paralytic Talipes of the Calcaneus Type.—Dr. Royal Whitman, of New York, read this paper. He said that the disability of calcaneus depends largely upon the insecurity of the foot. The most effective remedy, therefore, was the removal of the astragalus. The operation that he had found the most useful comprised astragalectomy, arthrodesis, tendon shortening, tendon transplantation, and backward dislocation of the foot. The operation was most conveniently performed under the Esmarch bandage. He had performed thirteen of these operations, and in none had there been any infection. Although the cartilage was removed from the bones, absolute ankylosis should not be expected and was not desirable. In all cases apparatus had been used to prevent deformity.

General Remarks on Painful Affections of the Feet.—Dr. Frank E. Peckham, of Providence, in this paper said that heat alone without massage was of the greatest benefit just prior to the employment of gymnastic exercises. In none of his cases had the massage been done by a professional. The exercises which had given him the most satisfaction were those recommended by Dr. Whitman, the patient being seated and the leg across the stool. Several cases were reported in which painful feet had been associated with glycosuria.

Dr. Whitman remarked that if pronation were increased by the tiptoe exercise it was evidence that the exercise had been improperly given, for the feet should be turned in.

Drs. Wilson, Lovett, and Ridlon detailed their experience with pupil nurses who suffer severely, especially during the probationary period, from painful feet. Dr. Lovett noted that these cases were apt to develop after attacks of diphtheria, tonsillitis, typhoid fever, and scarlet fever. Dr. Ridlon was convinced that in many of these cases there was an underlying autotoxæmia. They were often completely relieved by taking every night a dose of a freshly made infusion of senna sufficient to secure a good daily evacuation of the bowel.

Dr. Baldwin, of Salt Lake City, exhibited a little brace made of wood that he was accustomed to use as a support to the arch of the foot, each brace being made for the individual case.

Dr. Weigel called attention to the fact that there was a set of symptoms, generally called rheumatic, which disappeared, even from other parts of the body, when the foot was relieved. He was accustomed to use static electricity in addition to mechanical support for the feet.

Dr. C. L. Starr thought that in the so-called rheumatic conditions there was probably a partial dislocation of certain tarsal joints, associated with more or less inflammation.

Caries of the Spine—An Analysis of One Thousand Cases.—Dr. Charles H. Jaeger and Dr. J. H. Waterman, of New York, presented this paper. Of the cases studied, 600 children were in the first year of life; in 6.6 per cent. the disease was cervical; in 70.9 per cent. dorsal, and in 20.9 per cent. lumbar. In over ten per cent. of the cases the parents were tuberculous. Abscesses were recorded in over fifteen per cent. of the cases in the first ten years of life. Careful inquiry seemed to indicate that traumatism was the exciting cause in 298, and infectious disease in forty-two cases.

Coccydynia—Case and Specimen.—Dr. A. R. Shands,

of Washington, D. C., said that this title had been selected for the report because his diagnosis had been coccydynia, although the case had proved to be one of caries of the coccyx. The spine was normally flexible, but throughout entire length was tender, and the woman presented marked evidences of hysteria. The speaker's first diagnosis had been hysterical spine. Subsequently it had become evident that the trouble was located in the coccyx, and on his advice this bone had been removed. The specimen was exhibited. It showed a condition of caries with a number of osteophytes. The patient had been markedly improved, but had died four months later of another disorder.

Some Experiences in the Bloodless Reduction of Congenitally Dislocated Hips.—Dr. JOHN RIDLON, of Chicago, read this paper. He said that he had seen in Chicago thirty-seven cases, and had practiced the bloodless method of reduction in sixteen. Of these sixteen the bone had remained permanently in place in six cases. He had known the bone to go out of place after having remained in position for a year or more.

Dr. PHELPS said that although he had operated upon over one hundred cases by the bloodless operation of Hoffa in only four or five cases had he found a proper socket for receiving the head of the bone. He did not believe the head would make a new socket for itself.

Dr. WHITMAN said he had succeeded in curing a number of patients by the forcible manipulations advocated by Dr. Ridlon, though he had not succeeded in securing so large a percentage of permanent reductions as had this surgeon. If the head of the bone were in place, it should be felt clearly beneath the femoral artery.

Dr. HOSMER favored the use of a modification of Allis' apparatus to secure good fixation of the pelvis.

Officers Elected.—*President*, Dr. H. A. Wilson, of Philadelphia; *First Vice-President*, Dr. William J. Taylor, of Philadelphia; *Second Vice-President*, Dr. Gwilym G. Davis, of Philadelphia; *Secretary*, Dr. John Ridlon, of Chicago; *Treasurer*, Dr. E. G. Brackett, of Boston. The next annual meeting will be held in Philadelphia.

SCHOOL FOR HEALTH OFFICERS.

Third Annual Meeting, Held at Burlington, Vt., July 8–11, 1901.

C. S. CAVERLY, M. D., OF RUTLAND, VT., PRESIDENT.

THIS convention, which had its headquarters at the State Laboratory of Hygiene, was held at the call and under the supervision of the Vermont State Board of Health. Dr. C. S. Caverly, President of that Board, called the meeting to order, and gave a brief review of health legislation in the State of Vermont. As an incentive to continued efforts in connection with public sanitation, the speaker quoted statistics for the five years prior to the establishment of the State Board of Health, in 1886, and for the last period of five years of which complete statistics were at hand, *i. e.* 1895 to 1899. Thus, in the former period there was an average annual death rate from scarlet fever of sixty, and in the latter period of two, or a reduction of 96 per cent. In the first period there had been an annual death rate from diphtheria and croup of one hundred and ninety-one, and for the second of ninety-four, or a reduction of 50 per cent. Again, in the first period the average death rate from general and pulmonary tuberculosis had been seven hundred and forty-nine as against five hundred and eleven in the second period, or a reduction of about 31 per cent. Measles was the only one of the infectious diseases that showed an increase during the second period, and here the advance had been 21 per cent. It was also worthy of note that these statistics showed measles to be almost as fatal a disease as scarlet fever. As significant of what should be the trend of future work, attention was directed to the fact that there had been an increase in the number of deaths from pneumonia of 13 per cent., from heart disease of 30 per cent., from kidney disease of 29 per cent., and from cancer of 129 per cent.

Dr. DAVID C. HAWLEY, Mayor of Burlington, delivered the address of welcome. In it he pointed out that sanitary laws were a public necessity, and asserted that as such they should be rigidly enforced. The dangers of tuberculosis were made clear, as well as the great value of isolation of cases, disinfection, destruction of the sputum, and the establishment of state sanatoria. The speaker classed inebriety as a disease, and expressed the opinion that it should be placed under state control, and that its victims should be treated in reformatory institutions.

Governor W. W. STICKNEY, of Ludlow, also delivered an address, in which he discussed the question of a federal board of health, and upheld its legality on the ground that whatever subserves the health of the people has always been considered legal by the highest courts. Vermont, he said, had cause to be proud of her position as one of the leaders in sanitary legislation.

Senator J. A. DEBOER, of Montpelier, made some remarks from the point of view of one who was neither a health officer nor a physician. He said that sneers at the science of sanitation were out of date, for splendid progress had been made in this field, and that too in the direction of greater intelligence and morality. He declared that the matter of health touched one every too closely to permit of the knowledge of its laws being the property of a few, and for this reason it was most important that a strong effort should be made to popularize this science.

In Memoriam. Dr. Jo. H. Linsley.—Dr. CAVERLY read a sketch of the life of the late Dr. Jo. H. Linsley, formerly of New York City, who had done so much for sanitary science in the State of Vermont. It was through his influence that bacteriology had taken such a prominent part in sanitation in that State; it was he who had made the State Laboratory possible, and his earnest, enthusiastic, and conscientious work in this field would ever be a worthy monument to him.

Laws Relating to Public Health.—Col. JOEL C. BAKER, of Rutland, read this paper. He said that the ten commandments were not older than sanitary laws. Every man owed a duty to society not to imperil the life and health of others, and the State had the right to enforce sanitary laws, even to the point of interference with personal and property rights, provided always that they subserve the interest of the public health. The State Board of Health had adequate power with regard to the control of contagious diseases, but the same could not be said concerning other matters properly coming within its jurisdiction.

Health Officers, Their Duties and Responsibilities.—Mr. H. L. STILLSON, of Bennington, in this paper pointed out that the modern health officer had important and varied duties, and that his education should be such as to give him a good working knowledge of law, medicine, physics, engineering, and last but not least, of human nature.

Dr. L. M. GREEN, of Bethel, said that much sickness would be avoided if each town would continually watch its water supply, and from time to time have the water examined at the State Laboratory.

Sanitary Legislation.—Dr. W. N. PLATT, of Shoreham, was the author of this paper. He argued that as no other State had an absolutely free state laboratory or a state board of health possessed of such extensive powers, it was incumbent upon Vermont to see that her health officers had exceptionally good opportunities for instruction. To this end he suggested that the University of Vermont should give a course leading to a degree in medical sanitation. Continuing, he urged the complete isolation of contagious diseases and the establishment of an institution for the free treatment of tuberculosis.

Relation of Animal Diseases to Public Health.—Dr. Don. S. Grout, of Waterbury, read a paper on this subject. He enumerated the following diseases of domestic animals as being those which are known to be communicable to man: (1) Glanders and farcy; (2) rabies; (3) malignant anthrax; (4) tuberculosis; (5) malignant cholera; (6) milk sickness; (7) smallpox; (8) diphtheria; (9) scarlet fever; (10) possibly typhoid fever in suckling animals, and (11) the plague, which is a disease so common to man, monkeys, and rodents that it is a question whether it was primarily a human disease or a rat pest.

Human *glanders* is a most loathsome and fatal disease, which is usually contracted from the horse or mule by accidental inoculation into wounds. It is most common where the horse is most extensively used, and has been epidemic in Montana and some other Rocky Mountain states.

Malignant *anthrax* is very deadly whether it shows itself in the form of malignant pustule or internally as carbuncular sore throat or intestinal anthrax. It prevails mostly among butchers, tanners, and workers in hair, but may occur as a result of eating the flesh of infected animals. Infection by simple contact, without break in the skin, is by no means uncommon. Cooking is a very insufficient protection; frost does not kill the virus, and infected pastures have been known to maintain their infecting qualities for six years in succession, and to yield hay which continued to infect animals when fed to them at a distance from such pastures.

Milk sickness, or "the trembles," is so largely a disease of the backwoods districts that many medical men are disposed to doubt its very existence. It resembles anthrax in its communicability to other animals, but differs essentially in that it fails to show local anthrax lesions. It is said to be associated with the presence in the blood of a microbe like that seen in relapsing fever, and this germ is probably derived from drinking water or from the surface of certain kinds of vegetation. It is as fatal to man as to animals, and in persons who survive the attack it produces a condition of great hebetude and physical weakness.

Turning to the consideration of *tuberculosis*, the speaker said that statistics show that from five to eight per cent. of the cattle in our Northern states suffer from this disease. From the first scientists had generally believed that the species of bacillus found in man was identical with that in cattle, and that the apparent difference probably arose from the difference in environment. It had been demonstrated that the tuberculous material from man might produce the tuberculous disease in cattle, and many instances pointed to the conclusion that the disease might be transmitted from cattle to man. If these facts were well established there could be no longer any question about the identity of the bacillus in man and animals. Dr. E. F. Brush, of Mount Vernon, N. Y., was quoted as believing that human tuberculosis was derived from the bovine species, the argument being that among the Esquimeaux, who have no dairy cows, pulmonary phthisis is not known. Dr. Brush endeavors to explain the fact that tuberculosis is not more frequently communicated from cattle to man on the theory that the bacillus introduced from the cow into man finds a difference of four or five degrees in body temperature, and that it does not become virulent in man until from some other cause the temperature is increased and allows of the multiplication of the bacilli. Tubercle bacilli would grow in the cow without any disturbance of her normal temperature, and this seemed to explain why cattle apparently enjoying good health are found when slaughtered to be in an advanced stage of tuberculosis. The spreading of the bacilli from the nests or tubercles was undoubtedly the consequence of an alteration of the general health. In considering the all-important problem of the prevention of tuberculosis, one must recognize that disease of the udder of the cow is particularly dangerous because the milk though infected may appear normal for some weeks. Dr. Harold C. Ernst, of Massachusetts, was quoted as saying that there was no ground for the assertion that there must be a lesion of the udder before the milk could contain the infection of tuberculosis, and that the germ might be present in the milk from cows affected with this disease in any part of the body, and that they were indeed present and active in a very large proportion of cases in which there was tuberculosis but without lesion of the udder. But aside from this question of the existence or absence of a lesion of the udder, it should be remembered that in a large proportion of tuberculous cattle the disease is present in the gastro-intestinal tract, and the bacilli are thrown off in the dung, and the latter, drying on the animal, is very likely to get into the milk. For this reason it seemed to him doubtful if a pail of milk ever left a stable where tuberculosis exists without containing tubercle bacilli. There were, of course, many other ways in which the dairy, as ordinarily conducted, might become infected. Chief among these means was through the agency of dogs, cats, rats, and mice, which are allowed to run at will about the dairy. Similarly, slaughter houses are quite commonly important centres of infection. In considering how best to stamp out bovine tuberculosis, it should be borne in mind that in the early stages of tuberculosis the disease can be detected only with the aid of tuberculin. Tuberculin reveals all stages of the disease, from the earliest and almost insignificant changes to the gravest lesions of the advanced stages, and ordinarily this test does not discriminate between these classes of cases. Moreover, tuberculin is not infallible, for in a small percentage of cases it fails to reveal the disease, and occasionally a sound animal gives the reaction of tuberculosis. In spite of these drawbacks tuberculin has become indispensable to the owner of cattle. In conclusion, Dr. Grout said that such legislation was needed as would require the tuberculin test to be applied to every bovine animal in the State, and the slaughter of every animal responding to the test; also the immediate cremation, or when this was impracticable, the thorough burying of the carcasses.

Dr. F. A. Rich, of Burlington, in discussing the paper, said that glanders was not very common in Vermont, and when it did occur its true nature was often not recognized. He called attention to the fact that where there are no cows, man is not afflicted with tuberculosis.

Dr. C. W. Peck, of Brandon, reminded his hearers that five thousand people were dying from tuberculosis every year in the State of Vermont, and that six thousand children under six years of age succumb annually to the effects of bad milk.

Milk Supplies.—Edgar B. Moore, Esq., of Rutland, read a paper on this subject, in which he described the unhygienic conditions found in many dairies. His remedy was "agitate and educate."

Dr. P. P. White, of Williamsville, advised all farmers to have their cows tested with tuberculin before offering the milk for sale, and explained how they would be benefited by so doing.

Drs. G. G. Harshall, of Wallingford, and W. H. Vincent, of Orwell, also spoke in the same strain.

Smallpox Eruptions.—Dr. J. H. McCollum, Superintendent of the South Department of the Boston City Hospital, delivered an address on this subject, which was freely illustrated with lantern slides. He said that mild cases of smallpox in an early stage were very difficult to diagnose, but this very liability to error made these cases peculiarly dangerous to the public health. The great value of vaccination as a protection was emphasized by the citation of illustrative cases. He said that he had yet to see a person die of smallpox who had been successfully vaccinated within three or four years of the attack. The speaker said that the conditions existing at the present time in this country were so similar to

those which had preceded the smallpox scourge of 1871-72 that he was inclined to believe that the country was now on the eve of an epidemic of smallpox.

Plumbing.—William P. Gerhard, C. E., of New York City, was the author of this paper. He said that the danger from sewer gas had been greatly exaggerated, and while it could not be definitively stated that diphtheria, typhoid fever, and similar diseases actually originate in this way, it was known that exposure to the emanations from sewers weakens the system and renders the individual more susceptible to disease invasion. Great advances had been made in plumbing, but the modern system had become so complicated that there was need for a simpler and less costly, though effective plan.

Vital Statistics.—Dr. Cressy L. Wilbur, Superintendent of Vital Statistics for Michigan, read this paper. He said that the importance of such statistics was not sufficiently appreciated, yet their study was the study of the condition and growth of the race, and they were most valuable guides to health officers in their work and in securing sanitary legislation. Vermont had been one of the first ten states to adopt measures for the satisfactory compilation of vital statistics, but she had not yet sufficiently provided for their publication and distribution. There was now a movement on foot toward securing uniformity in these statistics, and Vermont and Michigan had taken the lead in this matter.

Value of a Blood Examination.—Dr. B. H. Stone, Bacteriologist of the Laboratory at Burlington, discussed the advances made in this field, and insisted upon the great diagnostic aid rendered by such examinations.

The Value of the Vermont State Laboratory to the People.—Dr. M. J. Wiltse, of Burlington, presented a paper, in which he showed by numerous letters the high character of the scientific work done in this laboratory, its value in medicolegal investigations, and the great financial saving it had effected for the State.

Dr. S. E. Maynard, of Burlington, said that when the Widal reaction was obtained with a dilution of one to nineteen he considered that a positive diagnosis of typhoid fever was warranted. In cases of poisoning by mercury or arsenic, or in cases of malaria the diagnosis should be made by an examination of the blood.

Dr. John Gibson, of Vergennes, said that it was often difficult for the medical practitioner to convince a family that one of their number was sick with typhoid fever if the symptoms were mild, hence it was frequently impossible to secure proper nursing for the sick one; however, all this disappeared if the family physician were able to back up his diagnosis by a report from the State Laboratory.

Hon. F. D. Proctor, of Proctor, declared that the State Laboratory was emphatically the people's institution, and he believed no appropriation made by the Legislature more worthy than the one for the State Laboratory of Hygiene and no board more worthy of public confidence and support than the State Board of Health. The water analyses made at the laboratory had led to the abandonment of many old wells and questionable water supplies, and the good results of such improved sanitation were far-reaching and well-nigh incalculable.

Dr. Fred. Fletcher, of Bradford, gave it as his opinion that the expense of maintaining this laboratory had been more than met by the saving of health and life effected simply by the water analyses.

Drinking Water and Disease.—Professor W. T. Sedgwick, of the Massachusetts Institute of Technology, read a paper on this subject, and exhibited a series of lantern views. He said that that first great epidemic successfully traced to drinking water in modern times had been an epidemic of Asiatic cholera in 1854, but water had been known to be the bearer of disease for a much longer period. The Romans had been aware that lead might be in drinking water, and while at the present time our people are well aware of this danger another public agitation of the subject was desirable, as the poisoning of water by lead pipes was again becoming unpleasantly frequent. Several illustrative cases were narrated.

Mr. C. P. Moat, of Burlington, said that out of forty-two analyses of water made at the State Laboratory since January the water had been condemned in twenty-nine, and had been adjudged suspicious in eleven, instances, yet there were many other water supplies in constant use that were no better. In one instance a family, in which there was typhoid fever, sent a specimen of the drinking water for analysis with the comment that the dark color of the water was probably owing to the heavy rains having soaked down through the stable manure which covered the well.

Disposal of Sewage.—Professor Sedgwick also read a paper on this topic. He said that by sewage was meant the waste matters of human and animal life. That it could be disposed of on land without creating disease was shown by the fact that hospitals and children's asylums are located on the sewage fields of Berlin. Chemically, sewage is composed of a good deal of salt mixed with free and albuminoid ammonia and a vast number of microbes. Most of these microbes act as purifiers of the sewage, but as a few may be pathogenic our aim must be to destroy them all. He recommended that farmers do away with cess-pools, and instead use a piece of sandy land, or land upon which loads of sand had been dumped, for the purification of the sewage.

School House Sanitation.—Dr. W. L. Hoisington, of Weathersfield, read a paper on this subject, which was discussed by several of those present.

New Instruments.

THE DE GARMO NEEDLE FOR HERNIA OPERATIONS.

By W. B. De Garmo, M.D.,
New York.

In the issue of this journal of May 4, Dr. Campbell Ford, of San Francisco, writes on the "Radical Cure of Hernia," and has kindly mentioned my name in connection with a blunt needle which has been used by me in performing the Bassini operation. His sentence, "I do not know where the needles may be had, but no doubt a letter addressed to Dr. De Garmo would obtain that information," has convinced me on two points, viz., 1. That the circulation of the Medical Record is large; 2. That interest in hernia continues, notwithstanding the voluminous literature upon the subject. These facts have been borne in upon me by the large number of inquiries received from physicians and instrument-makers about the very simple little needle which I have hardly deemed worthy of publication, as there is certainly nothing very original about it.

After many hundred trials it has, however, proven itself to me more useful than any other needle of which I have knowledge for carrying out the Bassini method, and it adds one element of safety to the operation. The accompanying illustration shows it at its actual size. It is merely a strong, round needle of full curve, blunt point, and without cutting surface. It will appear to many as too small for convenient use, but it has been found that one of larger curve cannot be easily turned at the bottom of a deep canal. A little practice will enable one to use it without a needle-holder. Its eye is large, to allow of the quick threading of even quite large strands of kangaroo tendon.

The objects attained by using a needle of this character are: 1. Safety. Several instances are known of the perforation of deep and large vessels by a sharp

needle with cutting point, and consequent severe bleeding. The writer knows of one death which was undoubtedly the result of this accident. 2. The round, blunt needle in passing through muscular and aponeurotic structures separates their fibers, instead of cutting them, and it is believed that in this operation no muscular tissue should be cut.

The needle is used for closing the two deep layers.

56 West Thirty-sixth Street.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 27, 1901:

	Cases.	Deaths.
Measles	120	10
Diphtheria / Laryngeal Diphtheria (Croup)	122	16
Scarlet fever	114	16
Smallpox	46	9
Chickenpox	8	
Tuberculosis	255	153
Typhoid fever	37	13
Cerebro-spinal meningitis		8

Impressions of a German Congress.—An occasional correspondent of the *British Medical Journal*, who speaks from experience, has been moved to unburden his soul as to the mode in which discussions are carried on at some German scientific congresses. The picture he draws is not, he declares, exaggerated, but his remarks must be understood as applying only to the congresses which are not divided into sections, and in which the discussions take place in plenary session. "There is a large room where the congress is to take place, filled with hundreds of our colleagues, of German and other nationalities. These gentlemen are prepared for several days' ennui, but are also resolved not to let it be all dull. They present a very varied appearance, and produce a very varied impression by the complexity of sound, which their conversation before the commencement of the proceedings creates. The management consists of a chairman, who is changed at each sitting, and his confrères, the president, the secretary and the other members of the council. The chairman opens the day's proceedings by informing the readers that the time limit, namely, half an hour for papers and ten minutes for discussion, will be rigidly adhered to. At first all goes smoothly, until a speaker has occupied the attention of the house for twenty minutes or so, when there is heard an ever-increasing buzz of conversation from the back part of the room. Of this the speaker takes no heed, and when the half hour is past, the chairman merely stretches himself and remains quiet. The next speaker has obviously not been fortunate in the impression that he has made on the house, for the conversation, begun during the last speech, continues and becomes disturbing. But he, being accustomed to such trivial inconveniences, labors on steadily. The hands of the clock steal slowly onward, and when they register that the speaker has been standing at the desk for nearly twenty minutes, a single cry of 'End' (Schluss) is heard. Soon the air is rent with wild, delighted cries of 'End,' and feebly tempered by a few remonstrating 'Gsch.' The chairman rings his bell. Some order is restored, and he tells the speaker that he has two minutes more. Poor speaker! He has lost the thread of his argument (for papers must be given from memory, not read); he is face to face with the fact that he has but two minutes more to live—as a speaker—and he thereupon pitches himself headlong into his subject, at such an enormous rate, and with so much energy, that it becomes a matter of impossibility to understand what he is speaking of. The noise at the far end of the room continues, and in one minute the second sound of the bell is heard. The chairman now shows his humanity, and asks the house to decide whether the speaker shall continue or not. This is done either by direct appeal, an interpretation of the responsive sound as to what the wish of the majority is, or by a show of hands. There is a subtlety in the decision, for, if the chairman wishes, he can rule on a single show, or he may ask for ayes and noes, or he may compare the number of hands shown with the number of persons present. But it is decreed that our friend the speaker must stand down, and there is something pathetic in his self-conscious, proud and satisfied bow, and the deathlike silence which follows it for one moment. A discussion now takes place. At first absolute oblivion of time seems to surround the chair, and the first intimation which the occupant of it receives of the fact that one member has occupied the platform for nearly half an hour is that his conversation with a colleague is interfered with by a dozen eager members, who wish to have their say. Then he rings the bell, and asks if the speaker has much more to say, but to do this he waits until the latter has reached the middle of a sentence. 'I am just finished', is the reply; five minutes later, a further ring, the same question, the same reply. Still five minutes later the chairman says that Herr X. is in possession of the platform, and requests the loquacious one to stand down. He forgets to bow, and, collecting his notes and papers slowly, mumbles that he has had no time to give his most important points of argument."

The Bacterial Treatment of Constipation.—Some recent researches of Roos, of Freiburg, into the bacterial treatment of constipation deserve careful attention. He found that cultures of bacillus coli communis, derived from persons whose bowels were active, effected a cure when administered to persons suffering from constipation. His experiments were carried out upon himself and upon some half-dozen medical friends. Accepting the facts as stated, it follows that there is a difference in the activity and vital reaction of various members of the bacillus coli group. That many varieties exist in that particular family has long been an established fact. In connection with this subject, it may be pointed out that some observers have described a form of diarrhœa associated with bacillus coli. Again, the origin of more or less summer diarrhœa has been attributed to the pollution of town dust by the bowel bacteria of the horse. It would be not a little interesting to learn whether Roos has conducted his researches into the relation of the equine bacillus coli to the constipation of man. In any case he has opened up a most interesting and suggestive line of observation, and one that promises to yield practical results in the direction of treatment. The subject of the bacteriology of the intestine, both in health and in disease, is enormously wide and important, and offers a fine field of investigation to the rising generation of bacteriologists.—*Medical Press and Circular.*

The Toxicology of Carbolic Acid.—At an enquiry recently held, says the *Medical Press*, into the circumstances attending the death of several sailors, consequent upon the bursting of some barrels of crude carbolic acid, certain curious facts came to light, bearing on the toxic powers of this acid. The men were deputed to make fast the rolling casks, and in so doing they were severely burned, though not to such an extent as to account for death, which took place with startling suddenness. According to Dr. Dupré, the immediate cause of death was absorption of the acid through the skin, this crude acid not burning the skin like the pure acid. If this be so, the absorptive powers of the skin in respect of carbolic acid must be vastly greater than towards most other substances. We do not gather that there was any post-mortem evidence in support of this hypothesis, and, in view of the fact that this distinguished chemist stated that he had kept a

mouse saturated with the acid for half an hour without the slightest effect, the suggestion appears rather risque. Considering that the hold in which these men were working was two feet deep in the acid, it is matter for surprise that any of them should have escaped with their lives; but it is important from many points of view that the exact cause of death should be made clear, and a study of the evidence given at the inquest does not enable us to decide this question.

A Clever Thief.—The Paris correspondent of the *Lancet* relates that a specialist in mental diseases was recently consulted by a man of distinguished appearance, giving an aristocratic name, who sought treatment for a daughter suffering from kleptomania. Suggestive therapeutics was instituted, and little attention was paid to the propensity for misappropriation exhibited by the patient, particularly as the abstracted articles were returned the day after their removal. Finally the physician missed a jewel box of value, but this was not brought back, and, on investigation, it was found that the address given was false, and that the pretended patient and her father were most crafty rogues.

Insects and the X-Rays.—A box was made half of wood and half of sheet lead. In the wooden half a number of larvæ of flies, bees, beetles, and other insects was placed, and the box was then put in the field of the *x*-rays. The insect colony at once became greatly excited, and after crawling to and fro, finally emigrated, to a worm, to the leaden half of the box, where the rays could not penetrate. The experiment was repeated many times, and always with the same result. A similar experiment was tried with the blind larvæ of a certain species of beetle. A number of them were placed in an open cigar box, which also contained a metal box with an opening. No sooner were the rays turned on than the insects showed signs of distress. Their uneasiness increased, and in a little while they all sought refuge in the metal box. As the larvæ in the second experiment were entirely sightless, their perception of the rays must take place through the nerves of the skin.—*The American X-Ray Journal.*

An Alleged Marriage Law in Pennsylvania.—According to a Parisian medical contemporary, the marriageable maidens in Pennsylvania have been the object of a special solicitude on the part of the Solons of the State Legislature. This journal says that a Pennsylvania law for the encouragement of marriage provides that any male citizen more than forty years of age who wishes to remain single must apply for a dispensation from marriage and pay therefor the sum of $100. The money so obtained is to be applied to the maintenance of homes for old maids who have received no offers of marriage or none of an acceptable character. This seems to us an unfair discrimination against the men, who must marry willy-nilly, while the women have the right of choice. But the legislature went further, not only favoring the women over the men, but even laying an impost duty on foreign brides, regardless of the unconstitutionality of interstate imposts. The same journal states that every male Pennsylvanian, forty years or more of age, who marries a woman residing outside of the State must pay a fine of $100 for the insult thus offered to the virgins of his own commonwealth.

Did Napoleon Die of Cancer?—The belief is very general that the cause of death of the great Napoleon was cancer, and it is generally believed that cancer was in the family. Dr. Baudouin has lately published, in the *Gazette médicale de Paris*, some clinical remarks on the death of Napoleon I., and the conclusion he arrives at, apparently on perfectly reasonable grounds, is that the great Emperor suffered from an ulcer of the stomach, which caused death by perforation. Undoubtedly, hæmatemesis was present as a symptom, and at the autopsy there was no hypertrophy of the liver, nor any sign of cancer, but a gastric ulcer which had perforated was found near the pylorus. The whole controversy exemplifies very clearly the extreme difficulty of correcting a mistake of this kind. It will be remembered that Napoleon's last illness was of about four years' duration, and this time would fit in with the diagnosis of cancer, though it is undoubtedly true that a competent authority diagnosed chronic hepatic disease, and later abscess of the liver; but Dr. Baudouin believes this to have been a perihepatitis due to extension from the existing ulcer of the stomach.—*Medical Press and Circular.*

Nervous Diarrhœa.—Pariser distinguishes five forms of nervous diarrhœa, due to (1) central nervous influences; (2) toxic causes, as from tæniæ, nicotine, morphina; (3) reflexes from the pelvic organs, stomach, nose, or skin; (4) neurasthenia; (5) combined catarrh and neurosis. The differential diagnosis is easy when the primary cause is pronounced, especially when the symptoms point to neurasthenia, while one of the most valuable signs is presented in persistence of the diarrhœa after adoption of a simple non-irritating dietary. The great abdominal nervous plexuses are often hyperæsthetic; mucus is absent from the stools, save sometimes in the fifth group; other objective signs are lacking. The treatment resolves itself into finding first, the cause, then removing it.—*Edinburgh Medical Journal.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General United States Marine-Hospital Service, during the week ended July 27, 1901:

		CASES	DEATHS.
SMALLPOX—UNITED STATES AND INSULAR *			
Alaska, Juneau	July 3d	1	
California, Los Angeles	July 6th to 13th	1	
San Francisco	July 7th to 14th	1	
Illinois, Chicago	July 13th to 20	1	
Louisiana, New Orleans	July 13th to 20th	1	
Massachusetts, Boston	July 13th to 20th	2	
Fall River	July 13th to 20th		1
Michigan, Detroit	July 13th to 20th	1	
Minnesota, Minneapolis	July 7th to 20th	6	
Winona	July 6th to 13th	1	
New Jersey, Jersey City	July 14th to 21th	2	
Newark	July 14th to 20th	8	
New York, Elmira	July 6th to 13th	2	
New York	July 13th to 20th	35	12
Ohio, Cleveland	July 13th to 20th	1	
Pennsylvania, Lehanon	July 13th to 20th	1	
Philadelphia	July 13th to 20th	4	1
Tennessee, Memphis	July 13th to 20th	1	
Utah, Salt Lake City	July 13th to 20th	1	
Washington, Tacoma	July 7th to 14th	1	
Wisconsin, Milwaukee	July 13th to 20th	1	
Philippines, Manila	May 25th to June 15th	8	
SMALLPOX—FOREIGN.			
Austria, Prague	June 29th to July 6th	4	
Belgium, Antwerp	June 29th to July 6th	2	1
China, Hongkong	June 8th to 22	4	3
Colombia, Panama	July 8th to 15th	4	
France, Paris	June 29th to July 6th		10
Great Britain, Glasgow	July 3th to 12th	5	1
Liverpool	June 29th to July 6th	1	
London	June 29th to July 6th	6	
India, Calcutta	June 15th to 22d		6
Japan, Nagasaki	June 21st to 30th	1	
Italy, Messina	June 29th to July 6th	21	1
Netherlands, Rotterdam	July 6th to 13th	4	
Russia, Moscow	June 22d to 29th	11	1
Odessa	June 29 to July 6th	2	
Warsaw	June 15th to 22d		6
Spain, Corunna	June 29th to July 6th		1
Straits Settlements, Singapore	June 1st to 8th		1
Switzerland, Geneva	June 22d to 29th	1	
Turkey, Smyrna	June 9th to 16th		1
Uruguay, Montevideo	May 25th to June 8th	49	3
YELLOW FEVER.			
Mexico, Vera Cruz	July 6th to 13th	3	2
Salvador, San Salvador	June 20th to present		
CHOLERA.			
India, Bombay	June 18th to 25th		7
Calcutta	June 15th.		37
PLAGUE—UNITED STATES AND INSULAR.			
California, San Francisco	July 6th to 11th	5	4
Hawaii, Honolulu	July 6th		1
Philippines, Manila	May 25th to June 15th	57	43
PLAGUE—FOREIGN.			
Africa, Cape Town	To June 29th	749	341
Maitland	June 9th to 15th	2	
Port Elizabeth	June 9th to 15th	3	
Simonstown	June 9th to 15th	1	
China, Amoy	May 25th to June 1st		700
Hongkong	June 8th to 22d	306	303
India, Bombay	June 18th to 25th		62
Calcutta	June 15th to 22d		22
Japan, Yamanashi Ken	July 5.	1	

*In the Health Report published last week, Nebraska City was credited with 66 cases of smallpox and 33 deaths; it should have been New York City.

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Original Articles.

THE PROPAGATION OF YELLOW FEVER; OBSERVATIONS BASED ON RECENT RESEARCHES.*

By WALTER REED, M.D.,

SURGEON U. S. ARMY.

MR. PRESIDENT AND GENTLEMEN OF THE FACULTY: If, upon receipt of your kind invitation to be present with you to-night my first impulse was to decline, I beg that you will not attribute this to any want of appreciation on my part of the honor conferred, but solely to my desire to avoid what I felt would be a very embarrassing position, should I attempt to follow in the footsteps of the distinguished gentlemen whom you have invited to fill this position from year to year. Recognizing in them, as all willingly do, leaders in the profession, who, by their well-considered addresses, have been able to add so much to the scientific interest of your annual meetings, I could but feel that the burden which you proposed to put upon me was greater than I could bear. That, nevertheless, I am here, in the capacity of your annual speaker is due to my unwillingness even to appear disobliging to this old and honorable association of physicians, amongst whose number I find included some of my most valued friends; friends who, in years gone by, have labored so faithfully to instill into my mind the value of the scientific method, but to whom I have been able to make such small return. If, therefore, I drew some encouragement from the feeling that I should not be wholly among strangers, I found yet more in the thought that such an eminent body of physicians as this Faculty must ever be willing to welcome any contribution that promises to shed light upon a subject hitherto enshrouded in darkness, and which thereby holds out the prospect of an addition to our knowledge in the larger field of preventive medicine.

In the hope that what I have to say to-night may contribute to the solution of a somewhat obscure problem, and may assist us hereafter in the struggle with a grave epidemic disease, I have concluded to present for your consideration "The Propagation of Yellow Fever, Based on Recent Researches."

Before proceeding to the discussion of this subject, it is fitting that I should pay brief tribute to the memory of a former member of this Faculty, the late Dr. Jesse W. Lazear, United States Army. I can hardly trust myself to speak of my late colleague, since the mention of his name brings back such scenes of anxiety and depression as one recalls only with pain. Along with these sad memories, however, come other recollections of a manly and fearless devotion to duty such as I have never seen equaled. In the discharge of the latter, Dr. Lazear seemed absolutely tireless and quite oblivious of self. Filled with an earnest enthusiasm for the advancement of his profession and for the cause of science, he let no opportunity pass unimproved. Although the evening might find him discouraged over the difficult problem at hand, with the morning's return he again took up the task full of eagerness and hope. During a service of less than one year in Cuba, he won the good-will and respect of his brother officers, and the affection of his immediate associates. Almost at the beginning of what promised to be a life full of usefulness and good works he was suddenly stricken, and, dying, added one more name to that imperishable roll of honor to which none others belong than martyrs to the cause of humanity.

It is my own earnest wish that, whatever credit may be hereafter given to the work of the American Commission in Cuba during the past year, the name of my late colleague, Dr. Lazear, may be always associated therewith.

I do not propose to set before you this evening so much the views of others in relation to the etiology of yellow fever or to the conditions under which it originates and spreads, as to give you the results of my own experience with regard to the manner in which this disease propagates itself. In the ordinary course of army administration, I found myself brought in contact with yellow fever during the summer of 1900, under such circumstances as permitted me to give my entire time to the study of its etiology and propagation. Permit me here to remark that so many claims have been made as to the specific cause of yellow fever—claims that could not be confirmed by other investigators—that one must needs feel considerable hesitancy in considering this remarkable disease from any aspect. I must confess that I have experienced, in the highest degree, this feeling of reluctance to write or speak about yellow fever, especially when I recall the frame of mind of myself and my colleagues—that of utter perplexity and wonder—as we stood by the bedside of patients, or at the autopsy table of those who had died of this mysterious malady. I trust, therefore, that whatever I may say here to-night will be considered as a modest expression of opinion growing out of an unprejudiced study of yellow fever, for the most part from the point of view of its propagation.

Although considerable attention had been given to the laboratory study of the microorganisms isolated by Sternberg and Sanarelli from the organs of yellow fever cadavers, this did not enable one to form any opinion concerning the nature of the disease or the mode of its propagation.

At the time of our arrival in Cuba—June, 1900—the situation as regards the etiology of yellow fever may be briefly stated as follows: The claims of all investigators for the discovery of the specific agent of this disease had been disproved by the exhaustive work of Sternberg,[1] published in 1890, except that made by Dr. Sanarelli, in June, 1897, for his *bacillus icteroides*. I need not take up time here with mention of those who had investigated Sanarelli's claim, except to state that the confirmation of his discovery came chiefly from workers in the United States, of whom I may speak of

*Address delivered at the One Hundred and Third Annual Meeting of the Medical and Chirurgical Faculty of the State of Maryland, held at Baltimore, April 24–27, 1901.

[1] Report on the Etiology and Prevention of Yellow Fever, 1890.

Achinard and Woodson, of New Orleans, and especially of Wasdin and Geddings of the Marine Hospital Service. The latter in a report,[2] submitted during the summer of 1899, accepted in the fullest Sanarelli's claim for the specific character of *bacillus icteroides*, basing their confirmation on the finding of this bacillus in thirteen out of fourteen cases of yellow fever studied by them in the city of Havana. Under these circumstances, it was of the first importance that we should give our entire time to the search for *bacillus icteroides* in the bodies of yellow fever cases. The result of this study, embracing twenty-one cases during life and eleven autopsies, and which was entirely negative, has already been given in our Preliminary Note,[3] read at the last meeting of the American Public Health Association (1900).

Turning for a moment to our knowledge concerning the mode of propagation of yellow fever, the situation, when we began work, was about as follows: The battle for or against its importation having been already decided in favor of the former belief, its transmissibility from place to place was attributed to the individual affected by the disease, but especially to his clothing; with the proviso, however, that intimately connected with its spread was involved a proper constitution of the atmosphere of the place, this latter due chiefly to insanitary conditions of soil. That the excreta of the patient contained the specific agent of the disease was supported by many good authorities. That the disease could be propagated by fomites was not disputed by any one. Against its spread by the sick and by fomites all quarantine measures were being then directed.

The theory of Finlay for the propagation of yellow fever by the mosquito, concerning which I shall presently have something to say, had either gained no credence, or been rejected by reason of the absence of any results that had been presented by its author in support of it. In the meantime, and before we had completed our search for Sanarelli's bacillus, certain facts had been cropping out, as it were, which served to arrest the attention. Just here, while mentioning the first fact, let me say that one does not like to confess his ignorance of such a well-known disease as yellow fever, especially before an audience some of whose members may have already treated cases during the last epidemic in this city, in the year 1876; and yet candor compels me to record my very great surprise, when brought face to face with yellow fever, to learn that attendance on patients by non-immune nurses, in every stage of the malady, involved no danger. In other words, that yellow fever, both in the wards at Columbia Barracks, as well as in the wards of Las Animas Hospital, Havana, was not contracted by the attendants under circumstances such as those in which typhoid fever and Asiatic cholera are too often conveyed. Further inquiry along this line seemed to indicate that the disease had not been contracted in hospitals, even during the earlier epidemics, when disinfection of articles of clothing and bedding was unknown.

A second fact which appeared worthy of note, was the discharge of patients from the wards during early convalescence, and their return to the companionship of their comrades with apparently no danger of establishing fresh foci of the disease. This hardly seemed in keeping with the presence of a specific agent in the excreta of the sick.

A third fact which stood out prominently was that, in certain of our cases, no growth whatever was obtained on our present laboratory media, either by frequent cultures taken from the blood during life or from the organs after death. In other words, no bacterium was obtainable by aerobic methods, in certain of our cases, either during life or after death. This result had considerable weight in controlling our future work.

During the time that these cases were being studied, opportuntiy was afforded to investigate an epidemic of fever which was prevailing in Pinar del Rio Barracks, near the town of this name, distant one hundred and ten miles from Havana, and of which fever several soldiers, in a garrison of about nine hundred men, had already died. A visit was made to this garrison with my colleague, Dr. Agramonte, on the 31st day of July, 1900, and a body sectioned the same afternoon. The lesions found were those of yellow fever. Inquiry showed that under the diagnosis of "remittent malarial fever" or "pernicious malarial fever," the disease had been prevailing for at least thirty-seven days prior to our arrival—July 21—and that about thirty-five cases had been under treatment in the Post Hospital, of which number eleven had died. As the true nature of the disease had not been suspected, no precautionary measures had been taken as regards the disinfection of bedding and clothing used by the patients, except that in case of death, the sheets and pillow slips were put in bichloride solution and the mattress and pillow exposed to sunlight. An order required that the excreta of all patients under treatment in this hospital should be carefully disinfected, and this was probably carried out fairly well. The excreta for the garrison at large were incinerated in permanent crematories, fires being lighted in these twice a week.

Notwithstanding the omission to disinfect the bulk of the contaminated articles of bedding and clothing, the disease had not been contracted by the nurses, nor by the other patients in the several wards, nor by the three men who washed all of these articles. A little inquiry showed that contaminated clothing was in all of the eight barrack-rooms without apparent detriment to the occupants. Further investigation showed that a death from yellow fever had occurred in this garrison as early as May 16, 1900, and that the source of infection for this case, as well as for the present outbreak, was in the immediately adjacent town of Pinar del Rio, to which the soldiers had free access.

An interesting observation was the sudden attack of yellow fever experienced on July 12, 1900, by a general prisoner who had been confined in a cell in the guard house since June 6, 1900. His death occurred at the Post Hospital on July 18, 1900. This cell was occupied, at the time, by eight other prisoners, none of whom contracted the disease, although one of them continued to occupy the bunk vacated by the sick man. As these nine prisoners had been kept under strict military guard, it was impossible that the individual attacked could have acquired his infection in the town of Pinar del Rio. He was, as far as could be ascertained, exposed to no source of infection to which his companions had not been equally exposed, and yet he alone acquired the disease. It was conjectured at the time that, perhaps, some insect capable of conveying the infection, such as the mosquito, had entered through the cell window, bitten this particular prisoner and then passed out. This was, however, only a supposition.

Two instances of undoubted exposure to fomites, involving four individuals, came under my observation during this inspection. In the one case a box of clothing, belonging to a soldier who had died

[2] The Cause of Yellow Fever. Washington, 1899.

[3] The Etiology of Yellow Fever, A Preliminary Note. *Phil. Med. Journal*, Oct. 27, 1900.

of yellow fever on July 3, and which had been packed by an enlisted man on July 4, and placed in the company store-room, was unpacked for the purpose of making an inventory of the articles, and carefully repacked on July 18, by two non-immune soldiers, who did not contract the disease by this exposure. In the other case, the very bed vacated on July 18 by the Commissary Sergeant, who was taken sick on July 17, and died on July 21, was occupied by a non-immune soldier on the night of the 19th and 20th of July. Although this individual was badly frightened when the true character of the Sergeant's attack was announced, the combination of fright and exposure to fomites was not sufficient to produce an attack of yellow fever.

The data gathered, therefore, during the investigation of this small epidemic at Pinar del Rio, did not tend to strengthen one's belief in the theory of the propagation of yellow fever by fomites. This belief had already been shaken by the manner in which the disease had spread in the town of Quemados, Cuba, from which we had obtained cases for bacteriologic study; for here we saw the disease pass from No. 102 Real street around the corner to No. 20 General Lee street, and thence to a house immediately across this latter street, without the passage of any persons between these three houses, and to the exclusion of any article of clothing, as the three families had no acquaintance whatever with each other. Here the infection was just as plainly carried through the air as it had been taken, through this medium, to the prisoner in the cell at Pinar del Rio. We also observed in this town that the contagion passed down General Lee street with a bound to the distance of a square, passing in its journey a house containing two non-immunes, only to return, a few days later, to this very house and seize upon both of its non-immune inmates. This hardly seemed in keeping with the idea of a diffusible poison carried by the atmosphere. During our first week on the island, we noted in a house in Quemados, where the husband and wife were taken down with yellow fever, a few days apart, that neither the young daughter, who was removed to a place of safety on the fourth day, nor an attendant who had remained in the sick room for the entire tweny-four hours of the seventh day, had acquired the disease; but that of the two remaining nurses who continued to perform their duties, one was seized on the fourteenth day and the other on the fifteenth day, with an attack of yellow fever. This observation was recorded at the time for what it was worth. Later it was found to harmonize with the observations which had been made by Surgeon Henry R. Carter, of the Marine Hospital Service, in 1898. As I shall recur to these observations later in my remarks, it will suffice to here state that, at this stage of our investigation it seemed to me, and I so expressed the opinion to my colleagues, that the time had arrived when the plan of our work should be radically changed; that the search for the specific agent of yellow fever, while not abandoned, should be given secondary consideration, until we had first definitely learned something about the way or ways in which the disease was propagated from the sick to the well. I felt well-nigh convinced that we could obtain no light whatever upon the task that had been set before us, unless we substituted this line of work for the one we had been pursuing, and that in view of the splendid work of Ross, Bignami and others with regard to the propagation of malarial fever, together with the well-known thermal influences intimately connected not only with the epidemiology of the disease in the United States, but also with its endemiology on the Island of Cuba, it was of the highest importance that the agency of an intermediate host, such as the mosquito, should either be proven or disproven.

Remember, if you please, that here we were dealing with an epidemic disease, concerning which there was no evidence whatever to show that it had ever been spread by contamination of either water or food; that it had always demanded a certain elevated temperature before it would begin its progress, which latter both in its manner and rate was quite unlike that of other epidemic diseases, such as smallpox or typhoid fever or Asiatic cholera: that once having begun its march, no hygienic measures ever instituted had been able to arrest its course, except depopulation of the locality affected; that while if introduced into certain localities, it would readily propagate itself, those sick with this disease could be carried in large numbers into other places without any danger of its spread—a fact which had been attested in hundreds of instances; that ships with non-immune crews could remain at anchor, with perfect safety, at about three hundred yards from an infected shore; couple with this the natural law by which it was governed, viz., its prompt control by frost, and tell me what other epidemic disease could be associated in the mind with this except malarial fever?

The theory that the spread of yellow fever could not be explained by the assumption of a diffusible miasm in the atmosphere, but required the presence of an intermediate host, appears to have been first advanced by Dr. J. C. Nott, of Mobile, Ala., in March, 1848. His views were given in full in the *New Orleans Medical Journal* for that year. It was also in this paper that Nott suggested the mosquito as the possible agent in the dissemination of malarial fevers. He evidently did not have in mind the mosquito as the bearer of the yellow fever poison, but rather that this important office was performed by some insect or insects that remained very close to the ground. Referring to the fact to which all writers were agreed that a very imperfect barrier, such as a row of houses or of trees, would often protect dwellings from the access of malarial poison, he says: "I have been able in my researches to discover no facts of this kind in connection with yellow fever, and my personal observation repudiates this *in toto*. We never find yellow fever, as the sportsman says, "up a tree" but on the contrary, the *materies morbi*, whatever it may be, creeps along the ground, regardless of winds, passing under and through houses and trees, etc., and knowing no impediment but a sheet of water." Again, "It is a curious fact that from 1829 to 1837 there was no epidemic of yellow fever in Mobile, and during this time the streets were beautifully shelled; since 1837 we have had it five times, and the shelling was not continued. If the insect theory be correct, could the lime be an impediment to their progress across the street?"

To Dr. Carlos J. Finlay, of Havana, must be given, however, full credit for the theory of the propagation of yellow fever by means of the mosquito, which he proposed in a paper read before the Royal Academy in that city at its session on the 14th day of August, 1881. From that date to the present time, Finlay has made a number of valuable contributions to the origin and mode of transmission and the prevention of yellow fever. During this time his views have undergone some slight modification. Starting with the idea that the specific poison adhered to the mosquito's proboscis and was thus mechanically transferred to the individual next bitten (which specific agent was claimed by him in 1887, and even at the present time, to be his *micrococcus tetragenus febris flavae*), he later—1899—modified his original theory, based

upon the studies of Theobald Smith on Texas fever, "so as to include the important circumstances that the faculty of transmitting the yellow fever germ need not be limited to the parent insect, directly contaminated by stinging a yellow fever patient (or perhaps by contact with or feeding from his discharges), but may be likewise inherited by the next generation of mosquitoes issued from the contaminated parent" (NEW YORK MEDICAL RECORD, May 27, 1900). Of the one hundred individuals experimented upon from June, 1881, to May, 1895, Finlay claimed to have produced three cases of "mild albuminuric fever," after a period of incubation varying from five to twenty-five days; but as he exercised no control over these individuals, to the exclusion of other sources of infection, no value could be attached to his results. If, indeed, one were guided by the results obtained, the only logical conclusion to be drawn was that Finlay had disproved his own theory. His failure to produce positive results—which we now believe to be due to the fact that he did not keep his insects for a sufficient length of time after contamination, before applying them to the individual to be infected—doubtless led Finlay to promulgate the later idea that the bite of the contaminated mosquito, while not producing the disease, conferred immunity upon the individual bitten. He has made use of the bite of the contaminated mosquito for this purpose in a considerable number of individuals. Notwithstanding the fact that Finlay had no results to show in support of his theory, and that the latter had been wholly rejected by other investigators, the argument in favor of an intermediate host seemed so strong, as I have already stated, that further investigation along this line was determined upon. The mosquito selected was the one that had been used by Finlay in his previous work, and which with *Culex pungens*, is the most prevalent and annoying mosquito in the city of Havana, and for that matter in all the larger towns on the Island. Originally designated by Fabricius as *Culex fasciatus*,* it had later been called by Desvoidy, *Culex mosquito*. Unlike *Culex pungens* this mosquito bites by day as well as during the night time. Judging from my own experience, I should say that its favorite hours for feeding were from 4 P. M. to 10 P. M.

In our preliminary note above referred to, we recorded amongst eleven individuals bitten by contaminated mosquitoes of this species, nine negative and two positive results; the attack in both of the latter occurring within the period of incubation of yellow fever. As the circumstances surrounding the infection of one of these cases was such as to exclude any other source of infection, we announced the conclusion that "the mosquito served as the intermediate host for the parasite of yellow fever." Subsequent observations have pointed, in the most convincing manner, to the soundness of this conclusion. It is to these later observations that I now desire to invite your attention.

Dismiss from your minds, if you please, the idea that yellow fever is so prevalent on the Island of Cuba and that the ways of acquiring the disease so numerous, that experimental results obtained at any point in the so-called endemic Zone of Yellow Fever must be thereby vitiated. Nothing to my mind could be more improbable than such an opinion; for as a matter of fact yellow fever has been confined, during the year 1900, to Havana and a few other towns, coast or inland, and has not been present elsewhere on the Island. Hence any location selected, provided it should be one mile from such a center of infection and surrounded by proper safeguards, would be just as free from the occurrence of yellow fever as if it were located ten miles from such a town. My own experience on the Island of Cuba had already taught me that yellow fever could be easily kept out of a military garrison, although prevailing in epidemic form in a town less than one mile distant. For this reason it was not considered advisable to establish our Experimental Sanitary Station at a greater distance than one mile from Quemados, Cuba. Thus Camp Lazear could be easily reached by the members of the Board and was conveniently located as regards its base of supplies. The occurrences at this camp fully justified this decision. Placed in an open field, which was fairly swept at all times by the prevalent winds, and having a military garrison each of whose members had been personally selected by reason of former good conduct and interest in the work to be here undertaken, no difficulty whatever was experienced in maintaining the strictest quarantine against the outside.

Let us now present to you, as succinctly as possible, our observations at this camp, prefacing what I shall have to say with the remark that here we proposed to attempt the infection of non-immune individuals in three ways, viz., first, by the bites of mosquitoes that had previously bitten cases of yellow fever; secondly, by the injection of blood taken during the early stages from the general circulation of those suffering with the disease, and, thirdly, by exposure to the most intimate contact with fomites. For this purpose, in addition to the seven tents provided for the quartering of the detachment, two frame buildings, each 14x20 feet in size, were constructed. These buildings, having a cubic capacity of 2,800 feet, were exactly similar, except that one of them, known as the "Infected Mosquito Building," was divided near its middle by a permanent wire screen partition and had good ventilation; while the other, designated as the "Infected Clothing Building," was purposely so constructed as to exclude anything like efficient ventilation. These houses were placed on opposite sides of a small valley, about eighty yards apart, and each seventy-five yards distant from the camp proper. Both houses were provided with wire screen windows and double wire screen doors, so that mosquitos could be kept without or within the buildings, as the experimenter might desire.

At first the results obtained at this station were not encouraging. From November 20, 1900, the date of the establishment of the station, until December 4—a period of two weeks—we had tried to infect four individuals with entirely negative results. Two of these had been bitten twice, at intervals of three days, by contaminated mosquitoes which had been kept from ten to fourteen days after they had fed on yellow fever cases; while the other two non-immunes had been thrice bitten, at the same intervals, by mosquitoes that had bitten cases of yellow fever ten to eighteen days before. As the weather during this time was cool and the insects had been kept at room temperature (and this is practically out-door temperature in Cuba), we conjectured that the negative results might, perhaps, be thus explained. We remembered that Daniels[4] in repeating, during the winter season Ross' observations with proteosoma infection of birds, had obtained a much smaller percentage of successes than had Ross, who worked during summer weather. We would have been glad to draw some encouragement from our negative experiments, also, with infected bedding, but as at this

* It is interesting and important to observe that since the publication of our Preliminary Note, Theobold, the English Entomologist, has taken *C. fasciatus* from the genus *Culex* and placed it in a new genus—*Stegomyia*.

[4] On Transmission of Proteosoma to Birds by the Mosquito—Royal Society, Reports of Malarial Committee. London, 1900.

date (December 4) our three subjects had been sleeping with fomites only four nights (which is within the period of incubation of the disease), this comfort was debarred.

On the fifteenth day of our encampment, therefore—December 5, at 2 P.M. o'clock—we concentrated our insects, so to speak, on one of these non-immunes—Kissinger by name—selecting five of our most promising mosquitoes for the purpose. These had been contaminated as follows: two fifteen days; one nineteen days, and two twenty-one days previously. This inoculation was more successful, for at the expiration of three days and nine and one-half hours the subject, who had been under strict quarantine during fifteen days, was suddenly seized with a chill about midnight, December 8, which was the beginning of a well-marked attack of yellow fever.

I cannot let this opportunity pass without expressing my admiration of the conduct of this young Ohio soldier, who volunteered for this experiment, as he expressed it, "solely in the interest of humanity and the cause of science," and with the only proviso that he should receive no pecuniary reward. In my opinion this exhibition of moral courage has never been surpassed in the annals of the Army of the United States.

The following morning—December 9—(Sunday at 10.30 A.M. o'clock) we selected from those insects that had bitten Case I, one mosquito that seemed to us to possess the best record of contamination, as it had bitten a fatal case of yellow fever, on the second day of the disease, nineteen days before. This insect was applied to a Spanish immigrant, who had been strictly quarantined at our station for nineteen days. At the expiration of three days and eleven hours (December 9, 9.30 P.M.) this individual was also seized with an attack of yellow fever.

In the meanwhile, on December 8, 1900, at 4 o'clock P.M., we had applied to a young Spaniard three of the mosquitoes that had, three days previously, bitten Case I, together with an additional mosquito contaminated seventeen days before. At the end of four days and twenty hours (December 13, noon), this Spaniard suddenly lost his vivacity and took to his bed. The following morning, at 9 A. M., his febrile paroxysm began. His case, which was the mildest of our series, was also marked by a long period of incubation, viz., five days and seventeen hours. He had been in quarantine nine days.

December 11, at 4.30 P.M. o'clock, the identical four insects which had bitten Case III were fed on a Spanish immigrant who had been in quarantine for the past twenty-one days. At the expiration of three days and nineteen and one-half hours (December 15, noon) he was likewise seized with yellow fever.

Thus within the period of one week—December 9 to December 15—we had succeeded in producing an attack of yellow fever in each of the four individuals whom we had caused contaminated insects to bite, and in all save one of the five non-immunes whom we had originally selected for experimentation.

It can readily be imagined that the concurrence of four cases of yellow fever in our small command of twelve non-immunes, within the space of one week, while giving rise to feelings of exultation in the hearts of the experimenters, in view of the vast importance attaching to these results, might inspire quite other sentiments in the bosoms of those who had previously consented to submit themselves to the mosquito's bite. In fact several of our good-natured Spanish friends who had jokingly compared our mosquitoes to "the little flies that buzzed harmlessly about their tables," suddenly appeared to lose all interest in the progress of science, and forgetting, for the moment, even their own personal aggrandizement, incontinently severed their connection with Camp Lazear. Personally, while lamenting, to some extent, their departure, I could not but feel that in placing themselves beyond our control they were exercising the soundest judgment. In striking contrast to the want of confidence shown by these Andalusians who had agreed to be bitten by mosquitoes was the conduct now displayed by the three young Americans, who had consented to jeopardize their lives by exposure to fomites, and who, as a matter of fact, had already spent fifteen nights in a small, illy-ventilated building, breathing in an atmosphere dreadfully contaminated by the soiled garments of yellow fever patients. With the occurrence of these cases of mosquito infection, the countenance of these men, which had before borne the serious aspect of those who were bravely facing an unseen foe, suddenly took on the glad expression of "school boys let out for a holiday," and from this time their contempt for "fomites" could not find sufficient expression. Thus illustrating once more, gentlemen, the old adage that familiarity, even with fomites, may breed contempt!

As the continued good health of those who were occupying the "Infected Clothing Building" pointed strongly to the harmlessness of fomites, the next experiment at this station was undertaken for the purpose of demonstrating that the essential factor in the infection of a building with yellow fever is the presence therein of mosquitoes that have bitten cases of yellow fever.

Accordingly at 11.55 A.M., December 21, 1900, fifteen mosquitoes were freed in the larger room of the "Infected Mosquito Building," which, as I have said, was divided into two compartments by a wire-screen partition. The interval that had elapsed since the contamination of these insects was as follows: one, twenty-four days; three, twelve days; four, eight days; and seven, five days. The only articles of furniture in this building consisted of three beds, one being placed in the mosquito room and two beyond the wire screen, these latter intended to be occupied by two "control" non-immunes. The articles of bedding as well as the bedsteads had been carefully disinfected with steam. At noon on the same day, five minutes after the mosquitoes had been placed therein, a plucky Ohio boy, Moran by name, clad only in his night shirt, and fresh from a bath, entered the room containing the mosquitoes, where he lay down for a period of thirty minutes. On the opposite of the screen were the two "controls" and one other non-immune. Within two minutes from Moran's entrance, he was being bitten about the face and hands by the insects that had promptly settled down upon him. Seven in all bit him at this visit. At 4.30 P.M., the same day, he again entered and remained twenty minutes, during which time five others bit him. The following day at 4.30 P.M., he again entered and remained fifteen minutes, during which time three insects bit him, making the number fifteen that had fed at these three visits. The building was then closed, except that the two non-immune "controls" continued to occupy the beds on the non-infected side of the screen. On Christmas morning at 11 A.M., this brave lad was stricken with yellow fever, and had a sharp attack, which he bore without a murmur. The period of incubation in this case was three days and twenty-three hours, counting from his first visit, or two days and seventeen and a half hours, if reckoned from his last visit. The two "controls" who had slept each night in this house, only protected by the wire screen, but breathing the common atmosphere of the building, had remained in good health. They continued to so remain, although required to sleep here for thirteen additional nights. As Moran

had remained in strict quarantine for the period of thirty-two days, prior to his attack, the source of his infection must be found within this house.

In the order of succession the next experiment undertaken at this camp was the injection of blood, taken from Case V (Moran), beneath the skin of a Spaniard, but I will defer further mention of this line of experimentation, until I have completed the mosquito series, as these are by far the most important. I, therefore, invite your attention to Case VI, Martinez by name. His case is of interest as bearing upon the number of days which must elapse after the contamination of the mosquito before it can convey the disease to a second individual.

An additional point of some importance, I think, is that whereas prior to the time of Moran's infection, (Case V), the contaminated mosquitoes had been taken to the men in their tents and there applied, from this date—December 17th—the subjects were invited to visit a particular room attached to our "Mosquito Building," but quite separate from it, where the contaminated insects were kept at summer temperature, and were there given the opportunity of exposing themselves to an attack of yellow fever by putting their hands inside of certain mosquito-inhabited jars. I may as well tell you know that of seven persons who availed themselves of this privilege five acquired yellow fever.

After a quarantine period, therefore, of nine days, Martinez visited this room on December 17, 1900, and was bitten by fourteen mosquitoes which *four days* before had fed upon Case I of this series. The result was quite negative. December 24th, or on the *eleventh day* after contamination, the subject was again bitten by seven of these insects—all that remained of the original fourteen. Again no infection took place. After six full days, or on December 30th, at 11 o'clock A.M., Martinez was again bitten by the surviving four of these mosquitoes, *i. e.*, on the *seventeenth day* after their contamination. On the fourth day thereafter, January 3d, 1901, at 10.30 A.M., he was seized with yellow fever—which ran a typical course. The period of incubation was three days, twenty-two and one-half hours. Although we cannot say on what particular day these insects became capable of conveying the disease, we are able to state that they were incapable of infecting on the fourth or eleventh day after contamination. This experiment agrees with others that we have made during this investigation and in which we have failed to convey the disease by the bites of insects at intervals varying from two to nine days after contamination. These observations seem to indicate that after the parasite has been taken into the mosquito's stomach, a certain number of days must elapse before the insect is capable of reconveying it to a second individual. This period probably represents the time required for the parasite to undergo its cycle of development and reach the mosquito's salivary glands; and as far as our experience goes, would appear to be about twelve days in summer weather and most probably about eighteen or more days during the cooler winter months. Case VI, therefore, does not support the opinion of Finlay that the bite of the contaminated mosquito confers immunity against a subsequent attack of the disease, since we have seen that neither the bites of fourteen insects on the fourth day nor the bites of seven on the eleventh day after contamination, prevented, in the least, the conveyance of the infection by the bites of four only of these mosquitoes on the seventeenth day.

I will now ask you to look at Case IX, as this case serves to illustrate some points of interest. In the first place, this subject, an American, was bitten by insects that had fed upon Case I of our series on the third day of his illness; that is, during the secondary fever which followed a complete intermission in this case. Secondly, these mosquitoes had been kept alive on sugar and water for a period of *thirty-nine days* before being applied to Case IX. Of the original five insects that had bitten Case I on the third day, four were still alive on the thirty-ninth day thereafter and three showed every evidence of good appetite. Thirdly, this particular subject having passed twenty-one nights in the "Infected Clothing Building," during which time he was exposed to the most intimate contact with fomites, without apparent detriment to his health, had been kept in strict quarantine for yet thirty days longer at Camp Lazear. At the expiration of this time, or on January 19, 1901, at 4.30 P.M., he visited our mosquito room where he was bitten by these thirty-nine-day old insects, three in number. This inoculation was followed by an attack of yellow fever of moderate severity, which began at 4 P.M., January 23, the period of incubation being three days and twenty-three and one-half hours.

Case XII you will find of equal interest, as this individual was infected, in the same room, by the bites of two of these same mosquitoes on the *fifty-first day* after their contamination, the period of incubation being three days and two and one-half hours and the character of the attack mild; while Case XIII will conclusively demonstrate that these identical insects, on the *fifty-seventh* day after their contamination, were not only capable of conveying the infection, but of producing an attack of such severity that the subject's life hung in the balance for several days. I regret to have to state that the individual who had consented to be bitten by these insects on the sixty-fifth day after their contamination, failed to fulfill his promise at the last moment; so that otherwise I cannot say to what old age these mosquitoes might have attained. Deprived of further opportunity to feed on human blood, one died on the *sixty-ninth day* and the other on the *seventy-first day* after their original contamination. The duration of life in the case of these mosquitoes will readily explain how the poison of yellow fever can remain even in a depopulated area for a period of two and a half months; so that, as is well known, those who enter the infected area, even at the expiration of this period, are liable to acquire the disease.

Case XIV is that of our tenth and last successful mosquito infection at Camp Lazear. This individual after twenty-five days' quarantine, having been bitten on February 7, 1901, at 2 P.M., by two mosquitoes on the sixteenth day after their contamination, was seized with an attack of yellow fever at noon, February 10th, after an incubation stage of two days and twenty-two hours.

Thus you will observe that at this station, under strict quarantine precautions, we succeeded in conveying the disease to ten non-immunes by means of the bites of mosquitoes that had previously fed on cases of yellow fever, at intervals varying from sixteen to fifty-seven days before being applied to the person to be infected; that the attack of yellow fever always followed the bite of the mosquito within the period of incubation of this disease, and that during the period which elapsed from December 5, 1900, the date of our first inoculation, till February 7, 1901, the date of our last inoculation (sixty-five days), the order of occurrence of these cases corresponds with the order of inoculation, except that Case II, having a longer incubation period than Case III, the order of their relative occurrence became reversed.

Table I serves to illustrate this point.

By an examination of this table it will be seen that of thirteen individuals whom we attempted to infect

by bites of contaminated mosquitoes we succeeded in ten, or 76.92 per cent. Of the three negative cases, it will be observed that one (Case VI), who had reacted negatively to the subcutaneous injection of 1.5 c.c. of blood on December 26, 1900, also reacted negatively to the bites of mosquitoes on January 8, 1901, and this notwithstanding the fact that he was bitten by the very same insects which nine days before had infected Case VII. We have good ground for the opinion, therefore, that this Spaniard may be looked upon as one who possessed a natural immunity to yellow fever, especially as he was the only one of five persons who did not develop the disease after receiving an injection of blood taken from the general circulation, and was also the only one of five non-immunes who did not contract yellow fever when bitten by insects which already had been proven capable of conveying the disease to other individuals. Case VIII, while negative to mosquito inoculation on December 28 and 29, 1900, reacted positively to a blood injection (2 c.c.) on January 8, 1901. This particular individual, Jernigan, entered our "Infected Mosquito Building" on December 28 and 29, 1900, one week after Moran's visit, and was bitten on each occasion by one mosquito. As sixty-six per cent. of the mosquitoes freed in the building on December 21, 1900, had already been destroyed—most probably by the small red ants that were present in considerable numbers—the subject may have been bitten by insects that were not more than thirteen days old, in which case he would hardly have become infected. While considering the advisability of adding other contaminated insects to those in the house for the purpose of infecting Jernigan, opportunity presented for making a blood injection, and as he was the only available subject in the camp at the time, it was determined to make use of him for this purpose.

TABLE I.

No. of Case.	Name.	Inoculation.		Method of Inoculation.	Incubation Hours.	Result.	Order of occurrence.	Date of Occurrence.
		Hour.	Date.					
I	Kissinger	2 P. M.	Dec. 5, 1900	Mosquito	81½	Positive	I	Dec. 8, 1900
II	Fernandez	4 P. M.	Dec. 8, 1900	"	137	"	III	Dec. 13, 1900
III	Beningo	10.30 A. M.	Dec. 9, 1900	"	83½	"	II	Dec. 12, 1900
IV	Presedo	4.30 P. M.	Dec. 11, 1900	"	91½	"	IV	Dec. 15, 1900
V	Moran	12 noon	Dec. 21, 1900	"	95	"	V	Dec. 24, 1900
VI	Alvarez	10 A. M.	Dec. 26, 1900	Blood injection	....	Negative		
	Alvarez	10 A. M.	Jan. 8, 1901	Mosquito	....	"		
VII	Martinez	11 A. M.	Dec. 30, 1900	"	94½	Positive	VI	Jan. 3, 1901
VIII	Jernigan	11 A. M.	Dec. 28, 29, 1900	"	....	Negative		
	Jernigan	11 A. M.	Jan. 4, 1901	Blood injection	94	Positive	VII	Jan. 8, 1901
IX	Olsen	9 P. M.	Jan. 8, 1901	"	60	"	VIII	Jan. 11, 1901
X	Folk	8.30 P. M.	Jan. 19, 1901	Mosquito	95½	"	IX	Jan. 23, 1901
XI	Forbes	1 P. M.	Jan. 22, 1901	Blood injection	43	"	X	Jan. 24, 1901
XII	Andrews	12.15 P. M.	Jan. 25, 1901	"	73		XI	Jan. 28, 1901
XIII	Weatherwalk	10.30 A. M.	Jan. 25, 1901	Mosquito	....	Negative		
XIV	West	9.30 A. M.	Jan. 31, 1901	"	74½	Positive	XII	Feb. 8, 1901
XV	Hanberry	11 A. M.	Feb. 6, 1901	"	78	"	XIII	Feb. 9, 1901
XVI	Sontag	2 P. M.	Feb. 7, 1901	"	70	"	XIV	Feb. 10, 1901

Case XIII, our third negative case of mosquito inoculation was bitten by twelve mosquitoes that had fed on Case VII, within eight hours of the commencement of his attack. Although these insects were twenty-two days old when applied to Case XIII, on January 25, 1901, no result followed the bites. As the subcutaneous injection of 2 c.c. of blood taken from the general circulation of Case VII, at the end of twenty-four hours, produced an attack of yellow fever in Case VIII within the period of incubation, it would appear to indicate that the mosquito, at certain periods of the disease, may fail to obtain the parasite owing to its absence, at that particular time, from the capillary circulation. This is not unlike what we sometimes find as the result of an examination of the blood of malarial fever, especially in the æstivo-autumnal type of the disease. Table I also shows that in addition to the positive case (VIII) to which I have already invited your attention, we obtained three other positive results by the subcutaneous injection of blood taken from the general circulation on the first and second days of the disease, viz., Cases VIII, XI, XII. The quantity of blood injected in these three cases was 1.5 c.c., 0.5 c.c., and 1 c.c., respectively. The production of yellow fever in this way is of much scientific interest—first, as serving to confirm what the mosquito inoculations had already shown, viz., that the parasite is present in the general circulation; second, that passage through the body of the mosquito, although this would seem to be nature's method, is not absolutely essential in the life history of this microorganism; and third, that the period of incubation of the disease, when thus produced, corresponds fairly closely to that occasioned by the mosquito's bite. A point of considerable importance brought out by the blood injection was the absence from this blood, on careful bacteriologic culture, of any bacterium which grows on our ordinary media by aerobic methods; thus excluding absolutely the *bacillus icteroides* of Sanarelli from further claim as the specific agent of yellow fever.

You will recall that we undertook at Camp Lazear still a third method of propagating this disease, viz., by fomites. I must now tell you that during the whole time that we were producing cases of yellow fever by the bite of the mosquito and by blood injection, we were leaving no stone unturned in order to produce the disease by contact with fomites. Sleeping every night in the "Infected Clothing Building," to which no sunlight ever came, and in which the circulation of air was purposely made as defective as possible; engaged in the morning in packing boxes with garments much soiled by contact with the bodies and excreta of yellow fever patients, and at night unpacking these same boxes in order to obtain articles for their beds and clothing for their bodies; in other words, sleeping in the very beds and garments just vacated by cases of yellow fever, seven non-immune young Americans, averaging each twenty-one nights amidst such uninviting surroundings, came out of this pesthouse,

so to speak, at the expiration of their term, none the worse for their experience. Not one had contracted the disease.

In the light of these results we can hardly be expected hereafter to lend much credence to such observations as that given by Harvey Brown, in 1872,[5] as narrated by Dr. A. A. Baldwin, of Jacksonville, Florida, presumably from memory, some thirteen years after the event. In this instance two children in Jacksonville, Florida, "contracted the disease by being present at the opening of a trunk belonging to their uncle who, a few days before leaving Havana, had visited the yellow fever hospital, where he passed by the beds of those who were throwing up black vomit; and this, notwithstanding the fact that his coat, the only woolen clothing he had on at the time, had been sponged with alcohol after his return from the hospital"!

Or this, recorded by Rochester,[6] as an example "of the wonderful tenacity with which fomites hold the pestiferous material" and afterwards "convey it to mankind with intense effect." "In September, 1856, an infected ship from Cuba was detained at the Quarantine anchorage off Staten Island, N. Y. Several passengers died and some were ill on board. The garments and bedding were thrown overboard. Bay Ridge, a delightful suburban neighborhood of Brooklyn, lies directly across the bay, distant about one mile from the anchorage mentioned. The wind and tide deposited a number of garments that had been thrown away on the beach which terminated the lawn of Col. Charles Prince, an old and respected resident. In taking his usual morning walk he discovered the clothing and examined it with his cane, not otherwise handling it. He had no suspicion that it came from quarantine and never saw it again. In four days he was taken ill and died in a week of yellow fever." We lose our faith in this brine-soaked bedding when we find, according to Elisha Harris' Report,[7] that on the Long Island shore, directly opposite the Quarantine grounds (Bay Ridge) six cases of yellow fever and three deaths from black vomit had already occurred between the 13th and 21st of July, 1856," and that "from the latter date the malady extended fearfully until it had visited nearly every dwelling on the shore of that beautful Bay Ridge, thirty cases and fifteen deaths having occurred in that district previous to August 1."

I could quote many other instances contained in the literature, but as not one of them, as far as my search has gone, will bear the slightest intelligent criticism, I will not further trespass on your time except to say that, in my opinion, every epidemic of yellow fever that has occurred in the United States, both prior to and since the period when disinfectants were used, has pointed in the plainest manner to the innocence of fomites as a means of propagation of this disease; for with the onset of cold weather and under those conditions of lessened ventilation of dwellings and artificial heat that should have aided in the spread of the epidemic, just the contrary effect has always resulted. Under the circumstances, one must either conclude that an external temperature of 32° F. is quite sufficient to bring about, and that speedily, the thorough disinfection of the many tons of infected clothing and bedding contained in the houses of a large city, at the end of an epidemic of yellow fever; or that fomites have no part in the propagation of the disease. The latter conclusion, it seems to me, is the only intelligible one, in view of our present knowledge of the disinfectant action of cold on bacteria.

Let us now see if there are any facts observed by others in connection with the ordinary propagation of yellow fever which support those recorded by us as the result of mosquito bites at Camp Lazear. Since in our limited experience, affecting twenty-three individuals, we have not observed the production of the disease by the bite of the mosquito within less than twelve days after contamination, we would expect that, when a case of yellow fever was imported into a town or house, where the conditions were favorable for its propagation, a secondary case would not occur within a less period of time than about fourteen or more days. I may say that various observers have noted that after the occurrence of the first case in a town, a considerable interval elapses (two or three weeks) prior to the appearance of other cases. Although such general statements are of value, what we need are exact observations recorded under such conditions that the secondary cases can be positively referred to a certain limited source of infection. This, of course, can best be done where the disease has been imported into small settlements or into isolated houses, and it was under just such favorable circumstances that Carter, of the Marine Hospital Service, made his observations at Orwood and Taylor, Miss., in 1898, "on the interval between the infecting and secondary cases of yellow fever." Here, in a community of more than average intelligence, consisting "not of a town, or even a hamlet, but only of a neighborhood," as Carter puts it, it was possible to record with accuracy the date of introduction of the infecting cases and the date of occurrence of secondary cases.

Table II gives the results of this investigation:

TABLE II.

Interval between infecting and secondary cases of yellow fever.

House.	Date of Infecting case.	Date of 1st secondary case.	Interval in days	Next secondary case.	No. of secondary cases.
Orwood, Miss., 1, 1898	Aug. 6	Aug. 23	16½	Aug. 24	6
" " 2, "	" 29	Sept. 13	15	Sept. 13	6
" " 3, "	" 29	" 18	20	" 18	4
" " 5, "	" 31	" 29	29	Oct. 2	3
" " 6, "	" 31	" 20	20½	Sept. 20	5
" " 7, "	Sept. 3	" 26	23	" 30	6
" " 8, "	" 17	Oct. 8	21	Oct. 8	2
" " 9, "	Aug. 31	Sept. 22	21½	Sept. 22	4
" " 10, "	Sept. 4	" 20	16	" 22	2
" " 11, "	" 25	Oct. 8	13	.....	1
" " 15, "	" 2	Sept. 22	20½	.....	1
" " 16, "	Aug. 29	" 9	11½*	.....	..
Taylor, Miss., 1, 1898	" 7	Aug. 27	20	Sept. 3	13
" " 2, "	" 17	Sept. 2	16	" 6	8
" " 3, "	" 10	Aug. 25	15	Aug. 28	2
Edwards, Miss., 1897	" 8	" 22	14	" 26	10

This table shows that of sixteen houses in which the interval between the infecting case and the first secondary case was recorded, fifteen, or 93.7 per cent., correspond with the mosquito interval; that is, the secondary cases occur at just the interval—thirteen to twenty-three days—when we would expect them to develop, provided the mosquito was concerned in the propagation of the disease. It will be observed that in only one of the sixteen first secondary cases was the interval as short as eleven days and fifteen hours. If the commencement of the attack in this case has been recorded correctly, it would indicate that the number of days which we have given as "about twelve" for the development of the parasite within the mosquito, would have to be shortened somewhat—probably to ten days. In our first successful experimental case, where the disease was produced by the bite of the mosquito on the twelfth

* 11 days, 15 hrs.

[5] Report on Quarantine, 1872, pp. 34 and 35.

[6] Transactions Am. Med. Association, vol. 30, 1899, pp. 128, 129.

[7] Annual Report of the Physicians of Marine Hospital, 1857.

day after the insect's contamination, we could not say, of course, that this particular mosquito would not have conveyed the infection, had it been allowed to bite on the eleventh or tenth day after contamination.

On the other hand, if we take all the secondary cases that occurred in these sixteen houses, we will find that of a total of seventy-one cases, only one developed the disease after so short an interval as eleven days and fifteen hours: in other words, seventy, or 98.5 per cent., of the secondary cases, occurred after an interval of thirteen days. As a matter of fact only two of these secondary cases occurred within a less period than fourteen days, one developing on the twelfth and the other on the thirteenth day.

I do not know what conclusion you may draw from the data contained in Table II, but to my mind they are strongly suggestive that the same mode of propagation which we were making use of at Camp Lazear during the past winter, was at work in the epidemic of yellow fever at Orwood and Taylor, Miss., during the summer of 1898.

From my own personal experience, I can only add one observation to those given by Carter, viz., at Quemados, Cuba, where of two nurses who remained continuously in attendance upon a case of yellow fever, one contracted the disease on the fourteenth day and the other on the fifteenth day after the commencement of the primary case.

While the temptation is great to extract from the literature other observations confirmatory of those given (and they are numerous), I must refrain from doing this, since I promised to confine myself largely to my own experience in regard to the propagation of yellow fever. For this reason and because I feel that I have already trespassed on your patience longer than I had any right to do, I must omit any reference to the habits of *culex fasciatus*, or of the thermal influences concerned in the propagation of this mosquito, both of which are of much importance in connection with the subject under consideration. I trust that I have said enough, however, to indicate to you that, in my opinion, the ideas which we have heretofore held concerning the propagation of yellow fever must undergo considerable recasting. I do not believe that we can longer ascribe with confidence any part of the spread of this disease to fomites, for under such conditions of intimate and long-continued exposure as could never occur in the natural course of every-day life, we have looked in vain for its development.

While in matters pertaining to the public health, cleanliness should always stand next to godliness, I do not think that we will be justified in assigning so much importance hereafter to those insanitary conditions of soil which, being due especially to pollution with animal matter, were supposed, in some mysterious way, to aid in the spread of this disease. Strange as it may sound, I do not believe that the enforcement of the most rigid hygienic regulations, *such as we have heretofore known them*, will prevent the propagation of this grave epidemic disease, provided it should again be imported into this country. I seriously doubt if we can longer class yellow fever with the "filth diseases." The apparent results obtained by the improved sanitary arrangements instituted by General But'er in the city of New Orleans, during the year 1862, and carried on by his military successors, probably served to strengthen, as much as anything else, the view held by the profession that filth was, if not essential, yet of extreme importance, in aiding the spread of yellow fever. I dare say that but few stopped to consider that General Butler found the city of New Orleans already quite free of yellow fever, and that the same system of blockade which kept this disease out of the former city, under improved sanitary conditions, kept it out of other Southern seaports during the same period, although their sanitary conditions remained unchanged. If one is inclined to believe that improved hygienic conditions, as usually understood, will arrest the spread of yellow fever, let him turn to the city of Havana under American Sanitary Administration. Probably in no city in the world have such unremitting sanitary efforts been put forth as in the city of Havana since our occupation, in January, 1899. We were told that the hard work of General Ludlow and his assistants was responsible for the marked decrease of cases of yellow fever during the first seven months of 1899—and appearances seem to indicate as much—nevertheless, with the commencement of Spanish immigration, during August of that year, and the introduction of susceptible material, cases of yellow fever began to rapidly multiply, so that the city had a late summer and fall epidemic of this disease. Concerning the occurrence of yellow fever in that city during the past year, Major Harvard, Chief Surgeon, Department of Cuba, in a recent report, after describing the thorough work which had been done by the sanitary authorities and its marked effect upon the reduction in deaths, especially from tuberculosis, goes on to say: "It is certain that in Havana, in 1900, no visible correlation could be seen between dirt and yellow fever; the district which became first strongly infected lies east and south of the Parque Central, and is one of the cleanest and best constructed, while the most insanitary wards became infected late in the season and only to a slight extent; the malodorous district reserved to houses of ill-fame hardly had a case. Yellow fever has not followed the poor and unclean, nor the mark of previous infection, but rather the movement of non-immunes; wherever these located, there the infection searched and found them, regardless of the hygienic conditions of their premises."

What is the sanitary story, then, for the year 1900? Simply that with the return of summer weather and the continued influx of new material, and in spite of unremitting efforts to keep the city clean, Havana has experienced a more serious epidemic of yellow fever, affecting its civilian population, than it has had during the preceding twenty years. Need we now express surprise at such a result? Have we not seen at Camp Lazear, under the very best hygienic surroundings, six individuals attacked with yellow fever, after a few short visits to a *new* building whose foundation stood on the unbroken turf and whose rooms were filled with sunshine and with an atmosphere just swept in from the ocean, at the very moment of infection? Where then, gentlemen, shall we look for the agent that is vitally concerned in the propagation of yellow fever? In the light of these newer observations which I have had the pleasure of presenting to you, I believe that we may affirm, with some degree of confidence, that here, substituting *culex* for *anopheles*, we have to deal with the same source of infection to which we now trace the malarial fevers—the mosquito.

A Contribution to the Study of Fatty Metamorphosis.—Franco Carini holds that contrary to the opinion expressed of late by various writers, it appears to be proved beyond discussion that the albuminoids of animal tissues can be transformed into fat. Virchow's classic distinction between fatty degeneration and fatty infiltration is absolutely proved. The differential characteristics between the two forms do not consist in the size of the fat droplet, in the perinuclear arrangement, nor in displacement of the nucleus, but in certain modifications of the nucleus which are constant in degeneration and absent in infiltration.—*Lo Sperimentale.*

EMPYEMA OF THE ANTRUM OF HIGHMORE IN YOUNG INFANTS.*

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THE apparent rarity of this affection, judging from the few cases on record, due, in all probability, to the difficulties in the way of diagnosis, the remarkable unanimity of the symptoms in the cases diagnosed as such, the original methods employed for their cure, and the all-too-brief mention or complete omission in most text-books, should make a study of empyema of the antrum of Highmore in young infants of engrossing interest to the rhinologist. Not more than a dozen cases are to be found in the literature, three of which occurred in this country, and to these the writer now adds another, of which the history is as follows:

Helen May P., aged two and a half years, born in New York City, presented at the out-patient department of the New York Eye and Ear Infirmary on May 11, 1899. Her mother brought her to the ophthalmic department because of an eversion of the right lower lid. The child was examined by Dr. Skeel, who referred the case to the throat department, where it was presented at my clinic. The general symptoms noted were eversion of the right lower lid, a fistulous opening in the cheek on the right side from which pus exuded, and a most penetrating odor from the right side of the nose.

The child had been entirely well until six weeks previous, when an attack of scarlet fever, complicated by pneumonia on the second day, occurred. Two weeks afterward she was taken with what was called diphtheria, very mild in the throat, but very severe in the nose. At the examination made at that time cultures were taken from the throat and sent to the Health Department of New York City. For this report, I am indebted to my assistant, Dr. E. L. Graff, Jr., "A culture taken from the throat on the sixth day of illness failed to show the Klebs-Löffler bacillus. There was a membrane on the tonsils, and a profuse nasal discharge. One injection of antitoxin was given. The inspector of the department says there was much nasal trouble. No record of any other than the Klebs-Löffler bacillus is made by the department."

An abscess formed on the cheek, and was incised May 5. This never healed, and formed the fistulous opening mentioned. An examination showed the left side of the nose to be normal. In the right there was a mass of dry secretion, and a vile odor came from it. The pharynx was normal. A small probe readily entered into the fistulous opening and revealed the presence of a large cavity in a downward direction; there was the feel of necrotic bone. Examination of the pus showed streptococci and staphylococci in abundance, but no Klebs-Löffler nor tubercle bacilli. The general condition was very good, the child being in apparently perfect health otherwise.

A diagnosis was made of an abscess of antrum of Highmore, due to diphtheritic infection. Cleansing solutions were advised, and on June 13 I operated, under ether. An incision was made through the fistulous opening, from left to right, about fifteen millimeters in length; the periosteum was scraped away and all bleeding checked; the fistulous opening in the bone was enlarged by a gouge and the interior thoroughly curetted, all necrotic bone was removed and the cavity washed out. The probe was now bent at right angles and introduced toward the nose, and with a little force it went through the thin bony wall and entered the nasal cavity. This opening was enlarged, and a rubber drainage tube, suitably perforated, was drawn through the external wound and protruded through the nose, so that one end lay on the cheek and the other on the upper lip. The remainder of the incision was sutured. Dry dressings were applied. The tube was pulled out by the child on the second day, and was re-introduced, under ether. Daily irrigations with warm saline antiseptic solutions were employed, and on the seventh day after operation the child left the hospital. Drainage was continued, but the odor had promptly ceased, and on the eighteenth day after operation the tube was removed, and the wound was allowed to heal.

The child has had no further discomfort during the two years which have now elapsed, and no indications whatever of a return of the symptoms have appeared. There is still some eversion of the lid, and a firm cicatrix is noticeable at the site of the fistulous wound.

There are but few recorded cases of this affection in the literature, and they will be briefly mentioned here.

A brief notice of the presentation of a case of empyema of the antrum of Highmore before the Johns Hopkins Medical Society by Dr. Walter B. Platt, of Baltimore, appeared in the *Journal of the American Medical Association*.[1] As a result of correspondence, I am enabled to present the clinical notes of the case through the courtesy of Dr. Platt, which I here gratefully acknowledge.

"Empyema of the antrum of Highmore in an infant of five months of age."[2] The patient, E. L., aged five months, female, entered the Garrett Hospital for Children, Baltimore, Md., December 1, 1899. Both parents appeared healthy, and there was no history of syphilis in them. There was no history of previous disease of any kind in the patient, who had the appearance of robust health. The infant was fat, of firm flesh and good color. Shortly after birth some swelling of the right side of the face was noticed by the mother, with a discharge from the nostril on that side. An opening soon formed on the lower edge of the right orbit a little toward the inner side of the center, from which pus escaped. Pus was soon after seen to escape from the right upper gum, about half-way back. Examination of the patient showed an unusually healthy child. There was no skin eruption, no sign of past or present syphilis on skin or mucous membrane or about anus. Nothing abnormal was noted in thoracic or abdominal viscera. There were no enlarged glands in neck or groin. There was a sinus below the right eye, as noted above. This was adherent to the bone, puffy about the edges, and gave vent to an occasional drop of pus. There was a slight swelling of the right side of the face, hardly noticeable. There was a slight discharge of yellow pus from the right nostril. On the upper gum, about the region of the second molar tooth, was a small sinus from which pus escaped at times. The introduction of a probe showed presence of bare bone. A rudimentary tooth was here removed, and some minute pieces of dead bone removed, when a free opening into the antrum was found. The diagnosis of empyema of the antrum was made, due, in all probability, to gonorrheal infection of the nose during birth. There was no bacteriological examination made of the pus. The discharge diminished rapidly until it was practically *nil*, and the child was discharged December 23, 1899. "She was readmitted January 5th, and was found to have a loose piece of dead bone one-half inch long at the opening of the sinus in the mouth, which acted as a valve to cover the opening and prevent drainage into mouth. This was removed with forceps, and the patient was discharged January 9th relieved.

"She was readmitted February 2, 1900, and a small piece of necrotic bone, half the size of an apple seed, was removed from the outer alveolar wall at the seat of the sinus in the mouth, which was syringed twice daily with boric acid solution, and again the

* Read before the American Laryngological Association at its 23d Annual Meeting at New Haven, Conn., May 28, 1901.

patient was discharged practically well on February 12, 1900. I have made every effort since the last date to see the child, for the purpose of further examination, but as she lives some distance in the country I have been unable to get hold of her."

The first case on record was one reported in 1847 by G. A. Rees.[3] S. R., aged two weeks, had considerable swelling and inflammation in the left cheek, the redness extending round the eyelid, and just below the eye there was an appearance of pointing; the swelling was deep-seated, implicating the floor of the orbit so that the eye protruded to such an extent that the eyelids were incapable of closing over it, the conjunctiva was inflamed and chemosis was present. On opening the mouth the left side of the palate was observed to be depressed, so as to form a tumor on that side, descending below the alveolar ridge; along the dental seam ulceration had occurred, and one of the rudimentary molar teeth was apparent. A rudimentary tooth was extracted, and a director found its way easily into the antrum, its entrance being followed by an inconsiderable discharge of thick matter. On the next day the abscess near the inner canthus was incised. Warm water injected into the antrum from below came out on the cheek. A discharge of pus followed. After some weeks these openings closed and the patient was cured. Rees believed that it was the pressure of the arch of the pubis on the face in parturition that gave rise to the mischief.

D'Arcy Power[4] reports the following history of child of eight weeks suffering from empyema of the maxillary sinus: This child of eight weeks, nursling, showed a pointed abscess below the right lower lid, there was bulging of the entire right side of the cheek, and the skin was red and hot. Pus exuded upon pressure, and a sound introduced into the cavity showed that the upper portion of the maxillary bone was denuded. Power divided the fistula, scraped the granulations, and made an opening through the floor of the antrum into the mouth, drawing through a drainage tube.

Alex. Douglas[5] reports a case of empyema of the antrum in a child three weeks old. The right cheek was swollen and the right eye protruded, presenting the appearance of an orbital tumor. On puncture, over the alveolus, pus exuded. Recovery was complete. Regarding the etiology in this case, there was a possibility of infection of the nose from a sore nipple of the mother, from which pus exuded. Birth was normal.

Roure[6] reports a case of maxillary and orbital osteoperiostitis in a new-born child. A child of fifteen days had a phlegmon of the orbit, with sinus abscess—a spontaneous opening having occurred through the alveolar process of the superior maxilla and at the base of the lower lid. Death occurred in a few days. The affection of the antrum was said to have been occasioned by the entrance of septic secretions in the facial cavities through laceration of skin at the time of birth.

Moure[7] reports two cases, one of Greidenberg and the other his own, in each of which there was an empyema of the antrum in a three-weeks'-old nursling. In Moure's case, there was fistula under the lower lid, swelling of the palate and superior maxillary wall, constant flow of pus from the fistula and nose, formation of sequestra, and the raw denuded bone.

In an article entitled " Tuberculosis of the Upper Jaw in Little Children Simulating Empyema of the Antrum," George Avellis[8] says that "cases of empyema of the antrum in infants have been published by three authors—Power, Moure, and Greidenberg each describing one. The main symptoms of the disease, which was presented as one of very rare occurrence, were a fistulous canal below the lower eyelid, swelling of the palate and the upper wall of the jaw, a continuous purulent discharge from the fistula and nose, formation of a sequestrum, and the recognition of rough denuded bone; finally there was exophthalmos." He doubts the diagnosis in these three cases and positively denies that they were cases of empyema of the antrum. In a typical empyema, he says, "we deal with a purulent affection of the lining membrane of the antrum. The symptoms named above are, however, just such which do not belong to a true empyema, excepting only the flow of pus from one nasal cavity, which is not sufficient justification to assume the presence of an empyema of the antrum. What is the condition, moreover, of the antrum, for example, of a child three weeks old? The antrum is only 0.5 mm deep in the fourth month of life. Previous to this its existence is only theoretical, therefore an empyema of the antrum in an infant is hardly possible on account of the development history." According to Avellis these cases were nothing more or less than a tuberculosis of the marrow-tissue in the nasal and palatinal process of the upper-jaw, in short caries! "As the latter takes its origin from the infra-orbital process, the fistula naturally makes its appearance below the lower eyelid; the thickening of the palatinal process is caused by the caries of its marrow; the formation of a sequestrum, the denudation of the bone, the chronic suppurations, the formation of granulations, the periosteal enlargement of the bone, the slow-healing process, with the expulsion of dead bone—all speak in favor of tuberculosis of bone." He had also observed a case himself, which had previously been diagnosed as empyema. "An abscess developed below the left eyelid in a five-weeks'-old boy. This pointed, and small pieces of bone were expelled through the copiously discharging fistula, while the cheek began to swell. At the same time a purulent and fetid discharge issued from the left nostril. In a hospital the jaw was scraped with an iron spoon after a flap of the skin had been turned back, according to Langenbeck's method, under the diagnosis of empyema of the antrum. Granulations, pieces of bone, and one carious tooth were removed. The wound healed by first intention, the fistula below the eyelid closed with deep retraction and the formation later of ectropion. The nose, however, continued to discharge pus." After this condition had lasted for some time, the child, now one and one-fourth years of age, was brought to Avellis. "The anterior wall of the upper jaw was only slightly swollen, the hard palate, however, markedly bulged into the mouth on the left side. Palpation did not reveal a soft spot. The left nostril contained much pus. A sound passed into the nose revealed the presence at its bottom, namely, the dorsal portion of the palatinal process of the upper jaw, of very rough, sharp and denuded portions of bone. A microscopical examination, which was held later, revealed the presence of a few but distinct tubercle bacilli in the discharge." He emphasized that an acute osteomyelitis of the upper jaw is also frequently mistaken for an empyema of the antrum.

On the other hand, Lenox Browne[9] says, regarding empyema of the antrum in children: "In the first instance these cavities are not strictly sinuses, but rather expansions from the olfactory recesses or pits, budding laterally and posteriorly into the substance of the cartilaginous nasal capsule. An exception is found in the case of the frontal sinus which is developed at a much later period as an offshoot of the anterior ethmoidal cells, penetrating between the

two layers of the frontal bone and quite apart from the nasal capsule.

"The order in which these sinuses appear is as follows: 1, Maxillary at the fourth fœtal month; 2, Ethmoidal at the seventh fœtal month; 3, Sphenoidal at the third year of life; 4, Frontal at the seventh year of life. The maxillary antrum is *well defined at birth*, but undergoes little change until the second dentition, the sixth to eighth year, from which date it develops rapidly in common with the facial bones; but this development is often unequal.

"Several cases have been recently reported of this condition in the infant and *it may occur in the newly born*. At the outset I would say, although the rudimentary character of the frontal sinus of the infant is an argument against its early infection, this by no means follows in the case of the maxillary, albeit it is rare until the age of puberty.

"The cause for such a circumstance is sufficiently varied and direct. In the newly born may be named injury by instruments in delivery; the infection by vaginal discharges of the mother, in an eight weeks old child, and by absorption through the nostrils of purulent secretions from a sore nipple in one aged three weeks.

"It has been suggested that in these cases the disease is not an empyema, but an acute osteomyelitis. The symptoms might possibly represent an acute periostitis due to staphylococcal infection, but the term osteomyelitis is hardly applicable, for at no period of life do these air-cavities partake of the nature of *marrow-holding* chambers, and at early infancy the diploetic walls are so exceedingly thin as to still further exclude the existence of myeloid spaces."

The question thus raised by Avellis having been so effectually answered as regards the question of existence of an antrum at so early an age, and also the impossibility of the occurrence of any medullary inflammation, there remains but to consider the possibility of infection from external sources. In the cases cited in the literature the mode of entrance was taken for granted on the theories of the writers, and hence Avellis might be justified in his unwillingness to accept them. In my own case, here recorded, I have shown how a healthy child, although no longer a new-born babe, within a few weeks after a streptococcus or diphtheritic infection of a marked nature, develops antral disease with all the classical symptoms; and how, after operation with through and through drainage and without further treatment she promptly recovered.

Comparatively few studies of the antra in infectious diseases have been made. Bryan[10] states that empyema of the antrum may occur in the course of the exanthemata, particularly scarlet fever and measles. Lothrop[11] makes the same statement. Harke:[12] In thirty post-mortem examinations of cases of croup, diphtheria, measles, whooping cough, scarlatina and chicken-pox not one was free from suppuration in the accessory nasal cavities, the antrum being most frequently affected.

Moritz Wolff[13] examined bacteriologically the accessory sinuses of twenty-three children who died of diphtheria. In twenty-two examinations of the antrum of Highmore, each case was found affected, there being present either pus or mucopus, or the mucous membrane showing signs of inflammation. When this membrane was œdematous the bacilli of diphtheria were found; when the catarrhal state existed these were absent. In five cases of measles the mucous membrane of the antrum was in a state of glossy œdematous inflammation. The diplococcus lanceolatus and the streptococcus were found and once staphlyococci. Three cases of scarlet fever with genuine diphtheria were found with similar results.

Richard Mills Pearce[14] reports the results of the bacteriological examinations, post-mortem, in fifty cases of diphtheria and scarlet fever. The accessory sinuses of the nose, the antra of Highmore particularly were thus examined.

Of the fifty cases examined forty-four were in children between the ages of two and six years. Of the entire number, thirty-nine diphtheria cases were examined; in twenty-five inflammatory changes were present in the accessory sinuses. In sixteen both antra were involved, in five one antrum only. The bacillus of diphtheria was present in all but three of the thirty-nine cases. In one of these cases the streptococcus only was found, and in two the bacillus of diphtheria on one side and the pneumococcus on the other. In two cases the diphtheria bacillus was the only pathogenic organism found; in all others it was associated with one or more of the pyogenic cocci or with the pneumococcus. In two cases of diphtheria with measles the diphtheria bacillus was found in both. In five cases of diphtheria with scarlet fever the antra were normal in three and two contained the bacilli.

These cases indicate that infection of the antrum of Highmore is quite common in fatal cases of diphtheria and scarlet fever. It is probable, in view of its frequency in fatal cases, that it may occur in some cases which end in recovery.

In most cases it clears up without any ill-effects, but it is very possible that in others it may so alter the condition of the lining membrane that later an acute inflammatory condition in the nose may readily set up chronic antral disease. It seems very probable, too, that in those instances in which the bacilli are found persistently in the nose long after the subsidence of all symptoms, we have to deal with an infection of the antrum. In all cases, therefore, in which the diphtheria bacillus persists in cultures from the nose, an examination of the antral cavities would appear to be indicated.

Among the causes of inflammatory conditions in the antra may be mentioned dental diseases, coryza, acute or chronic rhinitis, tonsillitis, and pharyngitis. There may be a secondary infection in typhoid fever, acute rheumatism, suppurative processes in different parts of the body, typhus fever, acute fibrinous and bronchopneumonia, and varicella. The presence of foreign bodies in the maxillary sinus must also be enumerated. Ralph J. Wenner[15] reports a case of disease of the maxillary sinus in a child aged three and a half years occasioned by an erupted tooth. Bacteriological examination of the pus from the antrum showed diplococcus pneumoniæ and staphylococcus pyogenes albus. Careful search was made for tubercle bacilli with negative results.

J. Guttman[16] reports a case of empyema of the antrum in a boy aged five years, occasioned by caries of the teeth and followed by retrobulbar abscess, and he quotes Goodhart as having mentioned a similar case in a boy aged four and a half years.

From the study of the bacteriological examinations and from the recital of cases here recorded, we may conclude that it is established beyond question that empyema of the antrum of Highmore in young children is not merely caries or tuberculosis or osteomyelitis, but is as distinct an affection as in later life.

That so few cases are noted in the living is in all probability due to the fact that the mortality is greatest when this complication occurs, and also that in very young the presence of localized pain is difficult to establish, as the little sufferer cannot indicate it.

In all the reported cases the symptoms are the same,

namely, fistula under the eye usually discharging pus, ectropion, one-sided purulent discharge from the nose with foul odor, and eroded bone. Careful observation, especially in nasal diphtheria when the bacilli are persistent, may enable us to discover these cases and by prompt attention bring about recovery.

Regarding treatment, incision, curettage, and thorough drainage will be followed by complete cure in the vast majority of cases.

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2. Private communication.
3. *Medical Gazette*, N. S., Vol. IV., 1847.
4. *British Med. Journal*, Sept. 15 and Nov. 6, 1897.
5. *Australian Medical Gazette*, Dec. 20, 1897.
6. *Arch. Intern. de laryngol.* xi. 2, April 1898; *Internat. Centralbl. für Laryngologie* April, 1899.
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9. Diseases of the Nose and Throat, 1899.
10. *Journal of the American Med. Assn.*, 1895.
11. *Annals of Surgery*, Vol. XXIX., 1899.
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15. *Cleveland Journal of Medicine*, March 1900.
16. *Centralbl. f. prakt. Augenheilkunde*, Oct., 1899.
17. *Krankheiten der Kieferhohle* (*Handbuch der Laryngologie and Rhinologie*, Heymann, 1900).

25 East Seventy-seventh Street.

THE SELECTION AND STERILIZATION OF MURIATE OF COCAINE FOR SPINAL ANÆSTHESIA.*

By WILLIAM C. RILEY, M.D.,
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Realizing the growing importance of spinal anæsthesia, and some of its difficulties of technique not the least of which is the proper preparation and keeping of the solution of muriate of cocaine—the writer some time ago undertook a series of experiments having for its object the elimination of such difficulty, and now feels at liberty to communicate his final results.

Such questions as relate to the purity, stability and sterility of the cocaine, are easily solved, but that relating to its analgesic action in actual spinal anæsthesia is less easy and has taken time to solve; but now, thanks to the extended use of it in actual work of all kinds, the last question may be considered definitely settled.

I have personally witnessed over two hundred unselected cases of spinal anæsthesia for all purposes, where cocaine selected and prepared in the manner to be described was used, and, in which the dose has never exceeded three-tenths of a grain, without one failure in securing complete and prompt (four to five minutes) analgesia lasting from one and one-half to three hours.

Here, as in all other fields of investigative work, to get uniform results we must commence with everything exact and uniform; hence in this instance we must begin with what we know to be a pure dry muriate of cocaine—a chemically pure product. Unfortunately, in this drug there are many variations in strength and purity furnished by the manufacturing chemists.

Who of us would think of taking any and all of the various products in the market for general anæsthesia simply because they bore the label chloroform? So with muriate of cocaine, which even varies more in its composition as marketed than does chloroform.

I cannot more fittingly enforce this statement than by quoting from a paper read before the New York Pharmaceutical Association at its twentieth annual meeting in July, 1898, by F. R. Tuthill, and reported in the transactions and also in the *Druggists' Circular and Chemical Gazette*, Volume 42, Number 8. These results it suffices to say, I have personally confirmed.

This article strongly drew my attention at that time whilst endeavoring to explain the lack of uniform results in the use of cocaine in minor operations, as regards especially its variable toxicity, on some other basis than the convenient but often misleading term personal idiosyncrasy. I will abstract in brief from Mr. Tuthill's paper, referring those who desire more detail to the original.

"It is most natural that we should establish, as a basis of any discussion, the fact that the therapeutic activity desired when cocaine hydrochlorate is administered is due entirely to the cocaine contained. that is to say, the anæsthetic effect which is desired from any preparation of cocoa leaves is dependent solely upon the particular alkaloid to which the name of cocaine has been given—this degree of intensity of effect will, consequently, be diminished in exact proportion to the amount of any other substance, either inert or active, which may be present; when cocaine hydrochlorate which is sold by one manufacture differs in the intensity of its action from that sold by another this difference is due to the fact that one brand contains more impurities than the other. In comparing these several brands we find the variance in the total cocaine present will be from ninety per cent. to one hundred per cent. of the theoretical quantity, and that there are differences in color from perfectly white, which is the proper color, to greyish yellow, or light brown. It should be odorless—yet in some occaine hydrochlorate a tobacco-like odor is faintly or, in some, strongly noticeable. (I will state that in one brand on the market, otherwise pure save for a slight, variable amount of water of inclusion or absorption, a peculiar sickening aromatic odor is present, which, however, is dissipated on dry heating.)

"One class of impurities is more or less harmless—the inorganic substances, such as sodium, potassium, or calcium compounds, used in the process of manufacture—they act as worthless adulterants of a costly medicament, and render exact dosage impossible." "The secondary alkaloids form the other class of adulterants—there appear to be, in certain varieties of the coca leaf, notably coca cultivated in Java and Ceylon, which leaves are more largely used in making cocaine, besides the alkaloid cocaine, a certain amount of two secondary alkaloids, which have been designated cinnamyl-cocaine and isatropyl-cocaine—therefore these two secondary alkaloids are natural diluents.

"Cocaine as it exists in the coca leaves is readily decomposed into secondary alkaloidal compounds—produced by drying the leaves or through fermentative changes, which take place when baled and shipped. They are also produced by breaking down of the cocaine during the process of purification and separation. We must therefore conclude that the preparation of a pure cocaine salt is not by any means an easy matter.

"Some of these secondary alkaloids are possessed of very decided physiological action, and this of an undesirable kind. This particularly applies to isatropyl-cocaine, which tends to depress the heart, and has absolutely no anæsthetic action. Dr. J. M. Francis has

* Read before the Medical Society of the State of California at the 31st Annual Meeting, April, 1901.

informed me that there is cocaine hydrochlorate on the market containing as high as three to four per cent. of this secondary alkaloid."

In view of these facts can it truthfully be said that cocaine poisoning is always due to cocaine, or failure to get spinal analgesia due to any inherent fault in the method? I think not. When there is added to these uncertainties the other factor of variable amounts of decomposition products, inert, if not otherwise harmful, caused by the methods of sterilization in solution, can it be wondered at that some operators report twenty-five per cent. of failures to get complete analgesia.

In choosing a muriate of cocaine, one should select that occurring in anhydrous, well defined, rather large, colorless, and nearly odorless crystals. Silky, hydrated crystals containing two molecules of water of crystallization are not fit for the purpose, inasmuch as they lose in containers other than air-tight from seven to nine per cent. of their weight, hence are not constant, and, unless previously subjected to drying process at 212° F. for twenty or thirty minutes, interfere materially in the after preparation.

The large anhydrous crystals contain, on an average, from one to three per cent. of water of inclusion and absorption; usually, if broken up and air-dry, about one per cent. Each original package, after the crystals have been reduced in a mortar to a moderately fine powder, should be subjected at least to the following very elementary test for the detection of isatropyl-cocaine, the most deleterious of all constituents the cocaine is liable to have, because it is a very active cardiac depressant, and must undoubtedly either contribute to or cause many instances of heart failure from the use of cocaine—largely so in minor operative work, where it is, in many instances, so rapidly absorbed. Unfortunately this most important test is omitted from the U. S. P., 1890, and for such reason I offer it in full. It is known as Maclagan's ammonia test.

Dissolve 0.1 gramme muriate of cocaine in 87 c.c. of distilled water, and then add three drops of ammonia (ten per cent.); for a few moments the solution will remain clear, but rapid stirring with a glass rod will cause a prompt crystalline precipitation of free cocaine, leaving a solution free from milkiness behind. If isatropyl cocaine is present, a milky turbidity will ensue immediately on addition of the ammonia; if other impurities are present, they will prevent the crystallization of the cocaine. This proportion makes a good test, but one grain to two ounces of distilled water is sufficiently exact, crystallization taking place in one-half to three-quarters of an hour. In making this simple test, precaution must be taken to have the cocaine fully dissolved and in sufficiently dilute solution, as above; otherwise, the milkiness will show when no isatropyl-cocaine is present. The other tests are standard in the U. S. P., 1900, to which I refer, merely mentioning the requirements of neutrality to litmus.

Many, indeed the large majority of chemists and physicians, believe, and it is astonishing how deeply rooted this belief is, that muriate of cocaine is readily decomposed by heat, few knowing how the dry salt may be raised to and maintained at a dry sterilizing temperature without losing a particle of its peculiar anæsthetic qualities. Such is the fact, however, and I have formulated, after bacteriological and practical work on animals and the human subject, a method by which this can be done.

Briefly reviewing the methods of sterilization adopted by the many operators to-day, they all are, with one exception, based on the more or less prolonged action of heat on a solution of muriate of cocaine at from 80° to 81° C. (176-177° F.) to 100° C. (212° F.), for from one minute, which does not sterilize, to fifteen minutes, which destroys much of the cocaine present, and even then does not fulfill the requirements of perfect sterilization.

Some operators do not sterilize at all, and it is to be noted in such reports that they have no failures in analgesia; but we certainly are not justified in such a course. One man who reports quite a number of obstetrical cases carries the cocaine crystals weighed out by an apothecary, in ordinary powder papers covered by tinfoil. Another orders the druggist to make up a two per cent. solution and uses it as it is. Still another whose method, as he naively states, may not be wholly free from bacteriological objections, but is practically so, rubs up the powdered crystals with ether, maintaining the rubbing until the ether is all evaporated. He is correct in his statement that it is not free from bacteriological objection—as I have satisfactorily demonstrated for myself.

Keen, of Philadelphia, because of the difficulties with cocaine, has adopted eucaine, which permits of sufficiently prolonged boiling to sterilize without decomposition. But almost every other operator fails to get analgesia with eucaine even in considerably larger dosage than cocaine.

The method of Tuffier, consisting of fractional sterilization of a two per cent. solution, preferably in sealed tubes, for three successive days at 80° C. for fifteen minutes each time, is at present the most satisfactory in every respect. It gives a perfectly sterile product provided everything—funnels, filters and containers—is thoroughly dry-sterilized before. Likewise the least amount of cocaine is destroyed, hence the solution is more active for a given dosage, but like all solutions of cocaine it rapidly deteriorates and at the end of ten days or two weeks is practically unfit for use. This factor necessitates constant preparation to keep on hand an efficient solution, and for one who perhaps might use it a few times per month makes the task a somewhat irksome one.

As an offset to those manifest disadvantages the writer offers a method of dry-sterilization which fulfills all requirements.

Carefully selected muriate of cocaine is broken in a mortar into moderately fine fragments and heated in a dry sterilizer to 110° C. for about twenty minutes and then bottled in a clean, dry bottle with a tightly fitting rubber stopper. This insures a dry salt to begin with, which is quite essential for the after-process. Small graduated vials or glass tubes are taken and carefully cleansed, dried and flamed, and when cool such an amount of the cocaine is weighed off into each as will make, when when the vials are filled to this mark with sterilized water a two per cent. solution. The mouth of the tube is then closely stoppered with a plug of freshly dry-sterilized absorbent cotton (150°—160° C. for one hour). It is then placed in a dry sterilizer and the temperature gradually raised to from 145° to 150° C. (293° to 302° F.) and maintained at that temperature for from ten to sixty minutes. Ten minutes is usually sufficient time to fulfill all bacteriological requirements, but there might be a possibility of contamination with certain spores which would require the longer period.

One hour's heating of this dried cocaine at this temperatur does not impair its efficiency, notwithstanding many statements in the books to the contrary. After cooling, the vials may be taken out at one's leisure, and after the cotton plugs have been withdrawn with sterilized forceps, be stoppered with sterilized rubber stoppers, or, which I prefer, ordinary well-fitting corks which have been plunged in a wax resin mixture heated to 170° C. (338° F.); or the end

of the tube softened in the flame, drawn out and sealed.

To sum up the advantages offered in this method of preparation:

1. Perfect sterility.

2. The product being dry lasts an indefinite time, the only thing being necessary when required for use is to sterilize the outside of the container in any convenient manner except boiling—as, for instance, simply flame the cork and neck of the vial, allowing it to become cool before adding water.

3. No necessity to weigh or measure the cocaine or water at the time of the operation.

4. Absolute efficiency.

This method is so simple that the author hopes it will be generally adopted not alone for spinal, but for any kind of cocaine anæsthesia where perfect sterility is advantageous.

33 Flood Building, San Francisco, Cal.

A CASE OF PRIMARY EPITHELIOMA OF THE UVULA.*

By SEYMOUR OPPENHEIMER, M.D.,

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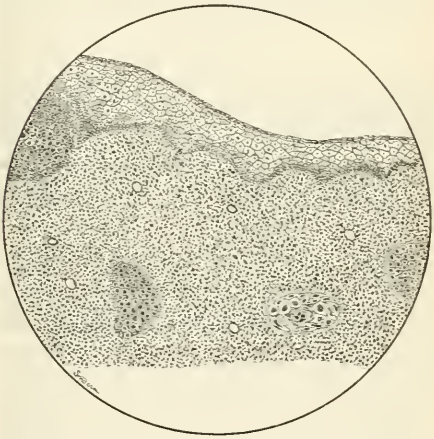
The primary development of an epithelioma in the tissues of the uvula is of extremely rare occurrence. So infrequently does this occur that Lenox Browne[1] states that he has seen but one case of malignant disease arising primarily in this location. His patient being a man, forty-eight years of age, in whom the uvula presented the apperarance of a thick warty mass with all the characteristics of an epithelioma. The adjacent glands were not involved and the entire growth was removed successfully. Microscopically, it consisted of typical stratified epithelial growths with small cell infiltration. There was localized activity of the surface epithelium which had invaded the subjacent tissue in cylindrical form, and there existed marked inflammatory changes.

Walker Downie[2] has also reported a case of this nature in a man of fifty-six years, who suffered from difficulty of swallowing, pain and impaired breathing for two months previous to the examination. The uvula was enlarged, ulcerated, and bled on the slightest touch. The adjacent glands were not involved and the epithelioma was limited to the free portion of the soft palate. Removal was successfully effected with cocaine anæsthesia and no recurrence had taken place at the time of the report, seventeen months after operation.

The following case occurring in my practice was diagnosed as one of primary epithelioma of the uvula, and presents features of interest allied to the two cases previously mentioned

T. T., a man aged eighty-one years. Referred to me by Dr. Yates, of New York. The family history was negative, with the exception of a brother, who died of malignant disease. The mother and father both lived to advanced age. All his relatives, both near and remote, have been noted for their longevity. He has always enjoyed good health until a few years ago, when, following an attack of coryza, he developed bronchitis from which he has since suffered. Two years previous to the time when I first saw him, he had a stroke of apoplexy, with right hemiplegia, slight paralysis of the side still being present. He has complained, for a year or more, of irritation of the throat. He was examined at various times by his family physician with negative results, until a few weeks ago when a thickening at the tip of the uvula was noticed. This continued to increase until I saw him, when examination revealed a growth the size of a walnut, involving the entire uvula from its tip to its junction with the soft palate. The adjoining tissues presented nothing abnormal; the growth was bluish-red in color, not ulcerated, and firm to the touch. The cervical glands were slightly enlarged, but not tender, and the only symptom complained of, in addition to those noted, was slight pain radiating to the ears.

A small piece of the growth was removed for examination and the report of the pathologist, Dr. E. K. Dunham, confirmed my diagnosis of epithelioma. The sections removed for microscopic examination were stained after the usual methods and showed the stroma to be the seat of considerable inflammatory



reaction, while the epithelial cells were arranged as in a typical picture of epithelioma, with the presence of nuclear changes as shown by numerous mitotic figures indicating rapid cell proliferation. (See accompanying illustration).

On account of the age of the patient, the glandular involvment, and his general impairment of health, operative interference was not considered advisable.

Although the prognosis is necessarily grave in epithelioma of the upper respiratory tract, yet in the few cases that have been recognized early and in which all the diseased tissues were removed, the favorable result, for a time at least, of operation would warrant a brighter outlook than has heretofore been given. In the case of a patient in good physical condition, primary epithelioma of the uvula, if removed early, presents but little tendency towards recurrence, but if surgical measures be adopted, as late as in the case here reported, especially with the glandular system showing involvement, rapid recurrence is the rule. Of interest in this connection is the fact that the location of the growth seems to exercise a restraining influence upon the natural tendency of this form of malignant disease to spread. In consequence of the histological structure of the uvula, an epithelioma usually originates in the muciparous glands and for a considerable time is limited to these structures; sections of the uvula showed the tubulated arrangement of the proliferating cells.

*Presented at the Seventh Annual Meeting of the American Laryngological and Otological Society at New York, May 25, 1901.

[1] Diseases of the Throat. Fifth Edition.

[2] *Glasgow Medical Journal*, February, 1898.

Ulceration of a primary epithelioma in this region does not usually take place until very late in the course of the disease; the absence of ulceration accounting for the trifling annoyance the affection produces until the growth has increased in size sufficiently to interfere with swallowing. The loss of free movement of the uvula produces faulty phonation, and, as the movement becomes still further restricted by the growth increasing in size, liquids have a tendency to enter the choanæ.

Pain is not a prominent or constant symptom in the early development, and when it does occur it is irregular and not at all severe; the contrary is the case, however, when the disease has involved other tissues and ulceration has taken place. Usually the most constant feature complained of by the patient is the slight faucial irritation due to a moderate inflammatory reaction and to some œdema which usually accompanies the malignant changes.

706 Madison Avenue.

MULTILOCULAR CYST OF THE INFERIOR MAXILLA; OPERATION; RECOVERY.

By J. A. OTTE, M.D.,

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The patient was a well-nourished lad of sixteen, appearing older than he really was. It would have taken him to be at least twenty-two years old. He had a hard, bony tumor involving the greater portion of the inferior maxilla, viz., the lower part of the right ramus, and the whole of the body on both sides up to the insertion of the second molar on the left side. The teeth were in perfect position and were all present except the second bicuspid on the right side, which was wanting. The growth of the tumor was downward, backward, and inward. After removal it was found to be four inches in diameter from right to left, two and one-half inches from above downwards, and two inches through the symphysis. On the right side of the face was a sinus extending down to the bone, the result of an effort to remove the tumor with caustics. The history was indefinite, but the patient said the tumor had been growing for about two years. There had been no pain, but articulation was becoming indistinct and swallowing difficult. There was no evidence, whatever, of the tumor being cystic. Indeed, after removal it was found that, except for numerous small cysts the size of a pin-head to that of a bean, the whole of the enlarged alveolar process was practically solid while the rest of the bone was cystic. An operation was performed on January 2, 1901, by the writer and Dr. C. Johnson. Tracheotomy below the isthmus of the thyroid was attempted, but as this organ extended almost down to a level with the top of the sternum, it became necessary to cut through the cricoid cartilage. This part of the operation was very tedious and annoying. Three small sponges were then pushed down into the larynx and the diseased bone was removed by disarticulating the right side and sawing between the second and last molar on the left side. It was only while dissecting off the tissues on the inner side of the tumor, near the attachments of the tongue, that the cystic nature of the growth became apparent. Here in one place the bone had been absorbed, leaving about one-half inch of the bony cyst simply covered by periosteum. The outer surface was exceedingly vascular, causing much delay. On the third day after the operation the tracheotomy tube was removed. A silk thread was passed through the tip of the tongue at the time of the operation. It was only by pulling the tongue forward by means of this silk thread that the patient was able to swallow for about a week after the operation. The main portion of the wound healed by primary union. The exception was where the sinus in the cheeks had been cut out. This healed by granulation. The temperature was normal until the morning of the third day, when it rose to 100°. After this until the ninth day it ranged between 98.2° and 101.2°. On the evening of the first day the pulse was 140 and small. It gradually improved in character until the ninth day when it was 92, where it remained until the patient was discharged.

By January 29, the patient was practically well, but still quite weak. Articulation was very indistinct.

On February 8 there appeared a swelling on the left side extending from just above the mastoid process down to the middle of the sterno-cleido-mastoid muscle. It was feared this might be a recurrence, but it proved to be only an abscess which, after opening, slowly healed. This abscess kept the patient in the hospital until March 5, when he was finally discharged. After removal, the tumor was sawn through near the symphysis. In the section fifteen large and small bony cysts were seen, the largest the size of a dove's egg. These did not communicate with each other. Besides this, on cutting through the bony portions numerous other cysts were found. In order to preserve the specimen further section was not made, hence many of the smaller cysts were probably not discovered. These cysts contained a glairy, brownish fluid. In some cases the walls were smooth, and in other cases lined with interlacing trabeculæ. The sinus in the face led into one of the cysts, which was suppurating.

I have been able to find but little on the subject of multilocular cysts of the lower jaw in the books available.

Typhoid Fever.—M. S. Shellenburg says that more has been accomplished by the prophylactic treatment of typhoid fever than by the cure, by protecting our streams and water supplies from contamination, and making our drainage perfect. Typhoid fever is most prevalent in cities in which the drainage is bad, and startling results are shown from statistics taken before and after perfecting the drainage in a city. As long as a privy-well has not become contaminated by the typhoid bacillus there is no danger of typhoid fever. This theory explodes the theory of auto-intoxication, which is that an individual may become a prey to the disease without coming in actual contact with the typhoid bacilus. The excreta is the contagion bearer and should therefore be thoroughly treated before being disposed of. Great care should be taken in protecting the permanent part of the bed, such as the mattress, and this can be done by spreading a rubber blanket or a mackintosh over the mattress. Ordinary boiling will destroy the germs in the bed clothing and linen of the patient; the stools, however, must be treated specially. Bi-chloride of mercury in the proportion of one part to five hundred of water is the best disinfectant for use in the country, but it will not do for the linen, as it stains the latter. In cities, carbolic acid, one part to ten, answers the purpose best. Chloride of lime, one to twenty-five, has rather a pleasanter odor than carbolic acid. Whitewash, twelve parts unslacked lime to one hundred of water, is useful in the country, where it is most available. Sulphate of iron, a tablespoonful to a pint of water, has been used. The buttocks, anus and genitalia of the patient should be washed after the bowels have been moved, in a 1–2000 bi-chloride of mercury solution. Door-knobs, clinical thermometers etc., which have been handled, should be cleansed in a 1–1000 solution of the same.—*Medical Times.*

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE CLAIMS OF HYDROTHERAPY IN MODERN MEDICINE.

THE use of water in the treatment of disease is as old as mankind. Its employment in fevers is usually thought to be a purely modern method, and yet, in the Rig-Veda, which s assigned to 1500 B. C., we find it stated that "Water cools the fever's glow." Hippocrates, we are told, held water in high favor as a remedial agent, and the invention of the shower bath is commonly ascribed to Asclepiades of Prusa in Bithynia (B. C. 128–56), though Pliny says that we are indebted to Sergius Orata for the primitive form of this device. Nearly all the ancient medical writers, including Celsus, Aretæus, Agathinus, Aetius, Galen, Herodotus, Charmis of Marseilles, Rhazes, and Avicenna speak with appreciation of the use of water in medicine.

The first attempts at scientific hydrotherapy, as contrasted with the purely empirical methods of the ancients, were made at the beginning of the eighteenth century, when Johann Sigismund Hahn (1696–1773), a Silesian physician, published his work, "Unterricht von der Wunderbaren Heilkraft des Frischen Wassers." James Currie (1756–1805), originally an American merchant, who became a physician in Liverpool, was the first to use water in the treatment of febrile diseases according to modern methods, *i. e.* with regard to its effect on the pulse and the temperature. With the ascendance of rational therapeutics, the names of Andreas Pleninger, F. Runge, and Wilhelm Winternitz became coupled with hydrotherapy, and certain forms of "water cure" became the popular rage as the result of the efforts of a Silesian peasant, Vincenz Priessnitz, (1799–1851), and of a German country priest, Sebastian Kneipp (1822–1897).

In America hydrotherapy was first introduced in 1843 by Dr. Russell Thatcher Trall, of Vernon, Connecticut (1812–1877) and Dr. Joel Shew, of Providence, New York. To-day no name is more closely associated with hydrotherapy in America than that of Dr. Simon Baruch, of New York.

At a recent meeting of the Philadelphia County Medical Society, Dr. Baruch delivered an address entitled "Lessons of a Decade in Hydrotherapy," in which he pleaded for a wider diffusion among physicians of accurate knowledge concerning the effects of cold and heat, as applied through the medium of water, upon the human system in health and disease. No one who is interested in the progress of medicine can help joining in this appeal. Every physician uses water as a remedy to a certain extent, but we agree with Dr. Baruch when he says that many still do so in a haphazard or purely empirical manner. The physiological effects of water used at different degrees of temperature and pressure and for varying intervals of time are now thoroughly understood thanks to the researches of Winternitz, Brandt, Rhovigi, Baruch and others. and there is no more excuse for empiricism in hydrotherapy than there is for the haphazard ways in the use of drugs whose physiological effects are known.

The trouble has been heretofore that some of our best clinicians have looked askance upon any attempt to apply hydrotherapy in a way that would seem to place drugs and other methods of treatment in the background, because "water cure" has so often been associated in their minds with quackery. It is time to recognize that hydriatrics rests upon a secure scientific basis, and that whilst rational therapeutics repudiates any attempt to make water the only remedy for every ill, the physician who wishes to cure his patients cannot afford to neglect this arm in the battle against disease.

It is therefore the duty of practitioners to become acquainted with the theory as well as the practice of hydrotherapy, to further the teaching of this branch of medical art in a thorough and practical manner in the medical schools, and to strive for the correction of the popular misconceptions regarding the use of water as a remedial agent.

DISCRIMINATION AGAINST THE ARMY MEDICAL CORPS.

WE referred in a recent article to the injurious effect upon the Medical Corps of the provisions regarding it in the army reorganization bill passed during the last session of Congress, and we endeavored to show that the only remedy for the injury so done was the restoration of the Medical Corps to a position equal at least to that of the other departments in the Army. Congress seemed to take an especial delight in degrading the medical department, so far as it could do so by making the majority of its officers of lower rank than those of the other departments. In the Judge-Advocate-General's department—the lawyers' branch of the military service—for example, the new law authorized the appointment of lawyers from civil life to the grade of major; a grade which the same bill prevented the doctor newly appointed from civil life from receiving until after more than a quarter of a century of hard service. One of these places in the Judge-Advocate-General's department was recently filled by the selection of the son of a prominent politician—the appointee to the grade of major being twenty-seven years of age, or younger than the average medical man who enters the service as a first lieutenant.

The plea advanced for the higher grading of officers of some of the other staff departments was based upon their great pecuniary responsibilities and the necessity of having a sufficient number of officers of high rank for the administration of a *personnel* of enlisted men. The fact was overlooked by Congress that the property for which army medical officers must be responsible is greater than the property responsibility of any staff corps outside the Quartermaster's Department; while the enlisted men of the Hospital Corps—4,500 in

number at the present time, who have to be trained, disciplined, drilled, and commanded by medical officers, were five times greater in number than the enlisted strength of all the staff departments of the army combined—formed a greater force than nine full infantry regiments before the war with Spain, were almost equal to the entire artillery force of the United States at that period, and equaled three-quarters of its cavalry force; that it was more than half as large as the enlisted strength of the entire United States Navy, and was nearly twice as large as the Marine Corps. The fact that medical officers of the Army held independent commands in charge of hospital ships and the many large general hospitals—some of the latter more than twice as large as any military post or garrison in the United States—was conveniently ignored. Congress made no adequate provision as regards rank for the medical officers, who are constantly called upon to settle administrative questions requiring certainly as high an order of executive ability as is required in the line or other staff departments.

It is a curious commentary on the intelligence of Congress that promotion in the Army Medical Corps should have been cut down in this way in the year 1901, when in the year 1900, because of the lack of candidates for the Navy Medical Department, it had been found necessary to increase the inducements for young medical men to enter that service, and raise their grading and pay to that which was then enjoyed by their professional confrères in the army. The bill just passed reduces the Army Medical Department to almost exactly the conditions which had to be relieved in the Medical Department of the Navy by legislative action during the preceding session of Congress, and which the experience of a generation had demonstrated would not permit of a thoroughly efficient medical service.

SOME ETIOLOGICAL ASPECTS OF MALIGNANT NEOPLASMS.

There is not wanting evidence indicative of the parasitic origin of malignant disease, as exemplified in various forms of new growths, but, despite the industry and the persistence with which investigation along this line has been pursued, conclusive evidence is yet wanting. The difficulties in the case are not lessened by the fact that a satisfactory explanation is lacking also for the origin of the so-called typical, homologous, or benign neoplasms, as well as for their occasional transformation or degeneration into malignant growths.

Apparently the two most important etiological factors in connection with malignant disease are heredity and traumatism. Next in importance perhaps is sex, but, as Dr. E. N. Nason (*British Medical Journal*, May 18, 1901) points out, the great preponderance of malignant disease in women is found, on examination, to be due to the great frequency with which the uterus and the breast are involved. Thus of 4,855 cases of carcinoma occurring in 1 837 males and 3,018 females, one or the other of these organs was the seat of the disease in 40 per cent. of the women. Excluding these cases, the disease appears to be rather more common among males than females, and this difference may be attributed to the greater liability of males to traumatism especially. Statistics show further that the increase in mortality from carcinoma that has been observed in the last thirty years is almost twice as great in males as in females. This increase is not entirely real, but is due in part to greater skill in diagnosis, particularly with reference to malignant disease of the stomach, to which a large proportion of deaths from carcinoma in men are due. At the same time the mortality from malignant disease of the uterus and the breast has been lessened in consequence of the great advances that have been made in surgical treatment.

Analysis discloses also that after the third decade the individual liability to carcinoma of the stomach, the breast, or the rectum increases progressively to the eighth decade and then declines; while the liability to carcinoma of the uterus rises rapidly and progressively to the sixth decade, when it is double that of the other, and then declines.

There are reasons for believing that carcinoma develops under conditions in which the resisting power or the vitality of the cells of the body has been in some way lowered, so that invasion by a parasitic organism is favored; and it is thought that this may take place in one or more of several ways, *e. g.* absorption from the intestinal tract, absorption from the respiratory tract, or direct inoculation either through abrasions of the skin or mucous membranes or the bites of blood-sucking insects.

THE INCREASE OF QUACKERY IN GERMANY.

Germany is often credited with being the home of all that is most deeply erudite and most truly scientific in medicine. And yet German authors are pained to admit that the fatherland is infested by an increasing number of arrant quacks, commanding an astonishing amount of confidence at the hands of the paying public.

Despite all warnings and protests from reputable practitioners, a drift away from legitimate medicine, not unlike our own Christian Science movement, is clearly recognizable in German countries. Possibly this heretical tendency, like other widespread delusions, will have to run its course. Healthier views are bound to prevail in the long run. Meanwhile it may be comforting to us to know that the Germans have their osteopaths, their "natural" physicians, their herbalists, their "water doctors," their Christian Scientists and their "new system" men of all kinds, who flourish at the expense of legitimate practitioners.

In a recent address,* Dr. Tschlenoff, of the University of Bern, once more examines the claims of the various faddists who profess to be benefactors of the human race, but who actually make a good living by exploiting the credulity of mankind. Dr. Tschlenoff wastes no words on the well-known methods of out-and-out quacks. His argument is directed against the claims put forward by that large class of uneducated pseudo-doctors, who use the so-called "natural" methods of therapy, and thereby pretend to accomplish far more than the graduates of universities and schools of medicine. The author clearly shows that whatever is actually beneficial in physical

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methods has always been known to medicine, and forms part of the curriculum of our medical schools.

The prophets of so-called "naturalism" in medicine, like Kuhne, Platen, Schroth, Bilz, and Kneipp, have merely brought into vogue in a more or less dramatic way, methods used as adjuvants to treatment by regular physicians from time immemorial to the present day. It is really humiliating to be compelled seriously to take up the preposterous claims to recognition so often and so loudly made by the various classes of charlatans, who masquerade as unselfish "healers," "bone-setters," "nature-doctors" (*Naturärzte*), and what not.

Anatomy, physiology, pathology, and skilled diagnosis are all alike unknown to these pretenders. And yet in Germany, as in our country, they base their impudent demands to recognition on systems of treatment that disregard utterly what is most essential in rational medicine. They say they heal where doctors hurt, and that therefore they are not only the equals, but rather the superiors, of trained and diplomaed medical men. The general public is always ready to admit that if a clock or any inanimate piece of mechanism goes wrong, a skilled artisan is needed to examine and properly repair the damage. But if the human body, that most delicately constructed mechanism, is out of order, we are called upon to believe that the accurate knowledge of its normal workings can be dispensed with. As Dr. Tschlenoff justly remarks, it deeply shames the boasted intelligence and enlightenment of our times that such monstrous claims have to be refuted again and again.

It is well known that in Germany the ranks of the "natural healers" are recruited from the lowest classes of society. For example. the official figures for the city of Berlin show that sixty per cent. of unqualified practitioners were former day-laborers or artisans, and only forty per cent. had had an even elementary school education. Of female healers, fifty-eight per cent. had been servant girls. Moreover, Professor Guttstadt has shown that about thirty per cent. of Berlin's irregulars had a criminal record.

It ought to be understood once for all that air, water, massage, the various forms of exercises, Swedish movements, electricity, dietetics, and the whole range of non-medicinal methods of treatment possess no mysterious virtues, hidden from the ken of licensed practitioners. And yet it is only too true that even the educated classes are often willing to follow the precepts of some arrant pretender, while neglecting the sound advice of a regular physician.

It is very unfortunate that whenever and wherever reputable physicians expose the crass ignorance of these self-appointed "healers," the public suspects the unselfishness and purity of professional motives. It speaks well for our profession and its great traditions that despite the obstacles thrown in their way, honorable physicians have not yet wearied of attempting to teach mankind how to protect itself from danger and spoliation at the hands of these alleged benefactors of the race. And so we may hope that the present increase of quackery in Germany is but a passing phase and that the public will not forever play the facile dupes to increasing bands of arrogant knaves and fools.

YELLOW FEVER SPECIFICS.

Many years ago Maclagan, when writing of the virtues of salicin in the treatment of rheumatism, put forth the theory that where any disease prevails endemically there nature has provided a specific remedy. In support of this he instanced the curative effect of cinchona bark in malaria, and of willow bark in rheumatism. We are reminded of this by two reports, coming from different sources but published nearly simultaneously, on the use of indigenous plants in the treatment of yellow fever. Dr. T. P. Porter, of Kingston, Jamaica, writing in the *Detroit Medical Journal* of July 25, says that the "bush" doctors of Hayti and other West India islands use with almost invariably satisfactory results vervain (*Verbena officinalis*) and guinea-hen weed (*Petiveria alliacea*) in the treatment of yellow fever among the negro natives. This is, he says, the same remedy spoken of by Spence in his "Land of Bolivar," published in 1878. Another remedy is the seed of *Simaba cedron* or *Quassia cedron*, a tree of Central America, preparations of which have long been employed in the treatment of snake-bite and the stings of insects and also of malarial fever. Dr. S. H. Hodgson, of the Marine-Hospital Service, writing from Progreso, Mexico, in the *Public Health Reports* for July 26, says that he has tried this remedy in several cases of yellow fever, and from the results obtained concludes "that it is as specific for yellow fever as quinine is for malaria;" and so convinced is he of its value in the treatment of this disease that he asks to be sent to some place where yellow fever is epidemic so that he may be able to give the drug a thorough trial. If yellow fever is a plasmodial disease analogous to malaria, as the experiments of Major Reed and his associates on the Army Commission in Cuba would indicate it is, there is no inherent improbability in the supposition that a specific remedy for it exists somewhere in nature. It may be that this remedy is the active principle of Simaba cedron or verbena, or possibly of both plants, and we shall be glad to learn of the results of a further trial of cedrin, if that is the active principle of cedron seed.

THE TEACHING OF ANÆSTHESIA.

We have but recently (Medical Record, June 15) called attention to the importance and the desirability of including instruction in anæsthesia in the curriculum of the medical schools, and it is gratifying to note that inquiries have been addressed to the various hospitals of London with regard to this matter. It is understood that the subject of anæsthesia will soon be included among the compulsory branches of study, so that every student, before being admitted to a qualifying examination, will be required to furnish evidence of his competency to administer anæsthesia in an ordinary case. To the same end, it is said, teachers of anæsthesia are being appointed in the reorganized University of London. The step thus taken is a most important and commendable one and it deserves general imitation.

The Plague has reappeared in Sidney, N. S. W., one death having been reported there on August 6.

News of the Week.

Convention of Health Officers in New York State.—The State Health Department is making arrangements for a convention of health officers and registrars of vital statistics of the State, to be held in Albany on October 24 and 25. There are 1,400 local health boards in the State, each having a health officer and registrar of vital statistics. Papers will be read on the subjects of sanitation, public health, water supply, sewerage, vital statistics, etc.

A German Investigation of Bovine Tuberculosis.—A commission was appointed by the German Government in July to examine the results of Koch's experiments on bovine tuberculosis, and to make other experiments in order to determine definitely the exact relation between human and bovine tubercle bacilli. Among the members of this commission were Professors Virchow, of Berlin, and Bollinger of Munich. The Berlin papers warn their readers not to accept the views enunciated by Prof. Koch until they have been substantiated by other investigators, and say that precautions for preventing the spread of tuberculosis by milk must not be relaxed.

The "Oklahoma Medical News" is the name of a new monthly journal published in Oklahoma City, and edited by Dr. J. R. Phelan. Its first issue, for July, gives promise of a long and useful future.

Ward Thirteen Abolished.—It is reported that the authorities at the Binghampton State Hospital have done away with Ward 13, because of the depressing effect the unlucky number had on some of the patients.

The Eyesight of School Children.—Dr. Wallace Pyle recently reported to the Jersey City Board of Education the results of an examination of the eyes of 1,215 pupils in five public schools of that city. Of these 1,215 pupils, 205 had defective eyesight.

Change in the Sanitary Squad.—On the first of next January the policemen composing the sanitary squad of the Health Department of this city will be sent back to patrol duty, their places being filled by one hundred men selected, after a civil service examination, from the general body of police.

Robbery in a Smallpox Hospital.—A man and his wife have been arrested in a New Jersey town for robbing the smallpox hospital—which was empty of patients—of bedding, china and glassware, linen, and nearly everything portable.

Antitoxin in Zion.—The trouble into which Dowie and several of the inmates of his "Zion" have fallen of late through the deaths from diphtheria of faith-treated children has injected considerable caution into his methods. The health authorities of Chicago were surprised a few days ago by the request from Dowie for diphtheria antitoxin. The remedy was applied in several cases in which the faith-cure treatment had been followed by an aggravation of the symptoms, and a cure resulted.

An Investigation of the Baltimore Hospitals has been undertaken by the Mayor of the city, on account of the case of a man who died in jail of alcoholism after admission at a number of hospitals, including Bayview Asylum, the city institution for poor people, had been refused to him. The man was found in the street acting as though insane, and suffering from a cut over one eye, having been knocked down by a wagon. He was taken to the Baltimore University Hospital, but the officials there refused to allow him to remain. The patrol wagon then carried him to St. Joseph's Hospital, where admittance was also refused to him. The City Hospital would not receive him because, it is stated, the institution was full. Johns Hopkins Hospital also refused to take him. Two hours after the man was taken to jail he died.

The Randall's Island Quarantine.—For the past three months Randall's Island, where there are several public institutions, has been quarantined because of the prevalence of smallpox, the only means of communication between the inmates of the various institutions and their friends ashore being through the mails. It is announced, however, that the embargo will soon be lifted and the institutions will again be open to visitors.

An Epidemic of Broken Legs.—The morning papers on Monday last, reported a curious coincidence in the way of accidents. Three women on their way to or from church, slipped on banana peels on the sidewalk and fell, each breaking her left leg.

Rush Medical College, which has been made the medical school of the University of Chicago, will hereafter admit students of both sexes. At present women will be admitted only to the two lowest classes, but in a year the two upper classes also will be open them.

Notification of Tuberculosis.—The Health Department of Jersey City has notified all physicians of that city that they must hereafter include pulmonary tuberculosis among the contagious diseases to be reported to the authorities.

An Orthopedic Home in Boston.—Mr. A. C. Burrage, of Boston, has leased Bumkin's Island from Harvard University for 399 years, and will build a hospital on it and make it a free Summer home for the crippled children of Boston. This island lies half way between Nantasket and Hingham, and about one and a quarter miles north of Hull. It was given to Harvard College by Samuel Ward, who was a friend of John Harvard, but has never been used to any advantage. It contains about fifty acres of ground available for hospital purposes.

Smallpox among Indians.—Reports received by the Department of the Interior at Washington, state that smallpox prevails extensively among several tribes of Indians, notably the Flatheads and Winnebagos, and the most stringent measures are necessary to prevent the spread of the disease.

Consumptives to be Barred.—It is reported that the authorities of St. Luke's Hospital contemplate closing the consumptive wards in the hospital and using the forty-two beds which they contain for patients ill with acute diseases.

The State Manufacture of Antitoxin.—Dr. H. D. Pease, of Yale College, has been appointed director of the State Laboratory for the manufacture of various prophylactic and therapeutic sera, and for the serum and bacteriological diagnosis of infectious diseases.

The Financial Results of American Sanitation.—In the course of an editorial comment on one wing of the few but vociferous pessimists who can see nothing cheerful in the financial or political horizon, *The Times* of this city has something to say of the marvellous work accomplished in Havana in the two years and a half that American medical men have had sanitary control of the city. "There has been," this appreciative writer says, "no death from yellow fever

in Havana since March 16. In the month of June there was not a case of the disease, a thing that has not been reported before since 1781—one hundred and twenty years ago. Santiago is free from the disease. It has not been free from it before for three hundred years. Yellow fever usually comes to us from Havana. Whenever it effects a lodgment in the Southern States business is always seriously interfered with all over the South, and in many cities and towns it is practically suspended—sometimes as a result of the shotgun quarantine. The whole country feels the consequent loss and injury to trade. New York is the worst sufferer. It is a low estimate to say that a visitation of yellow fever costs the country $100,000,000. A limited and comparatively brief interference with our vast inter-State trade easily involves the loss of that sum; and if the epidemic is severe and prolonged it is much greater. Now it is highly improbable that we shall have any yellow fever this year—more improbable than in any year for a century or so. This is one of the results of the joint despotism of William McKinley and Leonard Wood over the island of Cuba—whose people are and by right ought to be free to have all the yellow fever they want, according to the anti-imperialists. But that is another question and aliunde. Our present purpose is to gloat over the hundred million dollars we are going to save by not having yellow fever this year."

"Le Caducée" is the name of a new journal published in Paris under the editorship of Dr. Granjux, with the assistance of Dr. E. Laval. The *Caducée* is Mercury's wand, and this journal, which takes its name, is to treat of military medicine and hygiene, including tropical diseases.

Charged with Illegal Practice in New Jersey.—The State Medical Board of New Jersey, through Dr. John W. Bennett, of Long Branch, one of its members, caused the arrest of five physicians on July 31, for practicing illegally in Monmouth County. All of the physicians but one, Dr. A. H. Friedenberg, of New York, waived examination. The physicians were accused of having failed to file a certificate of license with the Clerk of Monmouth County. At the trial, on Saturday last, Dr. Friedenberg proved that he had passed the examinations of the board in 1896, and in June, 1897, before beginning practice at Hollywood, filed his certificate with the County Clerk. Judge Schoenlein dismissed the complaint, exonerating the physician.

The American Association for the Advancement of Science will hold its fiftieth annual meeting at Denver on August 26 to 30, under the presidency of Dr. Charles Sedgwick Minot, of Boston. The first session will be opened at 10 o'clock on Monday morning, August 26, by the retiring president, Dr. Woodward, who will introduce the president-elect, Dr. Minot. Addresses of welcome will be made by Governor Orman of Colorado and Mayor Wright, of Denver. Honorary President J. B. Grant will introduce Gen. Irving Hale and Aaron Gove, who will welcome the association on behalf of the business men of Denver and the educators of Colorado. On Monday afternoon the vice-presidents' addresses will be delivered by Professors John A. Brasher, Allegheny, Pa.; Charles B. Davenport, Chicago, Ill.; Amos W. Butler, Indianapolis, Ind., and Calvin M. Woodward, St. Louis, Mo. A reception will be held on Tuesday evening, following the presidential address of the retiring president, Dr. R. S. Woodward. Section meetings will be held on Tuesday, Wednesday, Thursday, and Friday. Numerous excursions are planned to give members of the association an opportunity for field work. Several important questions will be brought up at this meeting. It has been suggested that the salary of the permanent secretary be fixed at $5,000, or else one or two assistants should be provided for. Another suggestion is a change in time of the meetings from summer to the Christmas holidays, unless, perhaps a summer meeting be held, say, every three years. Several amendments to the constitution may also come up for consideration. The most important changes are a provision that the president and secretary of each affiliated society be made members of the council, and that a new section on commerce and manufactures be organized. The proceedings of this meeting, when published, will constitute the fiftieth volume, and an important part of the business of the meeting will be to arrange for the making of a general index of the fifty volumes by the general secretary, Professor L. O. Howard.

The New York Central Tunnel.—As a result of a recent investigation, the Grand Jury has brought a presentment in regard to the Park avenue tunnel, calling upon the Board of Health to use its powers to cause an abatement of the nuisance.

The Surgeon-General of the Navy.—The term of appointment of Dr. W. K. Van Reypen, Surgeon-General of the Navy, will expire on December 18. There is not much talk of his successor yet, as it is very generally believed and hoped that he will be reappointed to serve until November, 1902, when he will be retired under the age limit.

Pennsylvania State Medical Examination.—Of four hundred applicants for license to practice medicine examined in June last by the Pennsylvania State Medical Board one hundred failed to pass.

The Jury of Awards at the Pan-American Exposition, with respect to all exhibits having to do with hygiene and sanitation, medicine and surgery, has just concluded its labors. The chairman of the jury was Capt. E. L. Munson, Assistant Surgeon, U. S. Army, whose recent book on military hygiene has been favorably noticed in these columns; and the members were Surgeon S. H. Griffiths, U. S. Navy, lately attached to the Naval Museum of Hygiene, Washington, D. C., and Professor S. H. Woodbridge, Professor of Heating and Ventilation at the Massachusetts Institute of Technology, Boston, Mass., and now acting as Government expert for the improvement of the ventilation of the Capitol building at Washington. A large number of exhibits were submitted to this jury for consideration, the awards being based upon the character and quality of the exhibits as actually made at the Exposition. The exhibits in the section on public health are said to have been found to be of a high degree of excellence.

Mosquitos and Malaria.—The New York City Board of Health has prepared a circular of instruction regarding the relation of mosquitos to the spread of malaria, and the best means of exterminating these pests. It advises the drainage and filling of all pools of stagnant water, and the treatment by oil of those which cannot be drained. It is to be hoped that the board will follow its own advice and do away with the breeding-places of mosquitos, which are very plentiful in some of the outlying parts of the city and especially in the Central and other public parks in the several boroughs. Mosquitos have been unusually numerous in Fordham Heights during the past month

and simultaneously with their appearance there have been many cases of malaria. The region is on elevated ground and has none of the traditional aspects of a malarious district. Dr. Alvah H. Doty, the Health Officer of the Port, has inaugurated a campaign against mosquitos on Staten Island in the vicinity of the quarantine station, the object being to determine the possibility of exterminating the insects in a given region, and the effect such extermination would have on the prevalence of malaria. A preliminary survey of the region has brought to light many cases of malaria and has shown the presence of the anopheles among the mosquitos and of their larvæ in stagnant pools. The pools, cesspools, and other natural and artificial collections of stagnant water will be subjected to the oil treatment, and the results as regards the health and comfort of those living in the neighborhood will be carefully noted. A report of a successful experiment comes from Camp Jackson, New Orleans, where formerly mosquitos were in such overwhelming numbers that life for the small garrison maintained there was almost intolerable. A free use of crude petroleum has been made with the result that, from being one of the worst places in New Orleans, it is now the freest from mosquitos of any part of the city.

The Medical Society of the Missouri Valley.—The fourteenth annual meeting of the society will be held in St. Joseph, Mo., on Thursday, September 19, and Eureka Springs on Friday and Saturday, September 20 and 21. Papers have been promised by a number of men from Chicago, Omaha, and New York, in addition to those to be presented by members of the society. The president is Dr. V. L. Treynor of Council Bluffs, Ia., and the secretary Dr. Charles Wood Fasset, of St. Joseph, Mo.

The American Electro-Therapeutic Association will hold its eleventh annual convention in Buffalo, on September 24, 25, and 26, 1901. Its headquarters will be at Hotel Niagara, and its place of meeting the Armory of the 74th Regiment.

Aseptic Dueling.—In order to make a safe practice doubly safe, French duelists have of late taken to the sterilization of their swords, and now it would be considered as reprehensible for a duelist as it is for a surgeon to omit "the usual antiseptic precautions. In an account in the New York *Times* of a recent duel between young Daudet, the son of the novelist, and a journalist of Paris named Richard, it is said that after the first attack, the point of Daudet's sword accidentally touched the ground, when the seconds intervened and stopped the contest until the blade could be disinfected, Afterwards Daudet was wounded in the wrist, but thanks to the antiseptic precautions taken by the seconds, he is doing well, and will soon be able to use his sword arm again in defense of his honor.

The New York Milk Supply.—The Health Commissioners have held several conferences with the officials of railroads carrying milk into New York, and as a result of the conferences the greater part of the milk used here is to be shipped in refrigerator cars stocked with a sufficient supply of ice to keep the temperature of the milk at or under 45° while in transportation. Some time ago the health authorities undertook to have the milk cooled by ice while in transportation from the dairies to the city, and the officers of several railroads consented to make up their milk trains of refrigerator cars. They put no ice in the cars, however, and consequently the milk has been coming to the city at a temperature of from 70° to 80°. The Milk Commission of the New York County Medical Society has awarded certificates to five large dairies which are keeping the bacteria in their milk down to 30,000 in the cubic centimetre.

Poisoning by Moon Seed.—Three boys died in convulsions some time ago in Sharon, Pa., after eating some berries which they had found growing on a vine. The symptoms resembled those of strychnine poisoning, and suspicion was directed against a farmer of having drugged some cider which the boys had stolen and drank. Some of the berries, found in the pocket of one of the boys, were sent to Philadelphia and were identified as moon seed (menispermum canadense). The plant is not a common one. The leaves are partially peltate, palmately lobed, and resemble in form those of the English ivy, but are much smaller and thinner. It is a climbing plant, is of slender growth, reaching the height of about ten feet in the season, and is sometimes cultivated as an arbor vine. In the fall and winter there is nothing to be seen but the clusters of shining black berries, resembling the "frost grapes," for which children may readily mistake them.

A Smallpox Hospital for the Well-to-Do.—The suggestion has been made that the erection of a smallpox hospital for private patients would be a very useful and profitable undertaking. At present all those attacked by the disease, irrespective of their social position or the means at their disposal, are removed to the public hospital on North Brother's Island. It is believed by those in favor of the scheme that next winter, unless the Board of Health is more active or more successful in fighting the disease, there will be a veritable epidemic of smallpox in this city, and that then, when too late to establish one, the need of a private hospital for the isolation and treatment of pay patients will be most apparent.

A New Bactericide?—The Detroit papers say that considerable interest has been aroused at the University of Michigan over certain experiments demonstrating the bactericidal action of nascent oxygen when freed within the body from certain organic bases. The experiments are being conducted by Dr. Frederick G. Novy.

Professional Secrecy Violated.—A Paris physician was recently fined 200 francs and sentenced to pay the plaintiff in a suit against him 1,000 francs damages. The plaintiff was taken suddenly ill at the house of the parents of his fiancée, and in response to the questioning of the young woman's mother the doctor told her the nature of the patient's illness. This led to a breaking off of the engagement, and the young man sued the physician for breach of professional secrecy, with the result as stated.

A Nurse for over Sixty Years.—Mme. Bottard, of Paris, has recently been pensioned and decorated with the cross of the Legion of Honor after having served for nearly sixty-two years as nurse in the Salpêtrière. She entered the hospital in 1840 on a salary of 12 fr. a month, and in all the years since, it is said, she was outside of the hospital but twice, and each time got lost in the maze of Paris streets. She is now eighty-three years old.

Abuse of the Cigarette by a medical lecturer has led to a suit for damages against a Louisville medical college. According to a Chicago paper, the professor denounced cigarette smoking in his lectures in no uncertain terms, and, not content with that, also characterized cigarette makers in very uncomplimentary, not to say unparliamentary, language. The students took offence at this, and struck against attendance at the professor's lectures until he had apologized to such as indulged in the cigarette habit. This he declined to do, and then the faculty, taking

alarm at the students' stand, turned the professor away, and he thereupon sued the college for damages to the amount of $15,000.

Obituary Notes.—Dr. Henry Buckingham Horlbeck, of Charleston, S. C., died in that city on August 2d following an apoplectic attack from which he suffered in the spring, soon after his return from Havana where he had been attending the Pan-American Medical Congress. He served as surgeon in the Confederate Army during the Civil War, and for twenty years had been health officer of Charleston.

Dr. P. Calvin Mensch, professor of biology in Ursinus College, died of tuberculosis at Collegeville, Pa., on July 30, at the age of thirty-seven years. He was a graduate of Ursinus College in 1887, of Bellevue Medical College in 1890. He received the degree of Doctor of Philosophy from the Grant University, Tennessee, in 1891. He had been since 1894 at the head of the biological department at Ursinus College, and was an authority on the subject of marine annelids.

Dr. Gilbert E. Palen, of Philadelphia, died of pneumonia at Ocean City, N. J., on July 27, at the age of sixty-nine years. He was a native of Palenville, N. Y., and a graduate of Yale in 1853 and of the Albany Medical College in 1855.

Dr. James V. Kendall died at his home in Baldwinsville, N. Y., on August 5, at the age of eighty-three years. He was a graduate of an eclectic medical school in 1851. He was during the Civil War surgeon of the One Hundred and Forty-ninth New York Volunteer Regiment, and served a term as member of the State Assembly in 1869.

Book Reviews.

Diseases of the Thyroid Gland and Their Surgical Treatment. By James Berry, B.S. (Lond.), F.R.C.S., Surgeon to the Royal Free Hospital, etc. Philadelphia: P. Blakiston's Son & Co., 1901.

This volume is largely a record of personal experience in the pathology and surgery of the thyroid gland. However the author has drawn on all sources of material relating to the subject, and has produced a very readable book. He discusses his subject systematically, beginning with the anatomy of the gland and considering in order the various forms of disease to which it is subject. Perhaps the most interesting section of the volume is that devoted to the consideration of the distribution of goitrous disease in England. The conclusion reached is that air and climate have nothing to do with the causation of goitre, but that drinking water containing some undiscovered calcareous ingredient plays an important rôle in this regard. This view prevails also to a great extent among Swiss surgeons. Naturally the most important part of the treatment of goitre is surgical, and to the different forms of this the author devotes much space and introduces descriptions of many clinical experiences. The accidents and post-operative complications so important in thyroid surgery are commented upon and proper warnings are given. The author has had much experience in thyroid surgery and his opinions are valuable. He has introduced many excellent illustrations, which add to the usefulness of his book, and has introduced at the end a table of statistics upon one hundred consecutive operations.

A Practical Treatise on Diseases of the Skin. For the Use of Students and Practitioners. By James Nevins Hyde, A.M., M.D., Professor of Skin, Genito-Urinary, and Venereal Diseases, Rush Medical College; and Frank Hugh Montgomery, M.D., Associate Professor. Sixth and Revised Edition. Illustrated with 107 engravings and 27 plates in colors and monochrome. Philadelphia and New York: Lea Brothers & Co., 1901.

It does not seem so many years ago since the Medical Record first noticed Dr. Hyde's book. It was not nearly so good a book in those days, but it showed promise. As we have been called upon to look over succeeding outputs of the work we have year by year found more to commend and less to criticize. The pathology has gradually undergone changes which has made necessary frequent alterations in this portion of the book. Illustrations have been freely added until now the suggestion might be made of substitution rather than of leaving in all the old when new plates were added. Among the diseases whose chapters have been rewritten are acne, herpes, psoriasis, blastomycosis, carate, tuberculosis, scleroderma, zoster, etc.

The well-known clinical observations upon blastomycotic dermatitis made by these authors renders the chapter on this subject especially interesting. The hand of the junior partner is evident in some of the revision work and the original author is to be congratulated on having associated with him so able a worker and writer. We are glad the success we predicted for this work years ago has been so prompt and so complete, and we trust it may continue for many years to come.

The International Medical Annual. A Year Book of Treatment and Practitioner's Index. Nineteenth Year. New York: E. B. Treat & Co., 1901.

The only thing we can say against this yearbook is its fine print. This is rendered necessary, of course, by the vast ground covered unless the material were collected in several volvmes or one double the size. The present volume has 682 pages. The usual ground is creditably covered, and in addition we find special articles on toxins and antitoxins; one on Tuberculosis by Prof. Ruata of Italy; one on the Rœntgen rays, by Macintyre of Glasgow; one on Color-blindness, by Eldridge Green, and one on Dental Surgery, by Mr. Turner. The general high standard of accuracy and completeness is being maintained.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Articles. Edited by H. W. Cattell, with the collaboration of J. B. Murphy, A. D. Blackader, H. C. Wood, J. M. Rotch, E. Landolt, T. G. Newton, C. H. Reed, J. W. Ballayntine and John Harold. Vol. I. Eleventh Series. Philadelphia: J. B. Lippincott Company, 1901.

Twenty American and European physicians of note are represented in this collection. The therapeutical department has this time "Notes on New Remedies," by A. G. Stevens; of Philadelphia; "Treatment of Gleet," by A. Renault, and "Treatment of Eczema," by Hallopean, both of Paris. Dr. W. H. Walmsley gives some practical methods in photomicrography. In 100 pages Dr. Blackwood reviews the progress medicine has made in the past year, adding a most useful chapter to the list of clinics.

A System of Physiological Therapeutics. Edited by Solomon Solis Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic, etc. Volumes I. and II. Electrotherapy by George W. Jacoby, M.D., Consulting Neurologist to the German Hospital, New York City. Philadelphia: P. Blakiston's Son & Co., 1901.

The first volume deals with electo-physics and the apparatus required for the therapeutic and diagnostic use of electricity. Interest naturally centres in the Röntgen rays, and on p. 210 we find a chapter on properties, sources and effects of the rays; tubes, machines and all down to *x*-ray burns. Considering, however, the great importance in diagnosis and its growing value in therapy, the chapter is all too short. The work is well illustrated and has been written in a most painstaking and highly scientific manner.

This second part of Dr. Jacoby's work includes diagnosis and treatment and is freely illustrated. There are only 182 pages to the work proper, but, with the additions of the use of electricity in eyework by Edw. Jackson; in surgery by J. Chalmers Da Costa; in throat, nose, and ear by Wm. Scheppegrell; in gynecology by F. H. Martin, and in skin by A. H. Ohmann-Dumesnil, quite a good-size volume is presented.

Some of this additional work of special nature does not add as much to the value of the whole as one might be led to expect, and there is some reiteration. The chapter on electricity in cutaneous surgery fails to reflect (as an up-to-date work of this kind should) the great value of the various methods now so well known to dermatologists. Much space which might have been utilized is wasted in cross-references which serve no good purpose. Nevertheless, the two volumes of Dr. Jacoby's work make an excellent introduction to this new system, and if all the rest come up to the standard he has set its success is assured.

L'Immunité Vaccinale. Par Le Docteur Maurice Coste. Paris: J. B. Baillière et Fils, 1900.

The subjects chiefly treated in this brochure are the occurrence of variola in the non-vaccinated, in those vaccinated, and in those re-vaccinated, whether successfully or not; also the course of the disease when it attacks those

who have already had variola; the rôle of vaccinal immunity in modified variola, the effects of age on the variolic receptivity, and the prophylaxis of smallpox. It is thus seen to be a most interesting topic and one appearing at a time to attract some attention in the United States, where recent mild epidemics have given rise to no little controversy on these very points.

RUDIMENTS OF MODERN MEDICAL ELECTRICITY, Arranged in the Form of Questions and Answers and Prepared Especially for Students of Medicine. By S. H. MONELL, M.D., Professor of Static Electricity in the International Correspondence School; Founder of the New York School of Special Electro-Therapeutics. New York: Edward R. Pelton, 1900.

THERE are one hundred and sixty-five pages of these questions and answers, not intended for quiz use, evidently, but to bring out certain points of fact and of belief. Any one who has not given much time to medical electricity who will read carefully these questions will pick up considerable information.

MEDICAL AND SURGICAL NURSING. A Treatise on Modern Nursing from the Physician's and Surgeon's Standpoint, for the Guidance of Graduate and Student Nurses, together with Practical Instruction in the Art of Cooking for the Sick. Edited by H. J. O'BRIEN, M.D. New York and London: G. P. Putnam's Sons, 1900.

THE author has based his instructions on personal experience with nurses. The articles are written by physicians, with the exception of that on cooking, and reflect the medical standpoint in giving instruction to students in nursing and—as the writer states—the competent nurse no less than the physician should always be a student The work can be recommended to all student nurses.

TRAITÉ DE CHIRURGIE, CLINIQUE ET OPÉRATOIRE. IX. VESSIE, URETHRE, PROSTATE, PENIS, ENVELOPPES DU TESTICULE. Par FÉLIX LEGUEN, J. ALBARAN et PIÈRRE SEBILEAU sous direction de A. LE DENTU et PIÈRRE DELPET. Paris: J. B. Baillière et Fils, 1900.

THIS volume (ninth) is given up to the surgery of the genito-urinary passages and organs. There are two hundred and forty-five illustrations in the text, which covers nearly a thousand pages. The chapters have been prepared with much care as to detail and the anatomico-pathological features have been given much attention. The writers in in charge of these subjects have succeeded in keeping them well up to the standard set by preceeding volumes.

HEART DISEASE IN CHILDHOOD AND YOUTH. By CHARLES W. CHAPMAN, M.D., Durh., M.R.C.P., Lond., with an introduction by Sir SAMUEL WILKS, Bart., M.D., F.R.S. London: The Medical Publishing Company, Limited, 1901.

A NEAT little book with a few pictures, charts, and tracings giving an outline of the usual varieties of cardiac disease in early life. Especial stress is laid on hygienic management.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE HEAT WAVE—TUBERCULOSIS CONGRESS—NATIONAL HOSPITAL—EPSOM COLLEGE—DISCUSSION ON ALCOHOL—PATHOLOGICAL SOCIETY AT OXFORD—BACTERIOLOGY OF RHEUMATISM—RUPTURE OF THE UTERUS IN PLACENTA PRÆVIA—INVESTITURE BY THE KING—RECENT DEATHS—WEATHER, GREAT STORMS—THE TUBERCULOSIS CONGRESS—THE OPENING BY THE DUKE OF CAMBRIDGE—DR. KOCH'S STARTLING STATEMENT—THE JOINT DEBATE OF TWO SECTIONS ON TUBERCULIN—DR. BROUARDEL'S ADDRESS—BANQUET TO KOCH—RECEPTION OF FOREIGN DELEGATES BY THE KING.

LONDON, July 19, 1901.

HOT waves and whence they come have been the table-talk of the week. Many hold that they come direct from your side, but there seems no reliable evidence that they travel across the Atlantic. Our newspapers have given us particulars of your suffering from them day by day. Compared with the temperature here we ought not to feel so oppressed by a short spell of hot weather, as the majority of us do; for myself I am salamander enough to enjoy it. It is true that the week has been a hot one—the hottest for a long time, but people would not feel it so much if they adapted their diet and regimen to it. A noteworthy point is that the heat has been prolonged to a later hour than usual. There has been a good deal of cloudless sky, and the direct rays of the sun have softened the asphalt and melted the tar of the wood pavement in certain streets. The thermometer crept up to 90° F. in the shade. Numerous cases of syncope and heat-apoplexy have been treated at the hospitals, and there have been some fatalities. Horses, too, have suffered much. Reports from the provinces are of the same kind.

Another topic is the Tuberculosis Congress, which is to be held next week. It has this association with the foregoing subject: Some hearty condemnation is afloat of the folly of fixing it in the dog-days, especially as it is to be held in London. But, further, it is followed by the British Medical meeting the next week. Though that happily is in the country. After all, these meetings are fixed for what is called the holiday season. That is all very well for the consultants, but the masses of the profession only smile dolefully when you speak of August as a vacation month.

The National Hospital controversy may be regarded as closed. At a special meeting the Governors adopted the report of the Investigation Committee. The Secretary-Director has resigned, as the Committee advised that the office be abolished. The Governors also decided to appoint a committee to carry into effect the recommendations of the report. This is a sort of mixed committee on which two representatives of the staff are to sit, three of the Managing Board and four of the Committee of Selection. Perhaps they may be "a happy family." Their business will be to revise the rules and reorganize the government of the institution. In any case, the staff must be represented on the future board So far, the staff has vindicated its rights and upheld an important principle of hospital management.

Lord Rosebery, as President of the Royal Medical Benevolent College, took the chair at the twenty-eighth festival dinner on the 9th inst. In his speech, he suggested that the adjectives "medical" and "benevolent" should be omitted. He paid a handsome tribute to the profession, to which he said all owed a debt which they could neither limit nor estimate. Dr. Holman, the treasurer, thought the adjectives might very well be omitted if the position of the pensioners and foundation-scholars were made secure. They could wipe out benevolence, if the supporters would provide some £50,000, but he could not as treasurer agree to do so without that security. The difficulties he had to meet each year convinced him that people would not give without a *quid pro quo*. It was painful to him to say so, but it was true.

Now John Propent founded Epsom College for the benefit of the medical profession, and its chief supporters belong to that. The pensioners have no reason to be ashamed that they are supported by benevolence, and the boys have no occasion to blush that their fathers were doctors who had met with misfortune. This sentimental objection to the word benevolence seems to me absurd and its expulsion might possibly be a step toward the gradual misappropriation of a foundation, such as has too often been the history of other institutions which have survived through many generations to benefit persons who were not intended to be recipients of its benevolence.

Professor Sims Woodhead is an earnest leader in the crusade against the abuse of alcohol. He opened a discussion at the Edinburgh Medico-Chirurgical Society on the 3d inst. with the query "Is alcohol a poison, a drug, or a food; or if, as some think, it is all three, in which rôle it is most important?" No one denies that it is a narcotic poison, and Dr. Woodhead said it is a protoplasmic poison. As a drug it is not a panacea, and he held that it should be prescribed with as much care as other medicines. The notion that it is a food he considered responsible for most of the diseases it produces. Admitting that it is oxidized in the body and might thus supply some heat, no sane man would put it forward as able to supply the number of calorics required and easily obtained from fat and carbohydrates. Dr. John Madden recently showed that the latter exerted no toxic effect, while alcohol is a violent protoplasmic poison. Instead of protecting nitrogenous tissues from undue waste, as do fats and carbohydrates, it actually increases their waste. Further its avidity for oxygen is a factor in producing some forms of fatty degeneration and that, too, without any accompanying nutrient action. It is on account of this absence of a nutrient element that the cells do not become accustomed to the poisonous action. The tissues consequently do not become immune to its effects. Referring to the combined action of arsenic and alcohol, the professor said that tissues weakened by one poison are more easily injured by another; alcohol, in some way, also acts as a predisposing cause to specific infective diseases. The normal resistance of rabbits to streptococcus pyogenes erysipelatis is greatly diminished by previous dosing with alcohol, and this agrees with our clinical experience. Similar facts have been shown as to anthrax, tetanus, rabies, etc.; as to phthisis, there is direct evidence that alcohol predisposes to the disease; it can therefore hardly be good as a

permanent food substance. In two cases of acute alcoholism in young healthy persons, Dr. Woodhead found acute myocarditis. The effects on nerve-cells were also described.

Professor Fraser then took up the cudgels on behalf of alcohol, said the effects of small and large doses were entirely different, and because of its easy oxidation alcohol might give energy and so be of use in certain crises. He then proceeded, after the manner of professors of materia medica, to relate its effects on the circulatory and other systems. As to nutrition, it was more easily consumed than fats or carbohydrates. It was absolutely burned up in the body, and therefore must generate energy and must be a food substance. But this last statement seems a *non sequitur* and merely contradicts Dr. Woodhead without refuting him. As to infection, Dr. Fraser said plague in Calcutta among a teetotal population gave a mortality of ninety-five per cent. against twenty per cent. among Europeans consuming alcohol and added that the same results were seen in the recent Glasgow epidemic.

Dr. Clouston thought valuable information would be obtained by appointing a committee to investigate the molecular change produced in the higher nerve centers. If they could make people believe that excess was harmful, good would result. Dr. Affleck considered some of Professor Fraser's dogmatic statements questionable. Pneumonia in a drunkard often ended fatally in a short time. That was due to the state of the body produced by alcohol; and yet that drug is often used in large doses in pneumonia. He had rarely seen it do any good. Its use in digestive troubles was fraught with terrible danger. The moral could not be dissociated from the medical aspect.

Dr. Ritchie quoted statistics of life insurance. These are all known to be in favor of abstinence. He found alcohol predisposed to gout and rheumatism; as to its use in cardiac failure, the heart failed about two hours after a dose and then it became necessary to give another. Dr. Foulis supported this by adding that alcohol had very little sustaining effect on the heart in chronic disease.

Dr. Leslie Mackenzie said infectious diseases were most common in children when alcohol was out of the reckoning. Cholera did not prevail in western countries where alcohol was used. Dr. Church thought in children it was difficult to decide when to give or withhold. He gave small doses, watching the effect on the pulse. Dr. C. Ker said he should be sorry to have to do without alcohol in all cases of diphtheria, almost the only cases in which he used it.

Dr. Fraser repeated his contention that alcohol was a beneficial agent, and Dr. Woodhead replied. In doing so, he said minute doses increased the susceptibility to infection; the increase of energy after a dose was of the nature of an explosion and not useful; the antipyretic effect was neutralized by the cumulative poisonous action; in diphtheria it greatly increased the liability to antitoxin rash. As to plague, Europeans were so differently circumstanced and nourished that they could not be compared with natives. Starving animals more easily succumbed to infection.

The Pathological Society had a meeting at the new laboratory of the Oxford University on the 6th inst., when Dr. James Ritchie, of Oxford, detailed some further experiments as to the relation of resistance to tetanus toxin in immunized guinea-pigs to the antitoxin value of its serum. The general conclusion reached was that a very high degree of resistance is developed early in the process of immunization while there is very little antitoxin in the blood.

Drs. W. Bulloch and J. R. Macleod related some researches they had made on the chemistry of the bacillus tuberculosis.

Dr. Bishop Harmon described the veldt and the Natal sores and illustrated his remarks with water-color drawings and microscopical specimens. Some other exhibits were also shown on this occasion.

Drs. Poynton and Alex. Paine gave an outline of their researches into the bacteriology of acute rheumatism. They have isolated from eighteen cases of rheumatic fever a minute diplococcus which maintains its virulence for a long time in media of slight acidity and also grows in media of high alkalescence. They consider the organism to be identical with that described by Triboulet, Wassermann, and Meyer. They have demonstrated it in the tissues of man and produced in rabbits the symptom-complex of rheumatic fever by intravenous inoculation of it. The arthritis thus produced varies in severity and resembles acute rheumatism in childhood rather than in adults. It begins on the third day but sometimes later —a week or more. It is a polyarthritis chiefly of the larger joints, often ending in recovery. There may result acute swelling of the fibrous tissues, causing a gelatinous appearance or a chronic fibrous thickening of the joint-capsule. The exudation may be clear, turbid, sanguineous, or fibrino-cellular. The diplococcus may be demonstrated in the exudations, but with difficulty in the most acute and in the chronic states. The organisms are destroyed by leucocytes and endothelial cells. Probably they gain access to the joints by minute capillaries in the areolar layer of the joint-capsule.

At the Obstetrical Society there has been a little discussion on spontaneous rupture of the uterus in placenta prævia, started by Dr. J. P. Maxwell, of Amoy, relating three cases, one of which ended fatally at once; the two other patients recovered after the rent was packed with antiseptic gauze. In some cases of placenta prævia, fatty degeneration of the uterine muscle has been found, and in others there seems a predisposition to rupture, though what exactly starts the accident is uncertain. Once started, the rent enlarges mechanically; Dr. Maxwell thought suture would have been fatal in a dirty Chinese home.

Dr. Champneys said that the treatment adopted was certainly the best; plugging the rent with gauze was the most successful plan when the fœtus and placenta had not escaped into the peritoneal cavity.

Dr. Herman fully supported the treatment, but took the opportunity of saying that he knew of no evidence that fatty degeneration was present in these cases, though many writers had stated it as the fact. So he had noticed some writers said the uterus in placenta prævia was soft; others said it was hard. He did not himself think there was any marked difference in consistence from that in any other pregnant uterus.

Dr. D. Robinson said he had examined two specimens of involuting uterus in woman and had failed to find the presence of fat. Dr. H. Spencer was glad to find two cases of recovery by gauze-packing; they supported the four cases he related to the society last year. Dr. Amand Routh also supported the plan; it arrested hemorrhage and secured drainage.

The President, Dr. Peter Horrocks, thought the plan the best not only "in a dirty Chinese home," but in a London or any other hospital with every appliance available. The treatment of packing was certainly the most successful, partly perhaps because the parts had not been made septic by the accoucheur's hands. He related a case of extensive rupture in which he packed, renewing the packing under chloroform every day for twelve days in succession, and afterwards less frequently. Eventually a large slough was removed from the right broad ligament. The patient recovered.

The King held an investiture of the Victorian Order, when the following were invested by His Majesty: Knight Commanders, Sir T. Smith, Surgeon-General H. J. Blanc, Mr. W. H. Bennett, Mr. T. Hansbury; Commanders, Dr. Donald Hood, Mr. J. H. Morgan, and Mr. C. A. Morris.

The death is announced of Deputy-Inspector-General Domenichetti, M.D., which occurred on the 12th inst. He served in the Indian mutiny and received the medal and clasp for Lucknow as well as the thanks of the Council. In 1895, he was appointed one of the Queen's Honorary Physicians, and in 1897 received the jubilee medal.

Deputy-Inspector-General Purchas, of the Navy, died on the 6th inst., aged seventy-six.

Dr. A. L. Wade, physician to the Somerset County Asylum, died suddenly on the 1st inst.

Inspector-General Knott, of the Navy, died on the 5th inst., aged fifty-nine.

Dr. G. H. Death died at Buckingham on the 7th inst. aged thirty-nine.

London, July 26, 1901.

The weather has been almost displaced by the Congress from its place as the chief topic of conversation, but it has done its best to maintain its position. The heat wave passed away at the beginning of the week quite suddenly. A drop of 14 degrees in one day arrested perspiration and grumbling at being baked. To the drop succeeded rain, and the drought is no more. Over nearly all the country welcome showers have fallen, and for days there has been unsettled weather, in some parts heavy thunder storms, in others heavy rains. By the middle of the week the temperature in many places did not reach 60 degrees. Even in London on Wednesday it was only 55, rising in the afternoon to 67 when the sun came out after a rainy morning. Yesterday an exceptionally heavy thunderstorm burst over us in London. The rainfall amounted to 1.98 inches, the bulk of which fell in an hour. Floods in various low points were the consequence. The underground railway was flooded to a depth of 4 feet near Kings Cross, and a sewer also burst into the tunnel, arresting all traffic for several hours. The hail was also severe, and some streets were for a time covered with large hailstones. Many parts of the provinces send similar reports of the weather.

The fall of temperature was most grateful to members of the Tuberculosis Congress. Had the heat wave continued

not a few would have shirked attending it. I must devote this letter almost entirely to that Congress, for it has occupied chief attention all the week. It was opened with considerable *éclat* on Monday afternoon by the Duke of Cambridge, acting on behalf of the King, who, when Prince of Wales, accepted the Presidency of the National Association for the Prevention of Consumption. As such he nominated delegates to the Berlin Congress. It was then proposed to hold a meeting here. The Prince agreed to preside, but his ascent to the throne altered the programme so far that His Majesty requested his near relative to preside in his place, taking for himself the name of patron. H. R. H. the Duke was received with great applause on taking the chair, and was supported on the right and left of the platform by the American and French Ambassadors and the ministers of several other countries as well as by representatives of our own government and societies, our colonies and foreign associations. Among these were many whose scientific reputation is world wide, such as Lister, Koch, Brouardel, and others. A very large proportion of members of the Congress were gathered in the hall, and the galleries were occupied by a brilliant assembly of ladies.

The report of the Committee, which emphasized the help afforded by the King and the foreign and Colonial Ministers having been read, the Duke of Cambridge expressed a deep interest in the subject of the Congress, a desire to assist as far as he could and his hope that good results would accrue not only for this country, but for all the world. He then declared the Congress open, and sent a telegram to the King to that effect. To this, in the course of the afternoon, His Majesty replied, thanking His Royal Highness for opening the Congress in his name, and praying him to "heartily thank for me the eminent men, belonging to almost every nation, who have assembled to-day, under your presidency, and express to them my earnest hope that the valuable information which they will give to the world, as the result of the deliberations of the British Congress on Tuberculosis, will further assist in meeting that dire disease, which has baffled the most distinguished physicians for so long." The reading of the Royal message was followed by great applause.

Lord Lansdowne welcomed the foreign delegates on behalf of the government, and referring to the prolonged war and its sorrows said no war ever waged had brought with it anything like the burden which tuberculosis from time immemorial had carried through every land. The Congress had assembled to devise measures against this enemy of the race, and he hoped its efforts would be crowned with success. Lord Cadogan, Lord Strathcona and the Lord Mayor also welcomed the Congress from their several points of view.

Lord Lister then arose, and this was a signal for most enthusiastic applause. He said thanks to Dr. Koch, who would address them on Tuesday, they now knew the enemy they had to fight. They knew, too, from Pasteur that this enemy cannot originate *de novo*, but is always derived from a similar organism. In this fact arises the hope, the splendid prospect, of prevention. But they must also seek for a cure, and as to that matters have lately become more hopeful. Every day they were learning more of our power of resisting the invasion of the microbe. The physician may learn something from the surgeon, who sometimes can sweep away the bacillus, and so restore health. The general public must help the physicians and surgeons, and he hoped the Congress might indicate the means of stamping out the scourge.

Then came the presentation of the foreign delegates to the Duke of Cambridge. They severally expressed to His Royal Highness the good wishes of their countries for the success of the Congress. There were Osler for the United States; v. Schrötter for Austria; Levi, Belgium; Gram, Denmark; Brouardel, France; v. Leyden, Germany; Thomassen, Holland; Clado, Greece; Koranyi, Hungary; Rueta, Italy; Cortezo, Spain; Holmboë, Norway; Printzjöld, Sweden; Secretan, Switzerland. Professor Brouardel said that the next Congress would be in Paris in 1903.

A vote of thanks to the Duke for presiding was heartily given, in acknowledging which His Royal Highness elicited further cheers by announcing that he understood that at the end of their labors they would find somewhere awaiting them a sum of £120,000 to enable them to carry out their scheme of a sanatorium.

In the evening there was a reception by the President and Council, at which many members of various countries contributed samples of many languages. At this Professors Woodhead and McFadyean showed lantern slides of various bacteria, bacilli, and specimens of tuberculous disease in men and animals, and mentioned how frequently meat and milk abound in the bacillus of tubercle.

On Tuesday the sections were in full work all the morning. In the afternoon came the *pièce de resistance* of the Congress—the address of Dr. Koch. This had been anticipated with no little interest; it was rumored in some circles that he would make a statement which would somewhat surprise us, but the nature of that statement was a well-kept secret. It came upon us, therefore, as almost "startling," as Lord Lister said, and others called it revolutionary. Your reporters will give you a full account of it, and here I will only stay to say that the fear expressed by the subsequent speakers seems to be generally shared. Much as we owe to Koch's discovery of the bacillus, we naturally remember also the fiasco of tuberculin, and should be reluctant to throw over the precautions which have been taken in consequence of previous researches until the new hypothesis has been subjected to the most searching investigation.

On Wednesday the Medical and Pathological Sections met together to discuss tuberculin, which they did at considerable length, nineteen or twenty gentlemen speaking in the debate, which was opened by Dr. Heron, who was followed by Koch. It was instructive to note how all seemed agreed upon certain important points. All were satisfied that the diagnostic value of tuberculin was very great and all agreed that the doses must be very small. But as to treatment, the great majority were unconvinced, and the danger of using it in febrile cases was emphasized. Koch himself admitted it was not suitable in such patients, who, he said, should be put to bed and the fever reduced before employing it. But as Sir D. Powell and others pointed out, most cases in practice are febrile.

In the afternoon at the general meeting, Professor Brouardel delivered his address. Of course, it was prepared before Koch's statement was made, and showed that his views were directly opposed to those of the German savant. In fact, he fully adopted the generally received doctrine. He is an optimist as to treatment and preventive measures. He dismissed the old opinion of hereditary influence in the neat aphorism: "*On ne nait pas tuberculeux mais tuberculisable.*"

Mr. Chaplin, who presided, remarked that if Dr. Koch's views should be confirmed they would answer a question he sometimes put to his late excellent colleague Sir R. Thorne: "Thorne, if all the dreadful things we are told about the transmission of tuberculous disease by meat and milk are true, how is it that any of us are left alive?"

In the evening the banquet to Koch at the Royal Institute of Public Health was attended by a number of distinguished guests. General Gatacre, in reply to the toast of the Services put in a good word for the medical department, and pleaded that the government should provide the best appliances and the opportunity for study if they wanted the best professional work. Sir H. Harben replying for the Houses of Parliament said he would give a £50 medal for the discovery of a microbe which would destroy the consumption of time in the House of Commons. Sir J. Crichton-Browne thought that another Commission should enquire into the subject. If the Government appointed one he announced that Sir James Blyth would place at its disposal his model farm. Of course, the most interesting personality was the chief guest. The manner of his reply was excellent, and when asked after speaking in German to say something in English, he repeated his thanks for the honor accorded him in our language. It was interesting to watch the manner in which he phrased his thanks in the two languages.

Yesterday afternoon the King received the foreign delegates to the Congress in the Throne Room. The Earl of Derby presented them, and His Majesty shook hands with each. When all had grouped themselves about him, the King addressed them. He said he was sorry that they arrived in such a severe thunderstorm, and that it was a matter of concern to him that circumstances over which he had no control prevented him from opening the Congress. He hoped their labors might minimize the effects of the disease, and so they might receive the gratitude of the world. Then he added, there is another "terrible disease which up to now has baffled the scientific and medical men of the world, and that is cancer. God grant that before long you may be able to find a cure for it or check its course, and I think that to him who makes the discovery a statue should be erected in all the capitals of the world. In taking leave of you I trust that your stay in London and in England has been an enjoyable one, and that you will one and all carry away pleasant recollections of your visit to my country."

Syphilitic Epilepsy.—G. Salomone reports a case in which a neuropathic family history could be excluded. The patient contracted syphilis in 1899, and his first epileptiform attack was preceded by a series of symptoms which indicated a cerebral syphilitic localization, such as nocturnal headache, roaring in the ears, difficulty in hearing, high temperature, and slight asymmetry of the face. Mixed treatment resulted in a cure, and the epileptiform attack did not return.—*Annali di Medicina navale.*

Progress of Medical Science.

The New York Medical Journal, August 3, 1901.

Spiculum of Bone from Shot Fracture of Skull which Rested against the Brain for Forty-four Years.—D. S. Lamb gives a picture of an irregular piece of bone, one and a half inches by five-eighths of an inch in diameter, which was removed, post-mortem, from the pial bodies, where it was imbedded. The patient had been shot in 1857. Neither bullet nor probe had been followed by symptoms of injury.

"Inoperable" Recurrent Cancer of the Breast; Relief by Beatson's Method.—Robert Abbe reports two cases in which oöphorectomy caused a disappearance of the malignant growth. Beatson holds that so-called special cancer-cells will be found to be vacuolated germinal cells corresponding with those found in the ovary alone. Special cancer growth seems to be due to epithelium taking on characteristics of germinal epithelium; the distinguishing cells are not normal epithelium, for they act differently. Beatson thinks ovarian influence works this change in the active processes of mammary cancer, in which the epithelium takes on the characteristics of germinal epithelium. The author, in addition to his two positively successful cases, has five others which are as yet too recent for a report. Whether or not one accepts Beatson's view of the cause of the disappearance of cancer nodules and masses in some patients following simple oöphorectomy, the fact remains to be explained by the pathologist.

Cancer, Particularly Cutaneous Cancer.—Ellice M. Alger holds that if traumatism is not an essential, it is often an exciting, cause in cancer of the skin. He thinks that many facts are decidedly opposed to the germ theory. It is interesting to note that cancer attacks the strong and spares the weak. Ulcer of the leg is said to be very rare in cancer patients, and the converse is also true, that patients with ulcer rarely have cancer. The same may be said of syphilis and tuberculosis. The treatment of cutaneous cancer requires great judgment. No internal medication has, so far, proved of any value. A partial operation may be worse for the patient than non-interference. Superficial epitheliomata and those occurring in the very old are commonly of indolent growth. On the other hand, growths in the vicinity of lymphatics should be removed at the earliest possible moment. Arsenic may be used when operation is not consented to, or when there is no lymphatic involvement.

Flagellated Malarial Parasite.—John T. Moore states that his observations show that the flagella are preformed in the body of the organism, which is in opposition to a statement by Marchiafava and Bignami. He is convinced by what he has seen that these flagella are fertilizing elements, coming from the hyaline ovoid bodies, that pass to the granular forms to prepare them for further development in the mosquito cycle, as taught by the best observers. His observations have led him to doubt the teaching concerning the origin of the flagella, or microgametes. The drawings he has seen of both fresh and stained specimens seem to show the flagellum as a pseudopod-like process coming from the periphery of the body, and having the same structure as the protoplasm of the parasite itself. He has seen the granular bodies in both the tertian and estivo-autumnal pigment-containing parasites all at once set in commotion as if something very active were on the inside trying to get out. In a short time a projection would be seen, and a little later out would come a thin, hyaline, filamentous body. Careful focusing convinced him that one-half of the fl gellum could be seen within the parasite

Medical News, August 3, 1901.

The State of the Gastric Secretions in Chronic Rheumatism and Rheumatoid Arthritis.—Frank H. Murdoch reports five cases of rheumatism and one of rheumatoid arthritis in which repeated examinations of the gastric contents showed the secretion to be abnormal. The treatment in these cases was directed against the existing dyspepsia, not against the joint affections, with recovery in every instance. The author believes that in chronic rheumatism and rheumatoid arthritis the diet prescribed should in each case suit the existing state of the gastric secretions.

Ulcer of the Duodenum Considered from a Surgical Standpoint.—D. S. Fairchild believes that if a non-perforating duodenal ulcer can be diagnosed, an operation is indicated before grave symptoms supervene. In perforating ulcer the importance of early operation, within twenty-four hours, is very great. The only operation for non-perforating ulcer is gastroenterostomy. He considers positive diagnosis in cases of non-perforating ulcer to be comparatively easy if there is present pain in the right hypochondrium two to four hours after meals, unrelieved by vomiting, and bloody stools.

Injuries of the Head in the New-born.—Andrew F. Currier considers that the possibilities of injuring the child's head by the use of forceps in delivery should be more cogently expressed by writers on obstetrics. Injuries received in the course of natural or assisted labor may result in immediate death, death a few months later, recovery, or, most important, recovery with permanent lesion such as renders parts of the body useless or ineffective. To the latter class belong imbecility, idiocy, some facial deformities, and the various birth palsies. He considers that treatment of such injuries should be instituted within the first few days of life and should be on the same lines as would be pursued in similar cases in later life. He gives statistics of sixty cases in which the skull was injured in the process of birth.

Journal of the Am. Med. Association, August 3, 1901.

A Note on the Use of Thuja Occidentalis in Removal of Papilloma of the Larynx.—James Moreau Brown reports a case in which the application of thuja caused such shrinking of the growth after partial removal by operation, that further operation was abandoned, and the thuja only applied, with the result of complete disappearance of the growth. In addition, the author knows of several cases of a recurrent type in which the growths have entirely disappeared under the use of thuja with no evidence of recurrence after several years.

The Diagnosis of Mild and Irregular Smallpox as Found in the Present Outbreak in the United States.—Heman Spalding says that in about twenty-seven months, three hundred and ten cases of smallpox have been found in Chicago. Some of the cases were typical, but the greatest number were deviations. There was one hemorrhagic case resulting in death, thirteen confluent, with three deaths; twenty-four semi-confluent, with two deaths; fifty-four severe discrete cases with no deaths; one hundred and seventy-nine mild discrete cases, no deaths; thirty-nine modified form—cases in which there was evidence of a more or less successful vaccination, with no deaths. Of these three hundred and ten cases, two hundred and seventy-one never had been successfully vaccinated. Of the others the most recent vaccination was sixteen years previous to the attack. The author gives the differential diagnosis between smallpox and chicken-pox.

Acute Mastoiditis After Subsidence and Without Recurrence of Tympanic Inflammation.—Hiram Woods, Jr., reports three cases in which after otorrhœa ceased, acute mastoid symptoms developed. The question, when did the mastoids become infected, is of interest. In one of the cases there was no symptom of mastoiditis until twelve days after tympanic disease had disappeared, Of the other two, one had neck rigidity throughout, and the other had rigidity at first, with sudden cessation of otorrhœa and simultaneous mastoid pain, disappearing in two days and never returning. Cold was used in treatment, and in two of the cases with apparent benefit. Yet the author is inclined to agree with Dr. J. O. Janeway, that cold merely masks symptoms, while it increases the trouble from hemorrhage and the difficulty in distinguishing healthy from diseased bone during operation and slow recovery. It is impossible to secure a sufficient amount of cold to kill organisms in the mastoid.

The Boston Medical and Surgical Journal, August 1, 1901.

Practical Blood Examination.—Henry F. Hewes states that the scope of practical blood examination at present, is to determine the existence or non-existence of anæmia, its severity and type, leucocytosis, its extent and type, the presence or absence of blood parasites, the existence of definite serum reactions in the blood, and the presence of bacterial organisms—that is, septicæmia. Barring the tests for bacterial infection, the determination of septicæmia, and the serum reactions, the whole scheme of practical blood examination may be accomplished by the employment of two very simple methods of examination: 1, the estimation of the hemoglobin, and 2, the examination of a stained specimen of blood. The author describes the processes in detail and says that his object is to impress upon practitioners the extreme simplicity of the work, in the hope that this examination may be more commonly used in general practice.

Rachitic Deformities of the Spine.—J. S. Stone says that the usual spinal deformity in rickets is a general kyphosis extending from the lower cervical region downward, and most marked in the lumbar region. Lateral

deviation is more rare. In older rachitic children there is at times a greatly increased lumbar lordosis. Muscular weakness is the essential factor in the causation of these deformities. Diagnosis is easy, but differentiation from Pott's disease may be difficult, because the lumbar rachitic kyphosis due to rickets sometimes does not disappear on recumbency, and there may be marked rigidity on attempted extension of the spine. The treatment of both is identical, and should consist in recumbency upon some firm, even surface. If due to rickets alone the kyphosis will disappear with reasonable promptness. There should also be general tonic treatment with rubbing and massage. Outdoor air and sunshine and a diet rich in proteids and fats are necessary. If properly treated, recovery from rachitic deformity of the spine is usually complete.

Philadelphia Medical Journal, August 3, 1901.

The Mosquito an Insignificant Factor in the Propagation of Yellow Fever.—John H. Purnell considers the theory of transmission of yellow fever infection by the mosquito untenable, and endeavors to support his conclusion by presentation of numerous facts, not the result of direct experimental research, but the result of observations of men working in the yellow-fever field. In the epidemics of the disease which have of late years been successfully controlled, in no known instance have the measures employed been directed against the mosquito. He thinks the fomites theory demands careful consideration before being discarded by the profession.

Typhoid Fever Occurring in a Tuberculous Patient, and the Influence of Tuberculin on this Condition.—Erwin Fischer reports the case of a patient who developed typhoid fever while suffering from tuberculosis; he recovered from the fever, and the tuberculous condition improved. The tuberculous condition had been treated by tuberculin since its onset. The family history and the condition of the patient at the time of onset of the fever were such as to indicate a fatal termination. The author considers the improvement due to the immunization which was the result of the previous use of tuberculin, and advocates the use of the latter for treatment as well as for diagnosis.

Human and Bovine Tuberculosis.—Leonard Pearson states that the relation between human and bovine tubercle has been more studied in this country than in any other. Much experimental work has been done on carnivora and herbivora of both the resistant and nonresistant species, and the bovine tubercle bacillus has been constantly proven more virulent for animals than has the bacillus from man. The number of accidental cases of tuberculosis contracted by men handling tuberculous cattle shows that bovine tubercle bacilli may, under some conditions, be virulent for man. From this he concludes that further study of the relationship between human and bovine tuberculosis is necessary; in the meantime, efforts to repress the disease in cattle must be continued.

American Medicine, August 3, 1901.

Important Sequels Resulting from Delayed Operation in Appendicitis.—A. Stewart Lobingier concludes, from a review of the literature of appendicitis and his own experience, that there can be little doubt that many of the cases of appendicitis reported cured are only partially so and that many grave conditions follow appendicitis which might have been obviated by early operation. The probability and gravity of the sequelæ are often lost sight of, the problem usually presented being simply whether the operation will result in immediate recovery or death. While this is certainly of primary importance, the question of speedy dissemination of the pyogenic germs to structures whose injury means permanent physical wreck of the patient should not be overlooked. The sequels of the disease are universally recognized as constituting the most formidable class of surgical cases and are to be avoided by early diagnosis and operation.

Report of a Case of Hysteroepilepsy, in Which the Climax of the Seizure was Expressed by Discharge of Blood Through the Intact External Auditory Canal.—K. K. Wheelock reports in detail the case of a woman, aged twenty-eight, married, who two years prior to the birth of her last child, in 1896, was subjected to fainting spells with clonic spasm and frothing at the mouth during her menstrual periods. The spasms ceased with the birth of the child, but she has since had discharges of blood from both ears at irregular intervals. The hemorrhages are preceded by dizziness, mastoid pain, and frontal headache. Examination showed the external auditory canal and drum membrane of both ears to be intact. Hydriodic acid and potassium bromide were prescribed. The patient was in the second month of pregnancy, she was entirely free from spasms, and there was an interval of three months without aural discharges. A year later the discharges became more frequent, being worse during menstruation, and the spasms reappeared, without loss of consciousness this time. The observations extended over a period of about two years.

French Journals.

Congenital Diaphragmatic Hernia.—Porak and Durante describes a fœtus with this affection, the diagnosis of which had been made during life. The left half of the diaphragm was not developed. The liver was higher than normal, its left lobe extending into the thorax.—*Gazette Hebdomadaire de Médecine et de Chirurgie, June* 6, 1901.

Sarcoma of the Heart Secondary to Sarcoma of the Kidney.—Rabé and L. Morel report a case of sarcoma of the heart secondary to sarcoma of the kidney. As a result of metastasis, there was formed over the anterior surface of the heart a nodular mass about the size of a pigeon's egg. This nodule involved the entire thickness of the wall and extended into the cavity of the right ventricle. There were four or five secondary foci in the lungs. The sarcoma was of the small spindle-celled variety.—*Gazette Hebdomadaire de Médecine et de Chirurgie, July* 18, 1901.

Intestinal Occlusion by Biliary Calculus; Expulsion of the Calculus by Oil Enemata.—Widal Mourette reports the case of a woman, sixty-six years old, who, never having had hepatic colic nor jaundice, felt a sudden pain in the right hypochondrium near the umbilicus. This was followed by vomiting, first biliary, then stercoraceous, showing complete intestinal obstruction. Before an operation was undertaken, it was decided to attempt to clear the intestine by voluminous enemata of sterile olive oil. The second enema caused the expulsion of a biliary calculus as large as a hen's egg. Recovery was uneventful. In the presence of intestinal obstruction of unknown cause, it is wise to think of the possibility of occlusion by a calculus developed in the course of biliary lithiasis which has, up to this time, been latent, and if there is time, it is advisable to attempt measures to clear the intestine.—*Gazette Hebdomadaire de Médecine et de Chirurgie, June* 27, 1901.

Calculus of the Gall Bladder; Muco-Purulent Fistula of the Bladder.—G. Alexander reports the case of a woman thirty-three years old, who, in August, 1900, in the course of pregnancy, was taken with chill, fever, rapid pulse, etc. She was prematurely delivered at the sixth month. Twelve hours later she was operated on for the calculus. The operation consisted of extraction of a calculus followed by cholecystostomy. A fistula resulted from which flowed a clear mucus, which later became purulent. On exploration with a probe, a calculus was felt which could not be moved. A second operation was undertaken the following April. The fistula was circumscribed by an elliptical incision, the calculus was detached from the inferior surface of the liver, all adhesions were broken, and the biliary ducts were explored. The gall bladder alone contained a large calculus, which had torn the bladder wall by one of its sharp edges. There was a depression in the wall of the bladder, into which the calculus fitted, thus accounting for the immobility of the stone. The persistence of the fistula was due to the continued presence of the calculus whose conformation and situation prevented its discharge with the bile through the fistula. —*Bulletins et Mémoirs de la Société Anatomique de Paris, April*, 1901.

The Journal of Tropical Medicine, July 1, 1901.

Portable Folding Mosquito Net.—P. Carmody presents the sketch of a mosquito net designed for the use of travelers in the tropics. It is either attached or attachable to the ordinary linen umbrella, which forms a part of every tropical outfit, and the combintion affords protection from the sun during the day and from mosquitos during the night.

Prickly Heat.—Frederick Pearce explains to readers of a former article that he did not say that soap can produce an acute seborrhœa. He does consider soap injurious to the skin by removing its natural grease, and deprecates its use, especially in the tropics. He finds his recommendation to oil the skin in prickly heat very successful, and prefers lanolin in almond oil, with the addition of a little menthol. He considers prickly heat to be a form of acute seborrhœa, but whether any bacterial or fungous growth is the proximate cause he has not been able to determine.

Goundou Preceding Chronic Hydrocephalus in a Malay Child.—Lim Boon Keng reports the case of an infant of six months suffering from symmetrical swellings on each side of the bridge of the nose. Beneath the skin there was practically the growth of bone tissue, with large

cavities possessing very thin walls. The most prominent parts of the goundou masses were soft, and a slight pulsation could be detected which moved synchronously with the fontanelles. The author came to the conclusion that the bone cavities contained prolongations of the cerebral meninges, and that the pulsation took place through the intervention of the cerebrospinal fluid. Nearly two years later the child was brought back suffering from chronic hydrocephalus, from which it died.

Does Malta Fever Exist in Havana?—Emilio Martinez reports three cases which clinically exactly resemble undulant fever. In the first case there were long waves lasting ninety-eight days. The second case lasted 114 days, and had four undulations. The third case had eight months of fever with three waves and one that was incomplete. The prolonged duration was another characteristic of Malta fever, and a further resemblance was found in its benignity. Articular localizations were also found. The malignant type of the disease was also present. The author says that blood examinations should be made to prove by the positive serum reaction of the micrococcus melitensis, whether undulant fever is prevalent in Cuba or not.

On Hemorrhagic Bulla of the Mouth and Pharynx.—J. Preston Maxwell says that in the whole region of Fokien, Southern China, there exists a curious disease, consisting of a large bulla in the mouth which bursts and discharges dark blood. The pathology is obscure. The Chinese universally attribute it to the web of a peculiar fly-catching spider In several instances patients have affirmed that they saw the spider jump out from their basin of condiments, and, taking a piece from that place, have been immediately victimized. Unfortunately, the efforts of the writer to reproduce the condition artificially in animals and man has been a failure. The affection may come on while eating rice, sugar, soft biscuits, drinking tea, or merely lounging about. The prognosis is good, and the treatment is simple, as a tannic acid gargle quickly stops the bleeding.

A Sporadic Case of Beriberi with Blood in the Urine.—A. B. Dalgetty describes what seems to have been an isolated case in South Sylhet, India. The patient was a man of twenty-seven, a native of the district, who had never been far from home, and lived, like his neighbors, on meat, rice, fish, peas, and the like. His family lived near, used the same drinking water and the same rice, and lived otherwise exactly as he did, but he was the only one to have fallen victim to beriberi. The symptoms of the disease were well marked. Three months of a treatment consisting in malt, cod-liver oil, strychnine, digitalis, quinine, bitters, etc., caused a great improvement, sensation having returned to the dull areas, although the muscles still remained weak. The urine contained a trace of albumin and a considerable number of xanthocytes as well as different forms of epithelium.

Annals of Surgery, July, 1901.

Aneurism of the Thoracic Aorta of Traumatic Origin, Treated by Introduction of Wire and Electricity.—By De F. Willard. The patient was a man of twenty-three. A heavy box, weighing five hundred or six hundred pounds, fell upon his chest. After six weeks' rest he resumed work but became more and more troubled by cough and chest pains, and in six months was obliged to lie up. A diagnosis was made of some traumatic lesion of the descending thoracic aorta. The wire was introduced through a trocar inserted in the fourth interspace just outside the costal cartilage, silver wire No. 24 being used. After some six or eight feet were in the sac, the current was turned on, the positive pole being attached to the wire and the negative to a flat electrode between the scapulæ. Subsequently more wire was passed. The immediate effects of the operation were excellent, but the case is still under observation, and some of the original symptoms have returned. Nine weeks after the operation, however, the patient felt so well that he refused to remain longer in the hospital and went home against the author's protest. The latter proposes to repeat the operation.

Two Cases of Ligation of the External Carotid for Severe Hemorrhage—One after Tonsillotomy, the Other after a Slight Intranasal Operation.—W. W. Keen says that to ligate the common carotid when the bleeding vessel is a branch of the external carotid is an inexcusable surgical blunder. Not infrequently the cutting off of the brain circulation through the internal carotid has resulted in cerebral softening and death. In neither of his cases did the operation wound bleed. Case I was that of a man of twenty-three whose left tonsil was removed early one forenoon. There was no special hemorrhage at the time but the bleeding could not be checked. Cold water, hot water, pressure, packing, styptics, etc., all were used but to no avail. Dr. Keen operated six hours later, the patient having lost three pints (estimated) of blood. Recovery after the operation was uneventful and the patient left for home on the ninth day. A tonsillotome was used for the primary operation. Case II was that of a man who had had hypertrophies removed with a curette from the posterior part of the septum. The bleeding recurred at intervals for several days and the artery was finally ligated on the nineteenth day after the first curetting. Recovery was uneventful,

The Mortality of Operation for Obstructive Jaundice.—J. B. Deaver reports five cases and presents various statistics. He advises early operation not only in the acute exacerbation of the condition, but in the early days of the condition itself. He says that the most common cause and more common than all the others put together, is obstruction from gall-stones. Parasites are so rare that they can be passed by with mere mention, although the indication here is distinctly surgical. Every case of cholelithiasis that he has operated upon has given a history of repeated attacks treated medically, yet has not been cured of the disease or freed from its dangers. Each succeeding attack is accompanied by local and systemic changes, which detract from a favorable surgical prognosis. The most common cause of death is hemorrhage, caused by changes in the blood; the next most common is exhaustion, or what the author believes to be cholæmia, and third, most common, shock which is a result of hemorrhage; and these three causes are undoubtedly enhanced by delay or long continuance of the pathological factors of the disease. It would seem, then, that operation, and early operation, offers the best safeguard to the evil possibilities of obstructive jaundice due to cholelithiasis.

Report of a Case of Recovery from Perforating Typhoid Ulcer of the Intestine after Operation.—W. Jones reports the case of a young woman of twenty, in whom the accident happened during the fifth week of the disease. On opening the abdomen, the perforation was searched for but not found. The condition was one of general diffuse purulent peritonitis. The patient stood the operation well. On the second day there was a free discharge of fæcal matter through the tubes, which had been left in the median incision, but the fæcal discharge lessened and ceased at the end of a week, though returning again later. Finally the fæcal fistula closed spontaneously and completely. The patient made a complete recovery. In this case the search for the perforation was deliberately abandoned when it was not readily found; the patient's condition would not permit of prolonged anæsthesia nor of much manipulation of the intestines. The indications were to give free vent to the septic fluids and limit the extension of the septic area. The discharge of fæcal matter through the infected area and the external wound would not add materially to the quantity or virulence of septic absorption. The closure of the perforation would not have added greatly to the prospect of the patient living, while a prolonged search would have been almost certainly fatal.

Wounds of the Venous Sinuses of the Brain: an Analysis of Seventy Cases.—From a study of the cases enumerated, H. R. Wharton draws the following conclusions: (1) Wounds of the venous sinuses of the brain should be classed as dangerous injuries, being followed by a high mortality from external or intracranial hemorrhage or septic infection. (2) They are especially liable to infection, resulting in septic thrombus and pyæmia, therefore the greatest care should be taken to render them aseptic and preserve them in that condition. (3) The most satisfactory and generally available method of treatment consists in controlling the bleeding by aseptic gauze packing. (4) Ligation of the venous sinuses presents definite dangers in itself, is only available in certain wounds where a free exposure of the injured sinus is possible, and cannot be employed with advantage in ordinary accidental wounds of the sinuses. (5) The application of a lateral ligature to a wound of a sinus is less difficult and dangerous than ligature of the sinus, but is applicable only to small wounds. (6) Suture of sinus wounds is a valuable procedure in a certain class of cases, namely, small wounds which can be freely exposed. (7) Forceps pressure is also a ready method of controlling hemorrhage from wounds of the sinuses, but possesses no distinct advantages over some of the other methods, and its employment is accompanied by certain dangers.

Fractures of the Neck of the Femur.—John Ridlon reviews the various methods of treatment and recapitulates the general principles as follows: Stimson says, "the first consideration is to keep the patient alive; the

second to obtain union; the third to get union in a good position." Ridlon cannot fully agree with this. He would not make it the first consideration to keep alive a patient of threescore and ten years if she must be bedridden or a helpless cripple for all the rest of her life. Indeed, a woman of eighty may live ten years, and a younger woman had better be dead than a helpless cripple for ten years. Further, the occasion of death in a large percentage of cases is not the shock of the accident, nor the shock from the replacement of the fragments, nor the confinement in bed, but it is the pain and suffering resulting from irrational treatment. It appears to him that the first consideration should be to relieve the patient from suffering. This can best be done by replacing the fragments as completely as possible, and retaining them by the best possible fixation. If the patient can possibly live, she will live when freed from pain. The second consideration should be to use such an immobilizing dressing as will least irritate the patient, as will make it possible to keep the skin clean and dry, and free from pressure-sores; such a one as will permit the use of the bedpan and the turning of the patient in bed without pain, for pain means movement of the fragments one on the other. The third consideration should be to continue immobilization of the fracture and protection from all sensitiveness. Fourth, the treatment of the hip should be continued until the joint is sound as well as the fracture united.

Bulletin of the Johns Hopkins Hospital. July, 1901.

A Case of Arterial Disease, Possibly Periarteritis Nodosa.—Florence R. Sabin reports a case, without autopsy, whose clinical features corresponded with those of the four recorded cases of periarteritis nodosa which were proved by autopsy. The lesions of the disease were nodules on the arteries. The blood count showed a pure leucocytosis of high grade, pointing to the inflammatory nature of the disease. The author considers the clinical picture sufficient, with the presence of nodules, to justify the diagnosis.

Typhoid Infection Without Lesion of the Intestine; A Case of Hemorrhagic Typhoid Fever with Atypical Intestinal Lesions.—Eugene L. Opie presents in detail, with autopsy, a case resembling those reported as typhoid fever without intestinal lesions. He believes that typhoid fever without intestinal lesion is a possible occurrence, but thinks the evidence furnished is inconclusive. In his own case minute study revealed only slight changes present in Peyer's patches and the solitary follicles of the small intestine, with points of pigmentation in the solitary follicles of the large intestine; the clinical history indicated intestinal involvement early in the disease. Cases in which death occurs in the early stages will furnish the only conclusive evidence that intestinal lesions have not been present in cases in which typhoid fever has been positively diagnosed. Analysis of a number of the cases reported does not support the assumption that the typhoid bacillus can enter the body by any path other than the digestive tract.

Ovarian Organotherapy.—William Krusen states his experience for the past three years in the use of ovarian extract for cases suffering from amenorrhœa, dysmenorrhœa, and other pelvic disease, for those suffering from symptoms following the removal of the uterine appendages, and for disturbances associated with the menopause. He concludes; (1) That the ovarian extract is practically harmless. (2) No good results are obtained in the treatment of amenorrhœa and dysmenorrhœa. (3) The best results are obtained in the relief of artificial menopause. (4) No appreciable results follow its use in the natural menopause. (5) No definite reliance can be placed upon the drug. (6) It is doubtful in those cases where relief was noted, whether this was not due to mental suggestion. (7) Increase in dosage seems to have little influence in maintaining the effect of the drug or in preventing the patient from becoming accustomed to it. (8) The theory of the use of this extract seems to be faulty, and the administration of ovarian extract is based upon a wrong assumption as to the function of the organ. If coincidently with ovulation any peculiar product is formed it has not yet been isolated.

Ulcer of the Stomach Caused by the Diphtheria Bacillus.—William R. Stokes believes that in cases of widespread diphtheria, when the gastric juice is lessened in quantity, the large numbers of diphtheria bacilli swallowed are apt to cause local lesion of the gastric mucous membrane. He cites a case with fatal termination, in which the patient had complained of pain and hyperæsthesia in the epigastric region. The patient, a young man, was found in the street and it was impossible to ascertain the duration of the disease. Cultures from the throat taken on two occasions showed the bacilli. The antitoxin treatment was employed and on the sixth day the temperature, which had been high, fell and the membrane had almost disappeared from the throat. Death occurred ten days after treatment was instituted. Post-mortem examination revealed an ulcer in the most dependent portion of the greater curvature of the stomach, near the pylorus. This ulcer consisted of a mass of coagulative necrosis extending into the submucosa and undermining the mucosa laterally. Bacteriological examination showed the diphtheria bacilli to be limited to the necrotic material, much more numerous on the surface. The author believes that stomach lesions produced by the diphtheria bacilli will, in time, be found to be more frequent than has been heretofore supposed.

Archives of Pediatrics, July, 1901.

Hemorrhage from a Pyothorax.—A. Jacobi reports the case of a child of seven years who was operated on for pyothorax, about 500 cm. of white, inoffensive pus flowing from the opening. Thiersch's solution was injected, and returned with a little more pus which was slightly colored with blood. All at once, a large amount of undiluted blood was discharged. Altogether at least 250 c.c. of blood were lost. The blood was seen oozing from tufts disseminated over the pulmonary pleura, the costal not being within view. The intercostal artery was not touched. No malignant tumor was found; there was no suspicion of tuberculosis, or of maceration and corrosion of the surface, and there was no adhesion between the pleuræ, the tearing of which might have given rise to hemorrhage. The child made a good recovery. The case is unique. The pleural abscess behaved similarly to abscesses situated in looser tissues elsewhere, in which granulating tufts spring up from the suface with occasionally a moderate tendency to bleed.

Report of Two Cases of Tuberculosis of the Hip and Spine, Treated with Large Doses of Creosote.—Agnes Walker reports two cases of interest on account of the large amount of creosote administered without producing injurious or unpleasant results. The first case was a boy of three years, who, in December, 1893, was put upon 1-minim doses of a ten per cent. solution. This was gradually increased until, in November, 1895, he was getting a daily amount of 371 minims, with no apparent effect for good or evil. Treatment was discontinued. The second patient, a girl of seven years, received the creosote solution for four months, the dosage having by that time reached 300 minims of the solution, or 36 minims of pure creosote daily. She left the hospital in excellent condition, and from having been confined to bed, wearing spinal traction apparatus, is now able to walk, run and bicycle. No evidence of renal disturbance was found in either case.

The Differential Diagnosis of Ectopic Pregnancy.—(1) The frequency with which ectopic gestation is diagnosticated as early uterine abortion. (2) The advisability of looking with suspicion upon every case presenting apparently the symptoms of early uterine abortion, and if the case is not running a simple and natural course, to fully anesthetize the patient for a rigid examination and for the proper performance of curettage in the event of uterine abortion being present. (3) If after carrying out this plan there still be some doubt, the advisibility of making a posterior vaginal exploratory incision to determine the presence or absence of blood in the pertioneal cavity and to be prepared to open the abdomen if the condition found calls for it. (4) The unreliability of the so-called pathognomonic signs or symptoms of ectopic gestation.—Hiram N. Vineberg, *Journal of the American Medical Association.*

A Report of the Nasal Septum as Found in the Skulls of Forty Mound-Builders.—George B. Wood reports from his study of these skulls that a perfectly straight condition of the bony part of the septum existed in only thirty-two and one-half per cent.; and this does not exclude any possible deviation of the cartilage which might have existed during life. The lesser deviations and spurs would raise this percentage up to sixty-two and one-half. These results closely resemble Price-Brown's, where fifty per cent. of the septums were deviated and fifty per cent. straight; but scarcely do they warrant Lennox Browne's assertion that in the aborigines of Africa, America, and Australia there is one asymmetrical to every four symmetrical. The writer has reported these septums to furnish one small item of statistical information which may be used in the endeavor to settle the question of etiology of septal deformity. He believes these results tend to disprove the theory that the commixture of races is accountable for the great majority of those septal deformities which develop during the growth of the child.—*Univ. of Penna. Medical Bulletin*, July, 1901.

Society Reports.

THE BRITISH CONGRESS ON TUBERCULOSIS.

Held in London, July 22-26, 1901.

(Special Report to the MEDICAL RECORD.)

GENERAL SESSIONS.

First Day—Monday, July 22.

THE British Congress on Tuberculosis was opened at St. James's Hall, on July 21, by H. R. H. the Duke of Cambridge, at the request of the King. The opening session gave promise that this would be one of the most successful of medical congresses and one likely to lead to as important practical results in the prevention of disease as any other ever held. The number of members was over 2,000, including representatives from every country in the civilized world. The gathering at St. James's Hall was large and enthusiastic. On the platform were diplomatic and medical representatives of nearly every civilized government and the British colonies, delegates from medical societies of every country, representatives of corporations, and of town and borough councils of the United Kingdom, and eminent medical men of all nations. Amongst them were the American and French Ambassadors, the Greek, Swedish, Portuguese, Netherland, Danish, Servian, Roumanian, and Peruvian ministers, the presidents of the Colleges of Physicians and of Surgeons of London, Edinburgh, Glasgow, and Dublin, and many British and foreign practitioners of note.

The DUKE OF CAMBRIDGE said that, at request of the King—who, when Prince of Wales, intended to open the Congress himself, but was debarred from doing so by his accession to the crown—he had great pleasure in performing the duty. The subject which brought them together was one which would have good results for all countries. He welcomed the foreign delegates whom he was glad to see in such large numbers. A telegram was forwarded to the King informing him of the opening of the Congress, and a reply was received from His Majesty, wishing the Congress every success.

Mr. MALCOLM MORRIS, the Honorary Secretary-General, read his report. He said that the movement originated at the German Congress on Tuberculosis, held in Berlin in 1899, when representations were made to the British delegates as to the desirability of a congress in London, and the latter reported the matter to the National Association for the Prevention of Consumption. This body took the necessary steps, sending out over 3,000 invitations to the principal medical, sanitary, educational, and agricultural institutions in the United Kingdom. Lord Lansdowne forwarded letters of invitation to the foreign governments, and the Colonial Secretary to all the colonies of the Empire. It was resolved to divide the work of the Congress into four sections, viz., (1) State and Municipal, (2) Medical, (3) Pathological, and (4) Veterinary. A museum had been established which contained specimens of every known form of tuberculosis in man and animals, plans and models of hospitals and sanatoria, and charts and documents bearing upon the historical, geographical, and statistical aspects of the question.

Lord LANSDOWNE, Foreign Secretary, said that the government would give every facility for the work of the Congress, and fully realized the immense importance of the subject. The country was suffering from a prolonged war which brought sorrow to many a household; but no war ever waged brought such dire results as tuberculosis. An immense debt was due to those who showed that it was not incurable.

Earl CADOGAN, Lord Lieutenant of Ireland, speaking on behalf of that country, said that tuberculosis was a great scourge in Ireland, and that in the mortality statistics the returns of deaths from that disease were higher than from any other cause except old age.

Lord LISTER said that the Congress met under immensely better auspices than were formerly possible. Thanks to Koch, we now know the enemy we have to fight. Previously the cause of tuberculosis was shrouded in obscurity. Thanks to Pasteur, we know that the bacilli cannot originate *de novo* in the human body. Hence the possibility of prevention. Cure was also possible, and more to be hoped for now than formerly. In surgical tuberculosis, if irritation of the part was scrupulously avoided and the general health improved, the bacillus would be swept away and the part become healthy again.

Dr. WILLIAM OSLER, of Baltimore, said that not for many years had such a delegation of American physicians crossed the Atlantic as had come to this Congress. They did not come like the "trusts" of which so much was heard of late, yet they represented a magnificent "trust." The work of prevention was being pushed in the United States. They had to perform the work of educating the members of the medical profession—who needed education on this point badly—and of educating the public, who needed it more. Bunyan, in the "Pilgrim's Progress," had spoken of the "Captaincy of Consumption" in the army of death; that captaincy had now been reduced to a lieutenancy, and was on the way to a further reduction to the ranks.

The following foreign delegates also spoke on behalf of their respective governments, wishing the Congress every success: Prof. von Schrötter (Austria), Senator Montefiore Levi (Belgium), Prof. Gram (Denmark), Prof. Brouardel (France), Prof. von Leyden (Germany), Prof. Thomassen (Holland), Prof. Koranyi (Hungary), Senator Di Rienzi (Italy).

Second Day—Tuesday, July 23d.

The Combating of Tuberculosis in the Light of the Experience that Has Been Gained in the Successful Combating of Other Infectious Diseases.—Professor ROBERT KOCH, of Berlin, delivered an address with this title. He said that in the majority of cases of tuberculosis the disease had its seat in the lungs and began there. The sputum of consumptive people was the main source of infection. Hereditary tuberculosis, though possible, was extremely rare, and might be disregarded in considering practical measures. It was generally assumed that tuberculosis was transmitted from animals to man, but the speaker had made experiments which had led him to the opposite conclusion. Tuberculosis had hitherto been observed in all domestic animals, most frequently in poultry and cattle. The tuberculosis of poultry differed so much from human tuberculosis that it might be left out of account as a source of infection. Bovine tuberculosis remained to be considered. During the last two years, in conjunction with Professor Schütz, of the Veterinary College in Berlin, he had carried out a series of experiments. A number of young cattle which had stood the tuberculin test, and might therefore be regarded as free from tuberculosis, were infected in various ways with pure cultures of tubercle bacilli taken from cases of human tuberculosis; some with the tuberculous sputum of consumptive patients direct. In some cases the tubercle bacilli or the sputum were injected under the skin, in others into the peritoneal cavity, in others into the jugular vein. Six animals were fed with tuberculous sputum almost daily for seven or eight months; four repeatedly inhaled great quantities of bacilli, which were distributed in water, and scattered with it in the form of spray. None showed any symptoms of disease, and they gained considerably in weight. From six to eight months after the beginning of the experiments they were killed. In their internal organs not a trace of tuberculosis was found. At the point of injection small suppurative foci had formed, in which a few tubercle bacilli could be found. This is exactly what occurs when dead tubercle bacilli are injected under the skin of animals

liable to contagion. They were affected by the living bacilli of human tuberculosis exactly as they would have been by dead ones; they were absolutely insusceptible to them. The result was different, however, when the same experiment was made on cattle free from tuberculosis with tubercle bacilli from the lungs of an animal suffering from bovine tuberculosis. After an incubation period of about a week, severe tuberculous lesions were found in the viscera of all the animals.

An almost equally striking distinction between human and bovine tuberculosis was shown by a feeding experiment with swine. Six young swine were fed daily for three months with the tuberculous sputum of consumptive patients. Six other swine received the bacilli of tuberculosis with their food daily for the same period. The animals fed with sputum remained healthy; those fed with the bovine bacilli soon became sickly, and half of them died. After three months and a half, the survivors were killed and examined. In those fed with sputum no trace of tuberculosis was found, except here and there little nodules in the lymphatic glands of the neck, and in one case a few grey granules in the lungs. The animals, on the other hand, fed on the bovine bacilli all showed severe lesions, especially tuberculous infiltration of the greatly enlarged cervical lymphatic glands, the mesenteric glands, and extensive tuberculosis of the lungs and spleen. The difference between human and bovine tuberculosis was not less striking in similar experiments on asses, sheep, and goats. Thus, human tuberculosis differed from bovine, and could not be transmitted to cattle.

But what of the far more important question of the susceptibility of man to bovine tuberculosis? A direct answer was not possible, because experimental investigation was out of the question. However, there were certain facts bearing on it. Milk and butter often contained large quantities of the living bacilli of bovine tuberculosis, which numbers of persons daily consumed without becoming infected. It was thought that tuberculosis could be conveyed by alimenta, but primary tuberculosis of the intestine is extremely rare. In a large number of necropsies in cases of tuberculosis, Koch had seen primary intestinal tuberculosis only twice. At the Charité Hospital, in Berlin, ten cases of primary tuberculosis of the intestine occurred in five years. In 933 cases of tuberculosis in children, Baginsky never found tuberculosis of the intestine without simultaneous disease of the lungs and bronchial glands. In 3,104 necropsies in tuberculous children, Biedert observed only sixteen cases of primary tuberculosis of the intestine. Such cases were as probably due to the widely propagated bacilli of human tuberculosis as to those of bovine tuberculosis. Hitherto it could not be decided with certainty whether tuberculosis of the intestine was of human or of animal origin. Now they could be diagnosed. All that was necessary was to cultivate the bacilli and inoculate with them cattle by subcutaneous injection. Koch estimated that the extent of infection by milk and flesh of tuberculous cattle was hardly greater than that from hereditary transmission, and therefore he did not think that precautions against it are advisable.

As the main source of infection was the sputum, it was against that that measures should be directed. In the crowded homes of the poor perfect precautions were impossible. Whenever the consumptive coughed, he scattered the bacilli about. Thus whole families were infected. The infection might even spread to the neighbors. The admirable investigations of Biggs had shown that in the densely populated parts of New York regular foci of the disease were formed. Suitable hospitals should be established to which poor consumptives should be removed, so as to avoid their being a source of infection to others. This was a field for the activity of municipalities and of private benevolence. As this measure could not be carried out completely for a long time, other measures should also be resorted to. Obligatory notification—but only of cases where domestic conditions formed a source of danger—was especially valuable. Such limited notification had been introduced in Norway by a special law, in Saxony, and in several American towns. Disinfection of beds, clothes, and dwellings, when a consumptive died or changed his residence, was also important. The use of sanatoria had lately come into the foreground. About 5,500 beds had been established in sanatoria in Germany, which, with an average of three months' residence, would accommodate 20,000 patients annually. About 20 per cent. of the patients treated in them lost the bacilli in their sputum. But there were 226,000 persons in Germany so far gone in consumption as to require hospital treatment. Sanitoria were thought by some to be the only means of warfare against tuberculosis, but they were really of subordinate value. General prophylaxis, as shown by Cornet's figures, had led to a reduction of the mortality from tuberculosis in Prussia from 31.4 per 10,000 before 1889 to 21.8 in the years 1889 to 1897. In New York the exemplary sanitary measures of Biggs had reduced the mortality by more than 35 per cent. since 1886.

Lord LISTER said Dr. Koch's address was full of profound interest. That which riveted his attention was the startling view as to bovine tuberculosis being incommunicable to man. If that should be proved correct their work was simplified. Even if the human disease could not infect cattle, the converse did not follow, and it would be of the most serious consequence should they relax their efforts to secure a safe milk supply and then the view put forward prove erroneous. The variety of intestinal infection was the main argument, but mesenteric tuberculosis existed and was not rare in children. The matter was so important that he would call on specialists to speak on it.

Professor NOCARD, of Alfort, France, though admitting the value and interest of the address, repudiated the conclusion as to the non-communicability of bovine disease. He held that experimental researches in France proved tuberculosis to be transmissible from man to cattle and vice versa.

Professor BANG, of Copenhagen, could not accept Dr. Koch's conclusion, and feared the opinion of so great an authority might prove detrimental by causing a relaxation in the efforts now being made in all directions to secure the purity of milk.

Professor SIMS WOODHEAD joined in the tributes of previous speakers to Dr. Koch's great services, but he could not suppress his own conviction that bovine tuberculosis had played a onsiderable part in the extension of the disease among mankind. He suggested that the view put forward by Professor Koch should be tested by experiments under the Department of Agriculture.

In the evening the Lord Mayor and Lady Mayoress gave a reception at the Mansion House, the attendance at which was very large, many of the members being accompanied by ladies.

Third Day—Wednesday, July 24, 1901.

The Measures Adopted by Different Nations for the Prevention of Consumption.—Professor BROUARDEL, Dean of the Faculty of Medicine of Paris, delivered an address with this title. The Rt. Hon. Henry Chaplin, M. P., President of the Local Government Board, who presided, introduced him as the most distinguished authority on sanitary science in Europe. Professor Brouardel, speaking in French, said that the mortality from tuberculosis varied in different countries. In some it was accountable for a sixth, in others a fifth, and in others a fourth of the total mortality. Long before the infectiousness of tuberculosis was discovered, the struggle against it was commenced in England. The English, convinced by observation that tuberculosis thrived in damp dwellings, in 1836

passed a law providing for the construction of healthy houses. Since then more than ten acts of Parliament to render salubrious the dwellings of the poor had been passed and the mortality from tuberculosis had been reduced forty per cent. The anti-tuberculous education of public opinion which was now progressing was of great importance. In 1899, under the presidency of the Prince of Wales, the National Association for the Prevention of Tuberculosis was formed. Its object was to further prevention by educating the masses. Germany had founded societies for the erection of sanatoria and the popularization of sanitary ideas. In France the Society for the Prevention of Tuberculosis by Popular Education had collected those who could teach with authority, such men as Lavisse, Matignon, Victorien Sardou, Landouzy, etc. They addressed meetings and explained the methods of prophylaxis. Professor Brouardel, as President of the Polytechnic Association, had performed the same service in Paris. This year thirty-eight lectures had been given to 12,000 pupils. Thus, gradually, in all countries, the public were beginning to realize that personal care and cleanliness were necessary, that a consumptive was only dangerous when necessary precautions were neglected, and that the danger lay in the sputum. Professor Brouardel related, amidst great applause, the case of an American millionaire who was fined $5 for the offence of expectoration, and on the second occasion was sentenced to twenty-four hours imprisonment. England had the great merit of recognizing the evils of insalubrious dwellings, and passing laws ordering their destruction; and, further, of enacting laws for the erection of sanitary dwellings which had been supplemented by the beneficence of private individuals. Since 1836 the mortality from consumption had been reduced about forty per cent. by improved dwellings. Healthy houses are anti-tuberculous. Unhealthy, overcrowded dwellings are foci of contagion.

The "wretched lodging," said Jule Simon "is the purveyor of the public house." In 1850 a law was passed in France dealing with unhealthy dwellings, and another in 1894. In the crowded parts of towns tuberculous foci were created which were a source of danger to the inhabitants. In Paris the mortality from tuberculosis varied in different districts from 10 to 100 per 10,000 inhabitants. Alcoholism he regarded as a most potent factor in propagating tuberculosis, for it rendered the strongest man powerless to resist the disease. Hence the high mortality from tuberculosis in classes addicted to drink. Tatham's figures showed that, taking the mean mortality from tuberculosis at 100, that of barmen was 257; of brewers 148; of publicans 140. Ministers of State like to calculate the amount they obtain from duties on alcohol; they should deduct the cost to the community of the ruined drunkard and his degenerate, scrofulous, and epileptic children. The danger of infection is everywhere and inseparable from our civilization. It lurks in our food. Chauveau had shown that intestinal tuberculosis was produced by infected food. Without desiring to exaggerate, the speaker could not overlook the danger in milk and meat. To prevent it, he urged strict inspection, and, until the necessary legislation was adopted, the boiling of milk. The theory that boiling milk makes it less nutritious he repudiated. The idea that tuberculosis could be cured dated back to Hippocrates, who said: "Phthisis, if treated early enough, gets well." In 1838, Carswell, one of England's most distinguished physicians, wrote: "Pathological anatomy has never, perhaps, given a more decided proof of the cure of a disease than of phthisis." Laennec, Guillot, Letulle, and others found that in more than half the necropsies performed there were old healed tuberculous lesions present. Professor Brouardel had found at the Morgue in Paris, where he frequently made necropsies in cases of accidental death, that in half the cases, if the person had lived in Paris for ten years, healed tuberculosis lesions, cretaceous or fibrous, were present. In order that treatment might be of service in the early stage, M. Calmette conceived the idea that, instead of waiting for the workmen to come, the doctor should seek him. He opened an anti-tuberculous dispensary at Lille, which had been eminently successful. Another had been established in Paris. The best way to ferret out the disease was to have an agent-workman who would notice when his comrades began to cough, and advise them to go to the dispensary; who, alive to the dangers of a badly kept workshop, would superintend its cleansing. Professor Brouardel touched on the question of sanatoria. He said that in Germany there were 83 open, or ready to be opened. Of those who left the sanatoria in a satisfactory condition it had been shown that, in 1896, forty-six per cent. were able to work; in 1897, forty-seven per cent.; in 1898, fifty-eight per cent., and in 1899, sixty per cent. In France several sanatoria had been opened, and others were in process of erection. Professor Brouardel concluded with an eloquent peroration, saying that, by a united effort, the whole of the civilized world might succeed in exterminating the cruelest scourge that had ever fallen on it.

Mr. Chaplin referred to the address of Professor Koch on the previous day, and to the two Royal Commissions which had examined the question of tuberculosis in cattle. One of those bodies it had been his duty to nominate. Both reported that the disease could be transmitted from man to animals and conversely. Of that universally held opinion it seemed that one-half was disproved and the other required to be re-examined. He did not presume to express an opinion on the subject, but he looked with confidence to the judgment of such distinguished men as he addressed. He moved a vote of thanks to Professor Brouardel for his important address, which was seconded by Professor Gerhardt and carried unanimously.

In the evening the Royal Institute of Public Health gave a dinner in honor of Dr. Koch, to whom had been awarded the Harben medal. The President, Professor W. R. Smith, after the loyal toasts, presented the medal and the diploma of Honorary Fellowship. He then said that he had received a letter from Mr. Chamberlain accepting the Honorary Fellowship, and regretting that he was prevented being present to pay his respects to their honored guest. Mr. Balfour also wrote to express regret that he was prevented from being present. The President explained that the medal was placed at the disposal of the Institute by one of its oldest friends to be given for eminent services to public health, rendered by persons of any nationality. Up to the present only four persons had received the medal, viz., Sir. J. Simon, Lord Playfair, Lord Lister, and Professor Pettenkoffer. Dr. Koch returned thanks for the honor conferred upon him and the appreciation of his work by his English colleagues. The diploma of Honorary Fellowship was then presented by the Chairman to Lord Strathcona.

Fourth Day—Thursday, July 25.

There was a very large gathering at this meeting, when Earl Spencer took the chair and introduced Professor McFadyan, who was to read the address in which it was anticipated he would present views in absolute contradiction to those enunciated by Professor Koch. His Lordship cordially supported Mr. Chaplin in what he had said the previous day, and strongly advocated a government inquiry.

Tubercle Bacilli in Cow's Milk as a Source of Tuberculosis in Man.—Professor MacFadyen strongly controverted the position taken by Koch in his paper read two days previously. He said that the identity of human and bovine tuberculosis was generally supposed to have been finally determined by Koch himself, when he discovered that the bacilli were identical in morphological, tinctorial, and cultural characters. Hundreds of other workers had brought to light additional evidence of this identity, such as the specific reaction in tuberculous cattle from tuberculin, whether human or bovine. He did not deny that the bovine bacilli were usually more

virulent to cattle and other domesticated animals than human bacilli. But this did not prove that bovine bacilli were only feebly pathogenic to man. Moreover, since these bacilli were highly dangerous to such diverse species as the rabbit, horse, dog, pig, and sheep, it was probable that they were also dangerous to man. As to Dr. Koch's argument that cases of primary intestinal tuberculosis from milk or meat were extremely rare, the observations of others differed. In the Hospital for Sick Children in Great Ormond street, London, Dr. Still found that in 29 per cent. of the cases of tuberculosis primary infection appeared to have taken place through the intestine. In the Children's Hospital at Edinburgh, Dr. Shennan found 28 per cent. The late Sir Richard Thorne was convinced that tuberculous milk was the main cause of tabes mesenterica in children. His reason was that the statistics for the last fifty years show a marked decline in the death rate from phthisis—the form of tuberculosis resulting from inhalation, while only a slight decline took place at all ages in the death rate from that form of tuberculosis which is ascribable to alimentary infection; and in children under one year there was a notable increase. The number of persons who became infected by milk could not be ascertained, but some estimate might be formed from certain facts. About 30 per cent. of all the milch cows were tuberculous in some degree. But the milk did not appear to be dangerous until the udder became diseased, and only about 2 per cent. of milch cows were so affected. Milk from a tuberculous udder contained bacilli in enormous numbers; but the disease was not attended by any pain or tenderness for a considerable time, so that the gravity of the condition was not realized. To prevent this danger Professor McFadyen advocated a periodical examination of cows by competent inspectors. Less effective but more easily carried out measures were a compulsory notification of udder disease, and of any symptoms of tuberculosis in milch cows, and the interdiction of sale of milk from animals suffering from this disease. He also referred to the advantage of heating milk so as to sterilize it. To justify the legislation he advocated it was by no means necessary to contend that the danger from milk equaled that from sputum. The latter was undoubtedly the great cause of the spread of human tuberculosis, and every practicable means of preventing infection in that way should be employed; but he could not concede to milkmen the right to sell tubercle bacilli, even if we were assured that—like Dr. Koch's experimental pigs—we had only to fear the development of "little nodules here and there in the lymphatic glands" of our necks, or "a few gray tubercles in our lungs." Much laughter mingled with loud cheers marked the conclusion of the address.

In the discussion which followed Drs. Nocard of France, Crookshank and Sims Woodhead and Ravenel of the University of Pennsylvania, expressed their views as being in complete accord with those of Professor McFadyen that bovine tuberculosis was a real danger to man.

Sir J. Crichton Browne moved a vote of thanks to Professor McFadyen for an address which showed how fascinating he had made a rather grim subject. He mentioned that Dr. Brown, the representative of Wisconsin, had telegraphed to his government with the result that the State bacteriologists had already begun experiments. He hoped there would be no delay in this country and that meantime we should run no risks.

Dr. Hamilton, of Aberdeen, seconded the motion, which was also supported by other speakers and carried.

SECTION II.—MEDICAL, INCLUDING CLIMATOLOGY AND SANATORIA.

First Day—Tuesday, July 23d.

The president, Sir Douglas Powell, welcomed the visitors, both British and foreign, and gave a brief outline of the intended programme of the Section.

Discussion in Climatology.—With regard to the day's proceedings, he said the morning would be devoted to a discussion on the influence of climate on consumption. He pointed out the general tendency of tuberculous lesions to heal if placed under suitable conditions, and kept free from causes of contamination, septic or otherwise. Climates, varying as they do in temperature, moisture, freedom from dust, etc., must exercise a varying effect on the patients. It was well known that, broadly speaking, Switzerland, Egypt, and the Riviera were good climates for tuberculous cases; what was wanted was to examine different localities in detail and endeavor to ascertain whether similar conditions on a more restricted scale could not be found in these islands; also whether treatment as carried out in sanatoria was at the same time needful; personally, he was inclined to disapprove of the excessive gain in weight under superalimentation.

Dr. C. Theodore Williams then read a paper on "What Influence Has Climate on the Treatment of Consumption and How Far Can Cases be Grouped for Treatment in certain Climates?" He pointed out that the belief in the favorable influence of change, *i.e.* change of climate from the mountain to the seaside, or from the plain to mountainous regions, was no new idea, but had existed in all ages. In Great Britain, sea voyages had been specially believed in, and there was much to be said in their favor. A few years ago, voyages were very commonly recommended, and all could remember striking cases of improvement. They were not so frequently advised now for reasons to be given later on. The fact was that well attested cases of arrest of tuberculosis in a variety of climates and under widely different conditions could be found in the records. To get the full value of any climatic treatment, the patient must be kept more or less completely under the influence of the atmosphere, that is, in the open air; and all climates, such as the tropics and very moist climates, for example, were not suitable for open-air life. Of all climatic factors sunshine was the most important. The climates suitable for tuberculous patients could be classified as (1) marine, (2) dry, warm, and (3) mountain climates.

In marine, he included the English south and southwestern coast health resorts. The number of rainy and also cloudy days was a drawback; the wind he did not disapprove of, but thought a moderately windy locality, where there was suitable protection by wind shelters, favorable. Wind was a great ventilator, and ventilation was especially important for the phthisical. In favor of these places was that they were easily accessible, the food supply was good, and there was abundance of medical skill. They were suitable for early and for advanced cases. Then, again, many patients could settle down permanently and make their homes in these towns. As far as the British climate was concerned, it was certainly suitable for most cases. In warm marine climates he included Madeira, the Canary Islands, and some of the West India Islands. Many catarrhal cases and cases of laryngeal tubercle were benefited at such places. Lastly, he would mention sea voyages of, say, three months' duration, with a month interval before undertaking the return journey. The trip to Australia and New Zealand via the Cape fulfilled all indications. Tropical regions should be avoided as much as possible; in case of the Australian journey, the Red Sea route was highly dangerous. Loss of weight was apt to occur in the tropical regions. One drawback was the lack of exercise on steamers. The Brazilian and West India trips were also very good. A deck cabin was best, and sleeping on deck was advisable whenever possible. It was essential on a voyage to have good food and proper cabin accommodation.

Of dry, warm climates—desert climates—Egypt and the Libyan desert, were most characteristic. The atmosphere was very pure and aseptic, and life in a tent was not unpleasant. Of these climates, he would place Egypt first in point of improvement, but he had never seen such

absolute cures as in high altitudes. Still, chronic cases with cavities, and advanced cases, often did very well. In this division he included the Mediterranean basin—Riviera, Algiers, Tangier, and Spain. The climate at these places was dryer than in England, but less dry than the desert, the atmosphere was clear and free from fog or mist. Patients likely to be benefited by dryness, sunshine, cool winds, and moderate warmth, could not do better. The nights were cool, and patients could be in the open all the winter. The chief drawback was that patients did not take the needful medical precautions, and that sanatorium treatment was not very systematically carried out. His statistics of these places had not been good so far, but in individual cases he had known good results, especially in prolongation of life in cases where cure was not to be expected. The most suitable cases were those of the spumous type—laryngeal phthisis, unilateral pulmonary cases, and cases preceded by inflammatory attacks.

Next, mountain climates were considered. These, like other climates, vary with latitude and altitude; but mountain atmospheres possess certain peculiarities due to rarefaction, alteration of diathermancy, variation of atmospheric pressure, and asepticity. At first the pulse and respiration are quickened at high altitudes, but after acclimatization again fall, the thorax dilating, and its walls becoming more mobile, especially when much exercise is taken. Large thoraces he considered typical of mountain dwellers. Of cases sent to high altitudes he had statistics of 385 observed during 1878 to 1900—275 males and 110 females; average age in males 29, females 26; average duration of disease before climatic treatment adopted, 2 years and 5 months; 143 cases had a tuberculous family history, and there had been a history of hæmoptysis in 43 per cent.; 36 per cent. were bilaterally affected, 74 per cent. unilaterally, 34 per cent. had cavities. They were, therefore, by no means selected cases. The average duration of stay in the mountains was 11½ months. Most of these patients were at Davos, some in Colorado, and a few on South African highlands.

The general results, he concluded, were that 87 per cent. improved—45 per cent. of the total completely recovered; 1 per cent. remained stationary, and 12 per cent. had died; *i.e.* seven-eighths improved, one-eighth deteriorated. Gain in weight had not been particularly common. The incipient cases did better than excavation ones, but still many of these latter improved. How many had relapsed he could not say, but not many of the 329 he had information about.

In conclusion, he was of opinion that residence in mountains helped to cure by causing hypertrophy of the surrounding healthy lung—that possibly the arrest of the disease was partly directly due to effects of pressure thus induced, and anæmia of the affected areas; these local changes were accompanied by disappearance of general symptoms. But for acute catarrhal cases, those with double cavities, and laryngeal cases mountain treatment was contraindicated.

In order of value in his opinion he would place: 1. Mountains. 2. Sea voyages. 3. Riviera and desert. 4. Home climates.

Dr. Burney Yeo regarded the modern climatic or open-air treatment as being new only in attempting hyper-aeration of the lungs by living in the open air, and in doing so there must always be a risk of setting up catarrhal conditions. Sydenham, between two and three centuries ago, had the open air cure in his mind when he said that riding sufficiently long journeys on horseback was the best cure for consumption. Climatic and open-air treatment was essentially the same thing, and the speaker considered it difficult to establish any suitable classification of cases fitted for certain climates. One of the most striking cases of arrest of phthisis he had ever seen was in a lady who left the country and came to live in London. She married, bore children, and died of heart disease, her phthisis having become cured. Another remarkable case he related, which had never been farther than Hastings. Many patients with chronic disease travel about to different winter resorts and seem to improve in all of them. The term "incipient" phthisis should be dropped and "early" adopted. Incipient seemed to suppose a pre-phthisical condition. The term "tuberculous" phthisis was still more objectionable—his mind failed to grasp a "non-tuberculous" phthisis.

The value of sea voyages he considered grossly overestimated and the drawbacks, which were serious, not realized. Consequences often dire ensued, and much discrimination was needful in selecting cases. A writer, a scientist well known in another branch of science, had written in this connection: "The uncertainty of the influences to which he or she may be exposed . . . embarked upon a voyage, crowded in a close cabin, lying on a narrow hard shelf, . . . perpetual din of the engines, etc." Another writer had pointed out that any advantage due to the pure air was done away with by the close, ill-ventilated cabins, dampness, draughts in the saloons, enforced confinement in bad weather, besides the horrors of seasickness. To a large extent then he differed from Dr. Williams as to the value of sea voyages. Patients with advanced dyspnœa should not be sent away from home. But if they insist on going Madeira or Malaga should be selected, because the warm equable climate is most suitable for the bronchial catarrh present in such patients. Warm, equable climates do not cure, but they often materially prolong life.

Mere equability of temperature was to be avoided in early cases—wide diurnal variations, if regular, were more suitable, and had a much more invigorating effect. In our own climate the variations of temperature were so irregular that it must always be unsuitable for catarrhal cases. In advanced cases with febrile disturbance bed is the best place. High mountain air had the widest range of application in moderately advanced cases, but febrile or cachectic cases or patients with gastric disturbance did better at marine resorts. Tuberculous patients with emphysema he considered unsuitable for mountains, also those with renal complications, on account of sensitiveness to cold. Persons peculiarly sensitive to cold from any cause must not be sent to high altitudes. In our own country we must look for suitable local climates and conditions for sanatoria. Thus it had been said that at Nordrach patients got well in spite of climatic conditions—Germany was certainly not a good climate for tuberculous cases—but then at Nordrach all the local conditions—altitude, rainfall, woods to form wind screens, etc., were suitable. The speaker considered that care without climate was better than climate without care. Suitable climate relieves catarrhal cases, raises nervous and muscular tone, relieves the muscular debility, favorably influences digestion, and benefits the moral and mental state. Patients seen very early may be permitted a certain latitude of choice of locality, but for prolonged febrile cases repose in bed at home is the best. In other advanced cases, home or a warm marine climate, for catarrhal cases a warm marine, in the scrofulous type a bracing marine should be selected.

Professor Lannelongue, of Paris, read a paper on the influence of different climates and of individual resistance in experimental tuberculosis. It was found that, as far as climatic influences could be studied in experimentally induced tubercle in animals, very little effect could be noted one way or the other, and that the chief factor was the individual resistance.

Dr. Hermann Weber of the German Hospital, London, referred to his experiences among the class of patients attending the hospital. They were often working and living under very adverse circumstances—*e.g.* baking or clockmaking. He had often said to such patients, "You must give up the bakehouse, and go round with the bread cart instead," or "You must stop clock-

making, and get your living by taking clocks around to sell." In many of them the effect had been marvelous. He had been accustomed to do this before he had learnt about the "open-air cure"; now one would hesitate to give such advice, as rest had been made such an important factor.

His experience of marine climates had not been good. Tuberculous patients bear high winds badly, and the winds at marine resorts were often high. He referred to the work of recent observers with regard to the distribution locally of phthisis in the Isle of Man and in parts of Devonshire, taken into conjunction with the direction of and exposure to the prevalent winds. Such observations had tended to show that there was an intimate connection between wind exposure and consumption. Of the Riviera his experience had been bad, but perhaps that had been due to absence of proper sanatoria and systematic treatment. About sea voyages he had gladly noted Dr. Yeo's remarks—the frightful sufferings of bad sailors, and in any case eight hours a day in a cabin must not be lightly regarded. From warm, dry climates, such as Egypt, he had seen bad results, but perhaps with a sanatorium at Helonan, better might be expected. All observations should be divided into before and after sanatorium treatment. Many cases were lost by imprudent actions, often only an hour or so of improper exposure, due to want of supervision. He did not believe the snow melting period on mountains to be injurious, as was generally thought.

He had a high opinion of climate, but a still higher of properly directed hygienic and dietetic treatment, and it was possible, he said, to cure the majority of cases in England if taken early either in sanatoria or in their own homes.

Dr. Charles Denison, of Denver, pointed out the essential and intimate connection between residence at high altitudes and out-door life in appropriate localities. The more rarified the air, the larger the volume to be allotted to each person in order to afford the requisite supply of oxygen. The bad effects of deficient ventilation were increased and rendered more obvious by altitude. As more and more air space became necessary, outdoor life became a necessity. No absolute immunity from infection was guaranteed by any altitude whatever. In Colorado tuberculous infection, however, was very rare; it was almost all imported. The mortality from tubercle in Denver, and in Colorado generally, was very low—only two per cent. Many of these cases were meningeal, and in many the conditions of ventilation under which they developed were very bad. That tubercle was not acquired in the open air he considered proved by the freedom of the Western cattle from tuberculosis, compared with the frequency of the same in cattle and animals generally under domestication.

Sir J. W. Moore, of Dublin, was of opinion that climate played a very secondary part in phthisis. He referred to the case of a coachman, living with his family in one small, ill-ventilated room. The man died of phthisis, and no precautions to prevent infection having been taken, his wife and one son developed the disease. But they had subsequently recovered with no climatic change. He thought that experience showed that the climate of the British Isles was suitable to recovery if proper precautions were taken. He related a case of the great Stokes. The patient was a gentleman who was told he had only six months to live. The patient decided to live as he pleased for that period, and spent his time duck shooting. At the end of the period named, he walked into Stokes' consulting room cured. The speaker deplored the profound ignorance of the public generally as to the value of sunlight and fresh air. In coming into London he had noticed how all the people kept their windows shut. As an example of the harmlessness, or, rather, invigorating qualities of even night air and in winter, he related an anecdote of the present Sir William MacCormac's father, who came one night into Sir William's bedroom, when he was a lad, and found him asleep with the window wide open, and drifted snow lying on the coverlet.

As to sea voyages, since many people were unable to stand the profound depression of localities where hygrometric observation showed the air to be nearly saturated, how could they possibly stand the atmospheric conditions on a voyage? In addition, the air on steamers was often overheated and cabins were ill ventilated.

Dr. W. R. Huggard, of Davos Platz, could not agree that climate was without importance; but a suitable climate must be selected. Many unsuitable cases, in his experience, came or were sent out to Davos. No one climate was best for all cases, and for every climate there were unsuitable cases. But he did not consider the duration of the disease, or presence or absence of cavities, relevant. The principles to guide one were the physiological actions of different climates. Of these, the heat-abstracting power was the chief. This heat-abstracting power might be small or large. Thus it might be small in a cold climate in the absence of wind. Dry climates were never regular in temperature, but regular in heat demands. High altitudes have high heat demands, and the response depends on the patients' heat-producing power and power of response. Young people usually respond readily to a higher demand for heat production. The cold day air of Alpine health resorts he considered unsuitable to persons of weak circulation or digestion or small lung capacity. Wind and dust were drawbacks to American and South African mountain resorts. The Riviera was suitable for catarrhal cases, and old and not vigorous people. Hæmoptysis should be divided into two categories—the hemorrhage of early cases and that of old cases with large cavities. The early hemorrhagic cases do well in the mountains. He thought insufficient importance was made of the thorough disinfection of rooms after habitation by phthisical persons.

Dr. F. M. Sandwith, of Cairo, Egypt, said that previous speakers had pointed out the differences between mountain and desert air. What struck him and many others was the similar effect of the Egyptian desert air and that of European mountain regions. What it was due to—ozone or other ingredient—he could not say. But it was a fact that people on going into the desert often exclaimed that the feeling of the air was like that on the mountains. During eighteen years' residence in Cairo he had seen only one case of tuberculosis develop in a European in the country. He was an officer and had been home on leave, so might have contracted it in England. On the other hand, it was common among the natives. The climate, then, was not the cause of the difference. The inference was in favor of the sanatorium view, the natives and the Europeans living under such diverse conditions. The ventilation and general sanitary conditions of the native dwellings were bad in extreme. In Egypt a large class of men, professional and otherwise, existed, who originally went there for lung trouble and had improved well enough to settle down and get their living.

Dr. Amrein, of Arosa, gave a bacteriological summary of the conditions met with in that locality, and referred to the physiological changes induced thereby. Chief among these was the increase in the number of red corpuscles—hæmoglobin, microcytes, and nucleated red corpuscles appeared. These blood changes were physiological and due to the low air pressure—not temperature. Clinically, he himself was an example of arrested phthisis—great improvement was seen, weight increased, night sweats and febrile disturbances disappeared, as did nervous troubles. One great advantage of mountain treatment was that any time of the year was suitable for it; another that patients were hardened against their return to ordinary life, not enervated as in milder climates.

Then the Secretary read a paper of the late Dr. Carl Ruedi, of Arosa, in which chest measurements, tracings, and methods were described. The observer had found, contrary to the commonly accepted opinions, that the affected side was at first more largely developed than the

sound one, and that only later on when cicatrization ensued did the diseased side become contracted. His tracings also showed that high altitudes were the best regenerators of lost lung tissue after the disease had become arrested.

Dr. HOBHOUSE, of Brighton, agreed with Dr. Huggard that one must regard the constitution of the patient rather than the class of the disease. Cold especially must be considered, many patients being much depressed thereby. The risks of a sea voyage were enormous. To be shut up between decks for three or four days was destructive to all conditions of health. He had seen even old fibroid cases with labored hearts do well in Colorado, but he would be chary of selecting any particular climate as suitable for all of any one class of cases.

Dr. CROSBY WALSH, of Tasmania, pointed out that the Tasmanian climate represented the best points of the English climate. Consumption did well there, but as yet no sanatoria existed. The natives enjoyed a wonderful immunity from phthisis. In sending patients out sailing vessels should be selected, not steamers.

Dr. Williams, in reply, referring to Dr. Weber's remarks about wind, pointed out that it was not the wind *per se*, but the damp accompanying it, that did the mischief. This was peculiarly the case in Devonshire with its wet southwest winds. Personally he liked and believed in wind, but advised that a shelter be used. In sea voyages, of course, food, cabins, etc., must be good, and patients must live on deck, defying the weather. Patients must not be sent to sea to be coddled. He did not maintain that England would not suit many cases, but wanted to ascertain what climates should be selected for those that home did not suit; and whether if they did do well here, they would not do still better at high altitudes. How climate could possibly be set aside as of no importance he could not understand.

Second Day—Wednesday, July 24.

On this day the Pathological Section united with the Medical in a joint discussion on:

The Value (Therapeutic and Diagnostic) of Tuberculinin Human Tuberculosis.—Dr. HERON opened the discussion in a paper in which he traced the history of the use of tuberculin, and his own experience with the treatment. In his opinion it had fallen into discredit on account of (*a*) its frequent use in unsuitable cases, (*b*) too large doses being employed, (*c*) giving it before the temperature has been normal for twenty-four hours, (*d*) neglecting to diminish the dose on a rise of temperature, (*e*) prejudice on account of the severe symptoms that sometimes follow the injection. Since March, 1897, Dr. Heron had used only the new tuberculin, with which he had treated ten cases in hospital. One was a case of lupus. In December, 1900, three were well and supporting themselves by their work; three were lost sight of; one was well until lately, when recurrence took place; two died, being hopeless when admitted. One of these patients was shown at the clinical society in February, 1898, when there was a discussion upon its nature. Dr. Heron thought tuberculin as safe as any potent drug, and he had used it altogether in above 2,000 cases.

Professor KOCH stated that when in 1890 he first introduced tuberculin to the profession, he was able to point to two important properties which were, first, its power of producing a reaction in tuberculous patients, and thereby affording a means of great diagnostic value; and, secondly, its curative therapeutic effect if used for a considerable period. As to the first property, millions of injections in men and animals had demonstrated its use to be free from danger, and study of the results showed them to be of diagnostic value in 97 to 98 per cent. of the cases. In human beings small doses should be given, and if needful the experiment repeated. The method to be adopted was to observe carefully the patient's temperature for two days, and if it rose above 37° C. not to use tuberculin. With a weak patient, 0.1 mg. should be used; in cases of stronger patients, when suspected lesion was not extensive, a larger dose might be used; but in no case more than 1 mg. If no rise of temperature followed the administration, one should wait two days and administer an amount double that first given. If a slight reaction ensued, the dose should be repeated—that is, a dose of the same amount, not a double one. In many cases the repetition produced a reaction far greater than the first dose. If so, this was an infallible sign of tubercle. If no reaction followed, one might go on, if necessary, to 5 or even 10 mg. If this method were carefully followed, no danger or hardly even discomfort was caused—the ensuing rise of temperature being well within that which a patient could easily bear. Of his own personal knowledge of 2,890 injections, no ill results followed, and the rule was either distinct reaction or absolute non-recurrence. Very often the local symptoms, as well as the general reaction, afforded a further key as to the site of the disease. This method was especially valuable in catarrh of the apex. In 15 per cent. of such cases no reaction took place, and in all these the subsequent history of the case showed them to be non-tuberculous. Every case of pleurisy, of course after febrile symptoms had subsided, should be subjected to the test. In such, 72.2 per cent. had given a typical reaction. Pulmonary tuberculosis, in its very early stage, was curable, and therefore the tuberculin test was most important, as leading to early treatment. In selecting cases for sanatorium treatment tuberculin was of special value.

Its therapeutic value was great if the application was restricted to curable cases—cases not too far advanced, and cases not complicated by other morbid processes or the presence of streptococci, pneumococci, or influenza bacilli. In these mixed infection cases the temperature was usually raised, and tuberculin should not be used. But in uncomplicated, non-febrile cases tuberculin was curative.

One must not attempt to obtain severe reactions; the reaction must be kept as slight as possible, and the administration must not be repeated until the temperature has fallen and all reaction has passed off. Dr. Goetsch uses such small doses that no reaction ensues, and with very good results.

Further, the tuberculin treatment should be resumed after three or four months' interval of apparent cure. Experience had formulated certain rules for its administration. They were (1) patients free from fever, and in whom the morbid process is not too advanced, should be selected; (2) begin with a small dose, and increase it so slowly that no reaction, or a very slight one ensues; (3) do not repeat until the temperature has again been normal for one to four days; (4) repeat the treatment after an interval of from three to four months.

Sir DOUGLAS POWELL remarked that both speakers had stated tuberculin must not be used if the temperature were raised. But in practice one did not get cases free from fever—they were already febrile. How must one act under these circumstances? And further, in active tubercle, if the temperature does fall to normal the physician is usually satisfied that the case is going on well, and is willing to let it remain so. Are we then to go on to the use of tuberculin?

In the cases of mixed infection which are so very general was he to understand that tuberculin was unsuitable?

Professor WILLIAM OSLER, of Baltimore, had for six years in the Johns Hopkins Hospital used tuberculin in doubtful cases, and considered its diagnostic value inestimable. The reports of his surgical colleagues as to its value were also favorable. In doubtful cases of early phthisis at one apex it was of great use. In answer to the query as to whether it was dangerous, in his experience it had proved uniformly harmless, with no single instance of any ill result.

Of its use as a method of treatment he had had of late years no experience, and he was impressed by its extreme limitation in use if only afebrile cases were to be selected. Such cases were rare. And if the temperature were normal,

if fresh air and a good diet were placed in the scale against tuberculin, he would certainly choose the former.

Dr. FRAENKEL had had more improvement with tuberculin than with other remedies, and had learned to avoid the dangers of its use by experience. Febrile disturbance was a certain indication. Very small doses and very slow increase must be the rule, in order to avoid severe reactions. The practice of increasing dosage a hundred per-cent. at a time was distinctly bad.

Professor DENYS, of Louvain, described experimental peritoneal lesions produced by tubercle, and had found that if tuberculin were administered the lesions developed more slowly, and were in some cases cured.

Dr. DENISON, of Denver, was of opinion that the majority of cases were curable by climate, exercise, and fresh air, feeding, and medical, surgical, and individual treatment. He considered that perhaps 20 per cent. were left in which tuberculin could be advantageously used. Of its diagnostic effect in 1,200 cases he had a very high opinion.

Dr. THEODORE WILLIAMS was of opinion that there was no doubt whatever about the diagnostic value of tuberculin. The remarkable results of an injection of tuberculin had, as it were, captured the imagination and led to very high hopes concerning its use. The lesions were lit up so as to be seen. From a diagnostic point of view it certainly touched the spot.

As to its therapeutic value, Koch himself introduced great difficulties. The mixed infection type of case was very common. In the incipient uncomplicated cases, where tubercle bacilli were found with difficulty, where physical signs were slight, and the general health good, he had used tuberculin and carefully carried out Koch's method as described in print. In all of these what was observed was that lung tissue appeared in the sputum and a cavity quickly formed. This was the same in nine such cases he had observed, and the formation of cavities was a decidedly worse condition than infiltration.

Later on there was a decided change to contraction of the cavities and the patients described themselves as feeling better. But they came back later in a worse state than ever. In private practice his observations had been the same—in every case lung tissue appeared in the sputum, but the tubercle bacilli never disappeared. If used in pyrexial cases tuberculin tended to make a previously intermittent pyrexia continuous. He could not see what use it was in treatment. Under its administration the disease progressed, just the opposite to what we endeavored to obtain by all other methods of treatment. Instead of a building-up process a breaking-down one was brought about. His view was that its proper place was as a diagnostic agent, where it was unequalled. In this country we did not view these incipient, first stage cases as so serious. They were quite amenable to ordinary methods of cure. And as to the cures attributed to tuberculin he would say "call no man cured of tubercle until he is dead and his autopsy properly performed."

Professor McCALL ANDERSON maintained that the use of tuberculin was safe, but its abuse fraught with danger. Small doses should be used to begin with and carefully repeated, as the reaction after a second dose was often greater than after the first. The stage of no reaction should be deferred as long as possible. As to its diagnostic value he could not understand how it was that, although its value had been so abundantly proved, and it was so constantly in use by veterinarians in connection with tuberculous cattle, we so seldom resorted to it in the case of human beings.

As to its therapeutic value, it was not now used in advanced cases, in which it was harmful rather than of use. In any case the usual open-air methods should be combined with the use of tuberculin. In external tubercle it was of the greatest value. His results had been very good in lupus vulgaris, lupus erythematodes and scleroderma. Relapses were apt to occur, but besides the tubercle bacillus, there was the soil suitable to its growth to be borne in mind. And we must therefore combat this predilection of the patient for tubercle by the aid of pure air, generous diet, and other recognized anti-strumous measures.

Dr. VICARY SNOW, of Bournemouth, pointed out that in the cow there was not always a reaction after a single injection, and therefore the sale of tuberculous meat was not entirely prevented. As to the therapeutic value of tuberculin his observations were limited, but were quite opposed to those of Dr. Williams. His experience of three cases was that its use had been beneficial. In any case it was only an adjunct to treatment now, as present sanatorium methods rendered it less needful than formerly.

Dr. BOUSFIELD, of London, maintained that one never saw cases until the temperature was raised. But his experience both with old and new tuberclin was that the temperature fell instead of rising. His opinion of it was favorable; one case in particular had been very successful. But he would like to ask Dr. Koch what we were to understand by tuberculin. Since Dr. Koch's speech of the day before, in which he stated that bovine tuberculosis was different from human tuberculosis, were we to have two tuberculins, one for animals and another for human beings? What was the source of the present tuberculin; was it derived from bovine tuberculosis? If so, our views would need modification.

Dr. STONE, of Boston, protested against its indiscriminate use as a diagnostic agent. He himself had been injected when it first came out years ago to test its harmlessness. The result was a typical reaction. But no signs of tubercle ever existed, or had subsequently developed. Of course he might have a tuberculous mesenteric gland—that his pathological friends might ascertain later on. Might not a reaction occur in a number of such cases? Enthusiasts admit a five per cent. error. He believed it was greater.

Dr. ERIC FRANCE, of Claybury, pointed out that the death rate from tubercle in the insane was twelve times as great as among the general public. Asylums therefore afforded a very suitable field for the use of tuberculin. He had injected tuberculin in fifty-five cases of suspected tubercle, twenty cases in which tuberculosis was not suspected, and in himself. Of the fifty-five suspected of tubercle forty-five had reacted. Of these forty-five, thirty-four had since died, and on these thirty-four, twenty-nine post mortems had been made—in all of them active tubercle had been demonstrated. None of the non-suspects or himself gave any reaction.

Dr. VIVANT, of Monte Carlo, agreed with Dr. Williams, that the therapeutic use of tuberculin in the cases where it did good was just where it was not needed, as such cases were curable by other means. What we needed was a remedy against tubercle in all its stages and forms. He would like to have an answer to the question concerning tuberculin, bovine and human—asked by a previous speaker.

Dr. SQUIRE also asked whether the tuberculin used in cattle was the same as that used in mankind. He could not understand Dr. Heron not having seen signs of destruction of tissue after using tuberculin. In his experience both in Berlin and here such was the case. By increasing the activity of internal lesions it seemed to him that bacilli might be disseminated.

Dr. MÖLLER, of Berlin, described the methods of using tuberculin that he had employed personally. Small doses beginning at one milligram and gradually increasing, and never going beyond ten milligrams should be the rule. He had never seen any ill results. But tuberculin alone did not cure, and must be combined with sanatorium treatment.

Dr. OTIS, of Boston, would like to know what percentage of syphilis cases reacted in tuberculin. He had

found a few react. Of course there was always a doubt as to such being latent tubercle. Tuberculin should also be used as a test of cure. The cure was complete when the reaction no longer occurred.

Dr. HUGGARD, of Davos, had had two very successful cases. But in a later one where the disease was apparently arrested and temperature normal, on tuberlin being used a reaction occurred—tubercle bacilli reappeared in the sputum and never again disappeared. The arrested disease had been reawakened. In another case where there were tubercle bacilli in the sputum, no reaction occurred for some time, then a very explosive, violent reaction came about, followed by general tuberculosis. The impression left on his mind by these cases was so strong that he never again used tuberculin except at the express wish of the patient.

Professor NOLAN, of Leyden, would like to know what Prof. Koch means by a temperature of 37°C. Is the patient resting in bed, or up and about? Is the temperature to remain below 37° C. during the whole of the day? Every feverish reaction is not necessarily a sign of mixed infection. Mere work and movement may send it up.

Dr. Heron, in concluding the discussion, was surprised by the unanimity of opinion displayed. All the speakers agreed that the diagnostic value was an accepted fact. That being so, the value of tuberculin could not be overestimated, and at all events its therapeutic value indirectly was great, as it led to early detection and treatment. All agree that much smaller doses must be used than formerly. Goetsch had the advantage in his cases that the patients came back again and again. About temperature—that should be reduced first by usual means. Raised temperatures were not permanent, and after reduction tuberculin could be suitably used. He had never seen a reaction in a syphilitic patient. That, properly used, it is a test of cure is a corollary to trusting to it for diagnostic purposes. In answer to Dr. Squire, the local lesions are certainly lit up, but as the tuberculin is gone on with, they again clear up and disappear. Of such cases as Dr. Williams described he had had no experience.

Professor Koch, in reply, stated that the tuberculin used so far had been obtained from human sources. The reaction to tuberculin was a simple reaction, not a specific one. There existed many different kinds of tubercle bacilli, but they all gave the common reaction. He spoke very eulogistically of Dr. France's experiments, and said they were a model of what was needed in place of so much theoretical speculation. As to the temperature, patients who were febrile must be put to bed, and the fever reduced by usual means before tuberculin is used. But in many cases of tubercle the temperature was not raised, and no preliminary treatment was needed before beginning with small doses of tuberculin. He believed in open-air treatment and other measures plus tuberculin, not relying on either one or the other but both.

(*To be continued.*)

Report of a Case in Which a Scarfpin Was Swallowed and Passed per Rectum on the Seventh Day.—Edgar A. Vander Veer reports the case of a man who held a scarfpin in his mouth, laughed slightly, and sucked the pin into his throat. At first the pin gave great pain, but after a few minutes it seemed to disappear, and the patient could swallow easily. An x-ray photograph of the chest and abdominal cavity showed no trace of the foreign body. The patient was kept under observation and put on a constipating diet, in order to encrust the pin with fæces. His bowels moved every day. On the seventh day he was given a half-grain dose of calomel, and two hours later had a movement of the bowels, when the pin was passed, embedded in the fæces.—*Albany Medical Annals.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 3, 1901:

	Cases.	Deaths.
Measles	127	21
Diphtheria / Laryngeal Diphtheria (Croup)	103	28
Scarlet fever	130	11
Smallpox	41	14
Chickenpox	6	
Tuberculosis	249	152
Typhoid fever	58	13
Cerebro-spinal meningitis		7

Pneumothorax from Sneezing.—In the *Munchener medicinische Wochenschrift*, some time ago, a case was recorded of pneumothorax occurring in a healthy man from laughing. Professor B. Stiller, of Budapest, now records, in the *Wiener medizinische Wochenschrift*, a case in which this accident was caused by sneezing. The amount of air pumped into the pleural cavity was sufficient to displace the liver. An injection of morphine relieved the pain, which was severe and lasted three days. After a week, all evidence of pneumothorax had disappeared. There was never any pleural effusion. The patient was a young man with perfectly healthy lungs.—*Treatment.*

Insanity in Relation to Creed.—Statistics which concern only small numbers are yet more fallacious than even the general mass of such evidence, still they are sometimes worth examining. During the year 1900, 226 patients were admitted as lunatics into the Bethlem Hospital. From a table which records "religious persuasion" we obtain the following facts, which, let it be noted, however imposing they might seem if cited in an argument, really prove nothing. Of the whole number, 155 were registered as members of the Church of England, and against these only sixty-two were discharged during the year as cured. Thirteen Baptists and thirteen Roman Catholics were admitted, and seven of the former and six of the latter discharged cured. A total of nineteen were ranged under the heads "Congregational," "Dissenter," and "Nonconformist," and of these twelve left cured; of Wesleyans there were seven, and none was cured; of Presbyterians six, and only one was cured. There were two Jews, both women, and one left cured; and the same statement applies to Plymouth Brethren. No "Agnostic" was admitted, but one—an old case—left the hospital uncured. One "freethinker," and two who were registered as "nil," made a small total of three, all of whom left the asylum cured. Quakers are not mentioned, but possibly one woman, who was registered as a "Christian," might be of that persuasion. Thus it will be seen, that it might be argued from these facts that members of the Established Church, when they become mentally deranged, are difficult of cure, and Wesleyans yet more so; whilst Baptists, Roman Catholics, Jews, and those of lax creeds fare much better.

Alcoholism in Childhood.—Kassowitz (*Deutsche Medicinal-Zeitung*) concludes as follows: 1. Severe functional disturbances (delirium tremens, alcoholic mania, epilepsy) and organic changes (anasarca, enlargement of the liver) have been observed by the author and others after the continued use of alcohol. 2. These diseases occurred not only after the use of brandy and excessive doses of other alcoholic drinks, but also after the use of ordinary amounts of wine and beer, and even after such small doses of cognac as are usually considered not only harmless but even curative. 3. From these results we must conclude that the nervous system in childhood is extremely sensitive to the poisonous effects of alcohol. 4. The administration of alcoholic drinks to children is

permitted in the best regulated families in the belief that small doses cure weakness and diseased conditions. It is easily demonstrated, however, that this idea is absolutely wrong. 5. Physiological experiments have disproved the former views that alcohol is a food and prevents body waste; the excretion of urea is increased rather than diminished during the administration of alcohol. 6. From this it may be concluded that the protracted use of alcohol prevents the growth and development of the child. 7. Even as an appetizer alcohol is useless, since experiments have shown that it disturbs rather than aids digestion. 8. As an antipyretic alcohol is useless, because even after the administration of very large doses the temperature falls but slightly. 9. Researches have shown that the much-lauded stimulating effect of alcohol either does not occur or is very passing, but that a slow degree of depression of the muscles and nerves takes place. The use of alcohol, therefore, for the prevention and treatment of cardiac weakness in childhood has no scientific foundation. 10. The internal administration of alcohol as an antiseptic—that is, as a bactericidal agent, in acute infectious diseases—is not rational. Experiments have shown that during its administration the resistance against infection is diminished rather than increased, and that alcohol is too quickly oxidized to have any bactericidal power. 11. In school children, even after a moderate use, the weakening effect upon the intellect was evident. 12. From the foregoing ill effects of even moderate amounts of alcohol, the administration of alcoholic drinks to healthy or sick children is under all circumstances to be discountenanced.

An Egyptian Rhinologist and His Reward.—In a volume published from the unfinished manuscript of A. Mariette Bey, entitled "Les Mastabas de l'Ancienne Empire," among many others is a fac-simile of a drawing on a slab found in the tombs of one of the old Egyptian kings. The grave in which the slab was found is said to date back to the fifth dynasty, a matter of 3,500 years before the birth of Christ. On the slab is the delineation of a physician and his wife, the latter with her hand resting affectionately on his shoulder. He was the medical attendant of King Sahura, and his name was Sekhet'enanch, but what the name of his wife was does not appear. It is said to have been everywhere erased from the tablets. What subsequent domestic infelicity this may hint at, we know not. Edward Meyer, in his "Geschichte des alten Aegyptens," translates some of the inscription relating to the physician in such a manner that it appears the king had ordered it to be engraved as a testimony of gratitude to his doctor because he had "made his nostrils well." He wishes him, therefore, long life and happiness. This tablet had formerly been set up in the king's palace, in an ante-room, where all might see and read. We see hereby not only the antiquity of medicine, but also the antiquity of certain propensities which have not yet disappeared, so the uncharitable say, from the activities of its devotees; for we read further in Meyer's text that this method of recompense was suggested to the king by Sekhet'enanch himself. However, it does not appear that this early practitioner of medicine and violator of medical ethics was necessarily a rhinologist, for the word "nose" in this place, according to the translator, seems to have signified "breath of life." This, of course, makes the meaning of the passage very indefinite. It is an indication, however, that five thousand years ago they recognized the nose as belonging to the respiratory system, a fact to which it has frequently been necessary to draw attention in later, and we are fain to believe more enlightened, times.—Dr. JONATHAN WRIGHT, in the *Laryngoscope*.

The Extermination of Rats.—Rats have long been inseparably associated with the plague. Their connection with the outbreak in Glasgow was never conclusively proved, but in India, in Egypt, and latterly in Cape Town, they have been, beyond a doubt, largely instrumental in disseminating the disease. Whenever a plague scare arises, one of the first measures proposed is the destruction of rats, but the thing is a thoroughly complete and effective fashion is more easily proposed than done. More particularly is it difficult on board ship, and yet it is by means of ships that these insufferable rodents carry the disease germs from port to port. A special interest, therefore attaches to the recent experiments at the London docks for the extermination of rats, by means of sulphur dioxide. This gas seems to have the property of attracting the rats from their holes and as soon as they breathe the fumes they become suffocated. At the same time it has no injurious effect on the decorations of the saloon. The experiments were conducted on board the steamship "Gourkha," and were highly successful. Several hundred rats being destroyed in the space of a few minutes. Among those who witnessed the experiments on the "Gourkha" was the Chairman of the Cape Chamber of Commerce, and he is said to have been so much impressed with the efficacy of the new method that he has resolved to recommend its adoption to the Harbor Board at Cape Town with the view of applying it to all vessels coming from plague-infected ports.—*Sanitary Record.*

What to Do with Consumptives.—A novel suggestion as to the disposal of consumptives is made by Sir Henry Littlejohn, Medical Officer of Health for the City of Edinburgh. Commenting on the relative positions of the rich and poor afflicted with the disease, and the power to recuperate often regained in foreign latitudes, he asks whether this luxury cannot be provided for the working and skilled mechanic of England, not to speak of the ordinary laborer. He has often thought, he says, that when the Transvaal quiets down, the local government there might be inclined to receive specially selected lives of skilled workmen suffering from incipient tuberculosis who would not be birds of passage, but would remain as useful, intelligent citizens.—*The Sanitary Record.*

Health Reports.—The following cases of small-pox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 3, 1901:

		CASES	DEATHS.
SMALLPOX—UNITED STATES AND INSULAR.			
California, Los Angeles	July 13th to 20th	2	
San Francisco	July 14th to 21st	1	
Kentucky, Lexington	April 27th to May 4th	11	
Michigan, Grand Rapids	July 13th to 27th	2	
Nebraska, Omaha	July 6th to 20th	5	
New Hampshire, Nashua	July 20th to 27th	1	
New Jersey, Newark	July 20th to 27th	6	1
New York, New York City	July 20th to 27th	46	9
Ohio, Cincinnati	July 19th to 26th	1	
Pennsylvania, Philadelphia	July 20th to 27th	1	1
Tennessee, Memphis	July 20th to 27th	1	
Utah, Salt Lake City	July 20th to 27th	7	
Washington, Tacoma	July 14th to 21st	6	
West Virginia Martinsburg	July 26th	13	
SMALLPOX—FOREIGN.			
Argentina, Buenos Ayres	May 1st to 31st		247
Austria, Prague	July 6th to 13th	1	
Belgium, Antwerp	July 6th to 13th	4	1
France, Paris	July 12th to 19th		5
Gibraltar	July 1st to 14th	2	
Great Britain, Glasgow	July 12th to 19th	3	1
London	July 6th to 13th	12	
India, Bombay	June 25th to July 2d		4
Calcutta	June 22d to 29th		5
Karachi	June 8th to 30th	13	6
Italy, Messina	July 6th to 13th	5	4
Netherlands, Rotterdam	July 13th to 20th	1	1
Russia, Moscow	June 30th to July 6th	9	3
Odessa	July 6th to 13th	1	1
St Petersburg	June 15th to July 6th	7	1
PLAGUE—INSULAR.			
Hawaii, Honolulu	July 17th		1
PLAGUE—FOREIGN.			
India, Bombay	June 27th to July 2d		65
Calcutta	June 22d to 29th		14
Karachi	June 8th to 30th	23	23
YELLOW FEVER			
Costa Rica, Port Limon	July 4th to 21st	2	
Cuba, Cienfuegos	July 15th to 18th	2	
Mexico, Vera Cruz	July 13th to 27th	2	1
CHOLERA.			
India, Bombay	June 25th to July 2d		3
Calcutta	June 22d to 29th		23
Java, Batavia	June 8th to 22d	49	27

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SYPHILIS OF THE LIVER.*

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It seems, at the first glance, hardly necessary to write about an affection which is so well known and which in its essential features had already been described in the middle of the nineteenth century. Looking through the literature, however, it is apparent that clinically not so much has been published on this subject as its practical importance would warrant. I will therefore briefly review the literature, then present my own observations on syphilis of the liver, and finally add a few remarks.

From the middle ages to the beginning of the seventeenth century great importance was attached to the liver in syphilitic diseases. It was generally believed that syphilitic ulcers were the result of bad humors of the body, the origin of which was to be looked for in the liver, which was supposed to be infected by a volatile contagion (Fallopia[1]). When pathological anatomy began to be studied more closely, the theory of the primary affection of the liver in syphilis was discarded by Botalli, Petronius, Mercurialis,[2] and others. For a long time thereafter syphilitic disease of the liver was not even mentioned.

Bonet,[3] Portal,[4] and Ricord[5] were the first to demonstrate syphilitic changes in the liver. Ricord was the first to use the term gummatous tumor. Dittrich[6] soon after wrote a comprehensive paper on syphilitic disease of the liver. I will cite from Dittrich's fundamental work the following passage: "The participation of the liver in syphilis consists in various processes of inflammatory exudation; these usually heal either completely or incompletely, leaving behind a cicatrix. The process of exudation never affects the whole liver, but mostly a few separate places." The origin of deep scars and furrows (even lobulation) of the liver was in this way plausibly explained by this writer.

Dittrich's paper was soon followed by a thorough and extensive article by Gubler,[7] who wrote on syphilitic changes of the liver in childhood, caused by hereditary syphilis.

Virchow,[8] the master of modern pathology, next published an important work, in which, among other topics, syphilis of the liver was thoroughly treated. I would like to cite the following passages: "The products of syphilis are indeed just as diverse in the liver as in the testicles. We may have a perihepatitis, a plain or a gummatous interstitial hepatitis. All three may be present at the same time, complicating one another. In the majority of cases, we have a plain interstitial hepatitis and only in some special instances a gummatous." Concerning the nodules, Virchow says: "The result of microscopic examination has been correctly stated by Budd. Usually we find, just as in the tuberculous nodule, nothing but a dense mass inside, full of fine fat granules, in which some nuclei, perhaps also cells or granular bodies and connective tissue fibres, may be more or less clearly distinguished." The capsule or scar tissue enveloping the nodule gradually and continuously merges into the substance of same: "The nodule is only a part of the scar tissue that has undergone more advanced changes. Concerning, finally, the chronology of syphilitic hepatitis we are in many respects justified in grouping it among the tertiary symptoms. It is, however, certain that simple induration and atrophy with cicatricial formation may occur in hereditary syphilis in connection with fresh secondary lesions."

In his well-known book on "Diseases of the Liver" the great clinician Frerichs[9] gives a detailed description of syphilis of the liver, citing several cases in which the diagnosis has been made during life. We quote the following passages: "Syphilis of the liver occurs in three varieties: first, simple interstitial hepatitis and perihepatitis; second, gummatous hepatitis; third, waxy, amyloid, or lardaceous degeneration of the liver. All three forms can be present at the same time or each may occur by itself. In the gummatous form of syphilitic hepatitis we observe in the scar tissue just described white or yellowish nodules of round form and dry consistence; they are usually no larger than a lentil or a bean, but may reach the circumference of a walnut. The node cannot be enucleated, as it is traversed by connective tissue masses; it consists of fat drops and fat granules, nuclei, fat cells, and connective tissue shreds. It corresponds, accordingly, with the gumma found in constitutional syphilis, in the subcutaneous cellular tissue, under the periosteum, in the testicles, etc."

Concerning the symptoms of syphilis of the liver, Frerichs expresses himself as follows: "The most constant of them are pains in the region of the liver, sometimes confined to certain places, sometimes extending over the whole organ. They are, as a rule, dull, sometimes, however, acute enough to cause considerable trouble. The pains may be of long duration; one of my patients complained for three months; in another there were intermissions lasting several weeks with subsequent exacerbations, accompanied by a slight fever."

Frerichs acknowledges the difficulty of diagnosis in the following words: "The differential diagnosis between syphilis and carcinoma of the liver is sometimes very difficult, because the principal symptoms of the latter disease, hard, painful nodular tumors of the liver, may also occur in syphilitic disease of this organ, provided we have a process of waxy infiltration (if the latter is not present, the protuberances are much softer than in cancer). The presence of constitutional syphilis, the intermittent pain, the enlargement of the spleen, and the albuminuria may lead us on the right track."

Soon after the publication of Frerichs' book there appeared several reports of cases of syphilis of the liver, mostly from an anatomical and pathological standpoint.

Thus Wilks[10] describes several observations of his own on syphilis of the liver (mostly autopsies).

*Read before the American Gastro-Enterological Association, on May 1, 1901, at Washington, D. C.

J. F. Payne[11] relates three cases of gummatous tumor of the liver (all in men). The diagnosis was made on the post-mortem table. Payne describes the tumors microscopically as follows: "The central parts of each tumor were composed of granular, almost amorphous material, not fibrous, though sometimes with indistinct fibrillation. There were in these parts hardly any nuclear or cell forms. The only structures which seem characteristic were certain round or irregular translucent bodies, of the size of several lymph cells, which were imbedded in the granular mass. It seemed probable that these masses represented collections of degenerated liver cells. There were also very numerous fine granules of fat, but any distinct or larger drops were not present. The granular portions passed imperceptibly into fibronucleated structure, which formed a transition to the external fibrous tissue, but was not universal or characteristic."

W. Pepper[12] found gummata in the liver and in the brain at the autopsy of a woman, who had suffered from a left-sided hemiplegia and a right-sided paralysis of the oculomotorius and abducens nerves.

Norris[13] published a case of gumma of the liver, which had caused an occlusion of the gall ducts, and was recognized only at the autopsy.

About ten years later an important article on this subject was published by L. Peiser,[14] of New York. This author carefully observed a case of syphilis of the liver which came to a post-mortem, and collected from the literature histories of thirty-three cases of this disease. Among these thirty-four cases twenty-one were in men and thirteen in women. The time that had elapsed since infection could be determined in only fifteen cases; usually it ranged from three to seven years; the shortest time was three and a half months, the longest, twenty-five years. The most constant symptom was pain, sometimes localized, sometimes diffused, sharp or dull; sometimes only tenderness on pressure was present. Usually associated with this were disturbances of the stomach and bowel functions. When marked changes of the liver existed, ascites and anasarca occurred; enlargement of the spleen was more often caused by direct syphilitic disease than by a congestion of the portal system. Icterus occurred twelve times. Cachexia and albuminuria were frequently found. Of the thirty-four patients twenty-nine died, two were cured, and three improved.

After Peiser's work several observations of a more clinical nature on syphilis of the liver were recorded. Thus, Osler[15] describes two cases in which a cure took place. He says: "For two years, I showed repeatedly, at my clinic at the University Hospital, Philadelphia, a boy aged eleven, who had a prominent tumor in the epigastrium connected with the liver, the nature of which was obscure until well-marked bone lesions developed. In another case, a man aged thirty was sent to me for advice concerning the making of an exploratory incision to determine the nature of a firm, irregular tumor, which occupied the epigastric region and was evidently connected with the left lobe of the liver. It had lasted for more than a year, had increased slightly, and had not impaired, to any marked degree, the general health. This fact, together with a well-marked history of acquired syphilis, led me to place him upon a rigid antisyphilitic treatment, with the result that within six months the entire tumor disappeared."

Cole[16] describes two cases of syphilitic cirrhosis of the liver. In both he had to deal with an enlarged liver with marked ascites; one of the patients gave a distinct syphilitic history. Both were cured after taking iodide of potassium and mercurial inunctions for a long time

De Walsche[17] reported a case of syphilitic hepatalgia. The subject was a fourteen-year-old boy, who, for a year, had been suffering from a pain in the region of the stomach. He was somewhat icteric. On examination the liver was found to be much enlarged and somewhat harder than normally; there were no nodes, but the organ was especially tender on pressure. The fæces were acholic, but contained no gallstones. The usual treatment for icterus was without result. De Walsche then, by exclusion, made the diagnosis of syphilis of the liver. Antiluetic treatment was promptly followed by a cure.

Lancereaux[18] has contributed several important works on syphilis of the liver. I quote from his book on diseases of the liver the following passages: "If this organ is enlarged and cirrhotic, it gives on palpation a sensation of manifest hardness, of an uneven, embossed surface; in the gummatous form, we feel protuberances, or rather firm nodules, sharply circumscribed or disseminated through the whole organ. On account of the great frequency of perihepatitis, it is rare for patients not to complain of pain, more or less acute, occurring in the right hypochondrium. The pain manifests itself sometimes merely as an uncomfortable sensation, as malaise, or a feeling of weight; sometimes it is continuous, with sharp exacerbations. It is nearly always increased by palpation, percussion, and especially by movements of the thorax, and radiates toward the shoulder or some other part of the body."

J. Marcuse[19] endeavors to define the clinical picture of syphilis of the liver, although he is conscious of the difficulty of the task. He says: "However exact the pathological investigations may be, and however easy it is to make the diagnosis of syphilis of the liver on the post-mortem table, just as difficult is it to make a correct clinical diagnosis during life. Even in cases in which the autopsy revealed deep scars and numerous gummata, the syphilitic hepatitis had caused such insignificant symptoms during life that it was impossible to make a diagnosis. Added to this is the variety of clinical as well as pathologico-anatomical forms of the disease, which contribute to the difficulty of diagnosis." "Icterus in the tertiary period is extremely rare; if it does occur it is due to compression of the gall ducts by gummata, or to glandular swellings at the hilus of the liver, etc." . . . "The skin of most patients is of a dirty, pale, ashen color. Lancereaux often found brown pigmentation."

Leichtenstern[20] also expresses himself in a similar manner: "Large isolated gummata of the liver can, in rare cases, also be diagnosed if with a history of syphilis, especially congenital syphilis of children, and perhaps in the presence of gummata of the skin or bones, a firm, round tumor plainly projects from the anterior surface of the liver near the suspensory ligament, the favorite location of gummata. It is plain that under such circumstances, in a similar case, a faulty diagnosis of carcinoma may be made."

Waring[21] attempts to establish the differential diagnosis in the following words: "The liver may attain a considerable size as a result of the development of these tumors, and then it resembles in many respects a liver which has been enlarged owing to the formation of numerous primary or secondary malignant growths. The rate of increase in size of the organ is, however, much slower in syphilitic affections than is the case in malignant disease, whilst there is not the same marked wasting cachexia."

Adami[22] protests against the strict classification of the various stages of syphilis; according to him the process is, taken all in all, the same. He expresses himself as follows: "In three out of eight cases of tertiary syphilis affecting the liver which have come to the post-mortem room at the Royal Victoria Hos

pital during the last four years, there was clear and fairly extensive pericellular fibrosis along with gummatous change. The fibrosis, it is true, was not generalized over the whole liver. The condition more resembled a condition of circumscribed fibroid change seen in the infantile liver."

Semmola and Gioffredi[23] have discussed the important question whether a visible secondary syphilitic lesion must of necessity always have preceded syphilis of the liver, in the following words: "There has been, and still is, much discussion as to whether syphilitic infection can be long latent without causing secondary phenomena, and can then later attack the liver. Our clinical experience is in harmony with the ideas expressed by Cardarelli that whether there be an actual absence of symptoms of general infection, or whether they be so light in character as to pass unnoticed, the fact remains, and is of great diagnostic importance, that some patients have a syphilitic liver without giving any history of secondary phenomena of the disease." Regarding the frequency of syphilis of the liver these authors express themselves as follows: "We are not to understand, however, that among the tertiary symptoms of syphilis those relating to the liver are of very frequent occurrence. In Fournier's statistics, which are the most complete which we as yet possess, we find that in 3,429 cases of tertiary syphilis there were nine of hepatic syphilis. We must, however, bear in mind that syphilis of the liver may run a latent course, or may be confounded with other hepatic affections."

According to Birch-Hirschfeld,[24] syphilis of the liver in reality seems to occur quite frequently. He says in his book: "The gummatous affections of internal organs (visceral syphilis) develop most frequently in the liver, the testicles, the spleen, the brain, more rarely in the lung, the spinal cord, the kidneys and suprarenal glands, and the pancreas."

Having cited from the principal works on syphilis of the liver accessible in literature, I now pass on to some of my own observations. As I have not had occasion to see a case of hereditary syphilis of the liver I will confine myself to hepatic affections caused by tertiary syphilis.

Cases of syphilis of the liver can conveniently be divided into the following groups:

1. Gummata of the liver. 2. Syphilitic cirrhosis of the liver. 3. Syphilitic disease of the liver belonging to either of the above groups and accompanied with icterus; the latter may be: *a.* Acute, *b.* Chronic.

The following cases belong to Group 1 (*gummata of the liver*):

Case I.—April 19, 1900. Harris S., thirty-four years old, had a chancre six years ago. He had always been well and strong until the spring of 1897, when he began to complain of various disturbances of digestion. He had a poor appetite and suffered from nausea occasionally, although rarely. He also complained of much belching and frequently had severe pains a short time after eating. His sleep was restless. He was constipated and felt very weak and miserable. He had lost twenty-three pounds. He came to me on August 24, 1897. I found at that time a distinct resistance in the gastric region; the tumor was somewhat uneven, of about the size of a dollar, and was situated near the lesser curvature. The liver was not enlarged. August 31, 1897, the patient again called on me. His condition was the same. An examination of the stomach contents showed the presence of free hydrochloric acid and no ischochymia. In spite of the favorable result of the chemical analysis, I thought that I had to deal most probably with a case of carcinoma of the stomach. As there was a history of syphilis, however, and thinking of the possibility of a syphilitic tumor of the stomach, I gave the patient iodide of sodium (8.0: 200.0, a tablespoonful three times a day).

I then had no further opportunity to see the patient until April 19, 1900. On this day he called at my office again, saying that the medicine at the time had helped him, that he had taken it for three months and had become perfectly cured. He also had gained his former weight. Within the last two months, however, he had again begun to suffer from pains in the right side and a sensation of pressure and tension in the abdomen. His appetite was not very good, and his bowels were irregular. He had again lost seventeen pounds in weight. At the examination I found an immense tumor of the liver, which extended to one finger below the umbilicus and reached from the left to the right mammillary lines. The swelling was of a rather firm consistency, and presented in the surface numerous knobs varying in size from that of a walnut to that of an apple. The tumor could be traced directly into the liver (Fig. 1). The upper border of the liver dulness was at the normal place. The organ was but slightly sensitive to pressure.

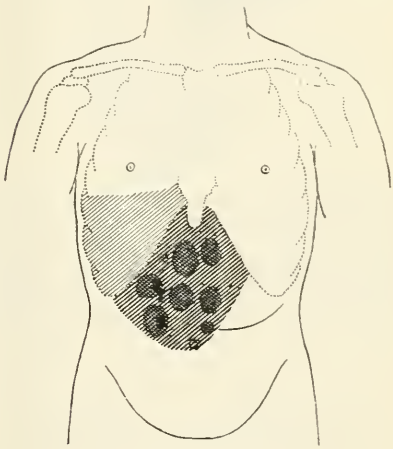

Fig. 1.—Harris S.

The stomach at this time did not present anything abnormal. The spleen was not markedly enlarged.

Knowing the previous history of the patient, I this time made a diagnosis of a large syphilitic tumor of the liver and instituted a systematic antiluetic treatment (inunctions of mercury and internal administration of potassium iodide). I presented the patient at that time in my clinic at the New York Post-Graduate Medical School, and we could note, from week to week, the diminution in the size of the tumor. After six weeks there was nothing left of the mass which had originally filled the upper half of the abdomen, the liver having returned to its normal size. The patient felt well, gained in weight, and has not been ill since.

Case II.—May, 1898. Samuel G., forty years old, had a chancre ten years ago. He had always been healthy until about six months ago, when he began to suffer periodically from violent attacks of pain in the region of the stomach. These usually occurred suddenly. The pain was very intense and was specially felt in the epigastrium, and, as a rule, one or two morphine injections had to be given before relief was afforded. While at first these attacks occurred once a month, they now come nearly every week. During the interval the patient feels quite well; his appetite, however, is diminished, and his bowels are

constipated. In the last six months he has lost over thirty pounds.

He first consulted me in the middle of May, 1898. I found the following conditions at that time: On the forehead is an exostosis of the size of a dollar and a half centimeter in thickness. In the abdomen, directly under the ensiform process, lies a somewhat nodular tumor of the size of a big apple, extending to

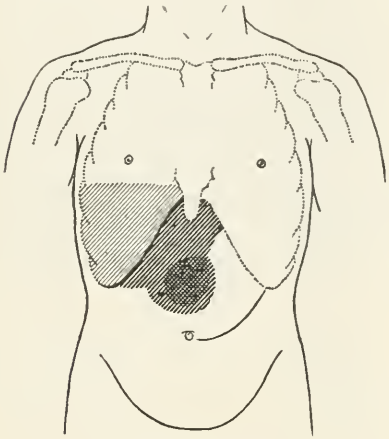

Fig. 2.—Samuel G.

within two fingers' breadth of the umbilicus. It moves up and down with the liver and seems to originate from its left lobe. The right lobe of the liver does not seem especially enlarged (Fig. 2). In the stomach nothing abnormal is to be found. The diagnosis fluctuated between gallstones, carcinoma, and gumma of the liver. I soon decided in favor of the latter, the more readily on account of the presence of

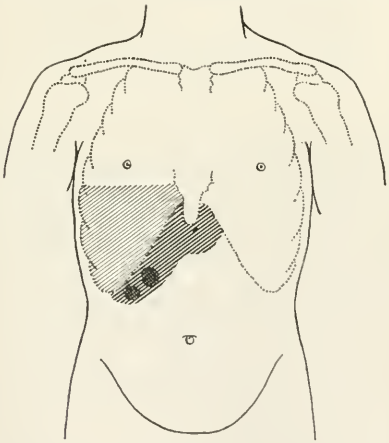

Fig. 3.—Joseph D.

the exostosis on the frontal bone. My colleague, Dr. D. Froelich, the family physician of the patient, agreed with my diagnosis. Antisyphilitic treatment (mercury inunctions and potassium iodide) was begun and in the course of a month we had the pleasure of seeing the tumor of the liver disappear and the bony swelling on the forehead diminish in size. The patient felt very much better and remained free from attacks for about six months.

He afterward again became ill, and was treated by other physicians, so that neither Dr. Froelich nor I had the opportunity to watch the further course of the disease. He died in the spring of 1899.

Case III.—June, 1897. Joseph D., forty years old, acquired syphilis eight years ago, and was treated for it. In the last three years he frequently complained of various stomach troubles (eructation, capricious appetite, feeling of fulness after meals) and of rather intense pains, occurring occasionally on the right side (region of the liver). He has lately also suffered repeatedly from severe diarrhœa. With this history and the statement that he had used alcohol freely, the patient consulted me in June, 1897.

On physical examination the liver was found considerably enlarged, reaching in the right mammillary line two fingers' width below the margin of the ribs. It was of firm consistency and showed on its anterior surface, directly over its free edge, two round tumors of about the size of a walnut, which were immovable and closely connected with the liver (Fig. 3). The patient looked well nourished, and had not lost much in weight. Otherwise nothing abnormal could be discovered. Enlargement of the spleen was not

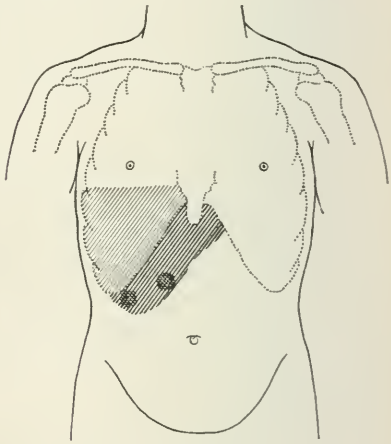

Fig. 4.—Abraham F.

marked, and the urine was free from albumin and sugar.

In the diagnosis of this case the conditions to be considered were: cirrhosis of the liver, malignant neoplasm, syphilitic diffuse enlargement of the liver with gummata. The presence of the nodules argued against pure cirrhosis; the considerable enlargement, the absence of marked cachexia, and the history were opposed to the theory of carcinoma. Therefore syphilis of the liver was diagnosed. Treatment with iodide of potassium quickly improved the subjective symptoms, the two tumors disappeared, while the organ itself remained considerably enlarged. The patient is at present (four years later) perfectly well.

Case IV.—July, 1899. Abraham F., twenty-six years old, has complained for three months of tension in the upper part of the abdomen and frequently recurring pains in the region of the liver. His appetite lately has been capricious, his bowels are inclined to be constipated, and his sleep is restless. He feels weak, and has also lost in weight (about ten to fifteen pounds). He never had a chancre, but had gonorrhœa about five years ago. He does not drink or smoke.

Physical examination revealed a tumor of the liver. This organ was considerably enlarged downwards,

extending in the right mammillary line three fingers' breadth below the margins of the ribs. It felt hard and uneven and presented two rather firm nodes, about the size of a hen's egg, situated over the margin of the right lobe (Fig. 4). The other organs were normal; the spleen was not enlarged, the urine was free from albumin and sugar.

The result of the physical examination of the liver seemed to point to a malignant neoplasm. The youth of the patient, however, and his comparatively slight symptoms were against cancer. Although, according to his statement, he had never had syphilis, yet I could not altogether exclude the possibility of a luetic affection of the liver. He received two grams of iodide of potassium daily, and was told to continue its use for a long time. In the beginning of September, 1899, I had occasion to re-examine this patient. A tumor could no longer be discovered and the liver itself reached only slightly below the right margin of the ribs. He told me that he had gained twenty pounds since beginning the treatment, and that he had now no trouble whatsoever.

To the second group, *syphilitic cirrhosis of the liver*, belong the following cases:

Case V.—October, 1900. Henry H., forty-six years, has always indulged in the use of alcohol very moderately. He had a chancre ten years ago. During the last three months the patient has suffered almost constantly from pains in the region of the stomach, loss of appetite, and constipation, together with a certain stiffness in the joints. He lost during this time about twelve pounds. On examination the liver (especially the left lobe) in its whole extent was found enlarged and harder than normal; distinct nodules could not be felt. Otherwise nothing abnormal was found. A slight enlargement of the spleen was present; the urine was free from albumin and sugar. Since an abuse of alcohol was not present, the cirrhotic enlargement could with all probability be attributed to syphilis, the more so since the man gave a history of that disease. The patient was treated with iodide of potassium, and rapidly improved.

Two patients whom I observed in the German Dispensary also belong in this class. They were both men of about thirty-three to forty years, with an enormously enlarged liver without nodules. Both gave a clear history of syphilis, besides having gummata of the bones (the one of the manubrium sterni and body of the sternum, the other of the thoracic vertebræ). Under antisyphilitic treatment these osseous gummata disappeared in both, the volume of the liver became smaller, and the pains ceased.

To the third group, *syphilitic affections of the liver with* (a) *acute* and (b) *chronic icterus*, belong the following cases:

Case VI.—March, 1896. Martin S., thirty-six years old, had been always healthy with the exception of a chancre which he acquired six years ago, and which was at that time thoroughly treated. In March, 1896, the patient consulted me for the first time. He said that for a few weeks he had had a poor appetite, that he felt bloated after his meals, that he had a bad taste in his mouth, and was inclined to be constipated. His sleep was somewhat restless, and he had lost strength. A week later he had a severe attack of pain, which was felt in the epigastrium and the whole region of the liver, and was accompanied by a rise of temperature to 103° F.

On examination the liver was found swollen and tender on pressure. The skin was of a light icteric color. The urine contained bile pigment, but the fæces were acholic. Opiates relieved this pain. During the next three days the rise of temperature continued, and his body became jaundiced. Under the use of Carlsbad water the icterus began to disappear, and after two weeks his skin was very nearly free from jaundice. A thorough examination of the fæces for gallstones was negative in its results.

The patient felt very much better after this treatment, and was again able to attend to business. He suffered, however, every day for a short while from pains in the right hypochondrium. At a second examination the liver was found considerably enlarged, projecting about three fingers' width beyond the right border of the ribs; the organ felt somewhat hard and presented a nodular tumor of about the size of a pigeon's egg a little to the right of the linea alba (Fig. 5). The spleen also was much enlarged, and could plainly be palpated under the left margin of the ribs, being also somewhat harder than normal. There

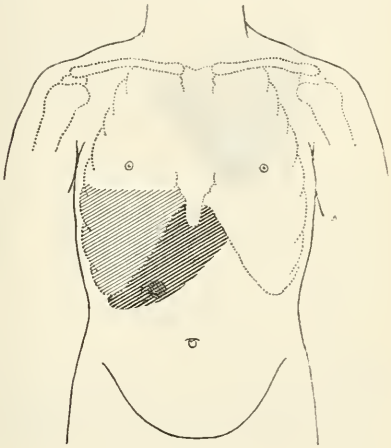

Fig. 5.—Martin S.

was no ascites. Considering his history, the rapid development of nodules in the liver, and the swelling of the spleen, the diagnosis of syphilis of the liver seemed justified. Antisyphilitic treatment (inunctions with mercury, and iodide of potassium internally) soon brought relief. The pains stopped, his strength returned, and the nodules in the liver disappeared; the volume of the liver also diminished considerably. The patient has remained perfectly well since.

Case VII.—November 15, 1899. Jacob A., thirty-nine years old, had syphilis in his youth. For three months he has complained of attacks of pain in the right half of the abdomen, accompanied by obstinate constipation. Five days ago he took ill with severe pains on his right side. He had absolute loss of appetite and slight chills. His family physician made a diagnosis of appendicitis. I was consulted that day, and found on examination slight jaundice and a marked swelling of the liver (the lower border of which reached two fingers' width below the right margin of the ribs), and great tenderness of this organ. The abdomen was somewhat tympanitic, but real signs of appendicitis were not present. The pulse was 100, temperature 102° F. I made a diagnosis at that time of an hepatic disturbance accompanied by icterus, caused perhaps by gallstones. The patient received sodium bicarbonate with glycerin, was placed on a strictly fluid diet, and treated with oil enemata. His condition soon improved, the fever abated, the pains disappeared, the appetite returned, and his skin resumed its normal color. Although the fæces were always examined for gallstones none was found.

The patient again consulted me in January, 1900, saying that since his last attack he had been quite well, but that he suffered much from constipation. Physical examination of the abdomen showed an enlargement of the liver; hard or uneven places, however, could not be discovered in this organ. He received podophyllin 0.01 gram twice a day. In May, 1900, he again consulted me, principally on account of frequently recurring pains in the right

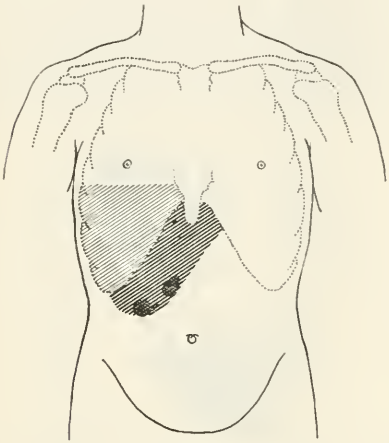

Fig. 6.—Jacob A.

hypochondriac region; he had also lost fifteen pounds lately.

Examination of the liver now revealed that in the right mammillary line it reached three fingers' width below the margin of the ribs. The upper boundary of the organ was at its normal level. At the lower border of the liver there were two firm nodes of the size of a hazelnut (Fig. 6). The consistency of the liver as a whole was somewhat firmer than normal. In consideration of his previous history, a diagnosis of syphilis of the liver was made, and the jaundice above described was attributed to this cause. Under the use of iodide of potassium for about three months the patient recovered perfectly; the nodules in the liver and the pains disappeared, but a slight enlargement of the organ remained.

Case VIII.—August, 1900. Mrs. Minna M., thirty-seven years old, suffered when a child from "stomach cramps," but later had been always well. Eleven years ago she married. She had two children, and an abortion at four months six years ago. Her last child was born March, 1900. Four weeks before confinement she had severe pains on the right side followed by an intense jaundice. She has complained ever since of pains in the region of the liver, and remained jaundiced. Her weight decreased from 135 to 108 pounds, and she felt weak and miserable. In August, 1900, she came to me with the above complaints. She did not present any symptoms pointing distinctly to syphilis. She maintained that she never had had an eruption, that her two living children were perfectly well, and that her husband had never had any disease. The only sign pointing to the possibility of a luetic affection was the abortion and the statement that her hair was falling out.

The thoracic organs were normal. Palpation of the abdomen revealed an enormously enlarged liver, reaching down to the navel. The organ was considerably harder than normal, and showed on its surface several nodes each the size of a walnut. In the right lobe a furrow could be felt at the lower edge in the mammillary line (Fig. 7). Percussion showed that the liver dulness began in the fifth intercostal space. It was therefore a real enlargement and not a ptosis of the organ. The liver was rather tender on pressure. The stomach extended to the navel and was not particularly sensitive to pressure. The skin of the whole body was very much jaundiced. The color of the lips and cheeks was pale. The fæces were clay-colored, and the urine contained bile pigments in large amounts.

When I saw the patient for the first time, I could not positively decide whether there was a malignant neoplasm or a syphilitic affection of the liver. Therapeutically the administration of potassium iodide was justified. The patient received two grams of the drug daily and soon began to feel better. The pains disappeared, and the icterus after a while began to diminish. In the middle of January, 1901, the patient had hardly any icterus. She had a good appetite, felt stronger, and had even gained in weight. Now, I made a positive diagnosis of hepatic syphilis. On March 17, 1901, she had gained ten pounds in weight, felt well in every way, and was able to attend to her regular duties. The skin showed traces of a jaundiced appearance, but the urine was free from bile. The examination of the liver showed a slight diminution in size, as well as a somewhat softer consistency; the nodules had also become smaller. The result of a blood examination was as follows: hæmoglobin, eighty-seven per cent.; red blood cells, 5,120,000; white blood cells, 6,500.

A differential count of 500 leucocytes showed:

Polymorphonuclear	33.4	per cent.
Small lymphocytes	45	" "
Large lymphocytes	8.2	" "
Eosinophiles	9.8	" "
Transitional	2.8	" "
Mastcells	0.8	" "

The considerable increase of eosinophiles (nearly ten per cent.) and lymphocytes (over 50 per cent.)

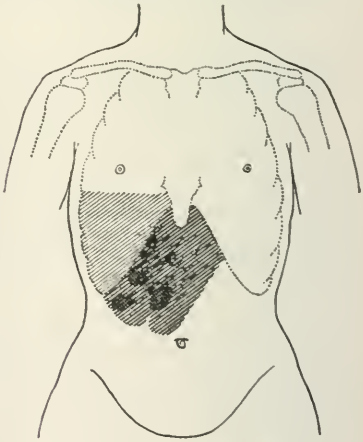

Fig. 7.—Mrs. Minna M.

would, according to the investigations of several authors (Neusser, Cabot), also speak for syphilis.

Case IX.—October, 1896. Mrs. Martha N., sixty years old, had been suffering about a year from frequently recurring pains in the right hypochondrium and from jaundice. Her appetite was poor. She had belching, but no vomiting, and her bowels were inclined to be constipated. She never indulged in alcohol. She had had several children and two abortions, but nothing otherwise pointed to syphilis

During the last year she had lost forty-five pounds in weight and felt exceedingly weak and miserable. She was hardly able to walk a few paces.

On examination the following condition was found: The patient is much emaciated, skin yellowish-green, color of cheeks and mucous membranes pale, tongue heavily coated. The thoracic organs show nothing abnormal. The liver dulness begins in the mammillary line in the fifth intercostal space and reaches down

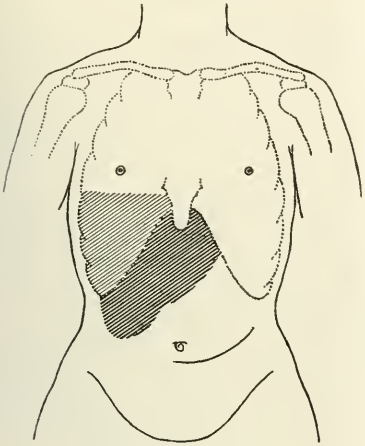

Fig. 8.—Mrs. Martha N.

to a level with the navel; in the middle line, however, the dulness terminates three fingers' width above the navel (Fig. 8). Palpation gives the same boundaries for the organ. The latter feels somewhat harder than normal, but presents no nodules. The stomach reaches two fingers' width below the navel. The urine contains much bile pigment, but neither albumin nor sugar. The fæces are acholic.

The patient was treated for a time with Carlsbad salts and later with glycerin, but without much success. I then concluded to try iodide of potassium. After the use of this drug her condition improved from week to week. The icteric tint of the skin became much less marked, the bile pigment disappeared from the urine, the patient steadily gained in weight and felt stronger. The swelling of the liver also became less, although it never disappeared altogether. This improvement could be followed by me for a whole year, when I lost sight of the patient.

Case X.—March 1, 1901. Benjamin Z., forty-one years old, had syphilis when a young man of seventeen years. He has been well since, up to within one and one-half years, when he experienced severe pains in the region of the liver and became jaundiced. The jaundice has persisted, although it is less at times. His pains have never left him. He lost fifty pounds in weight. He does not drink, and smokes but little.

Status præsens: skin jaundiced, of a brownish tint, lips and cheeks pale, tongue not coated. The thoracic organs appear normal. On palpation of the abdomen a considerable enlargement of the liver can be made out. This organ feels somewhat harder than normal, but presents no distinct nodules (Fig. 9). There is some tenderness on pressure. Examination of stomach and bowel gives negative results. The urine contains much bile pigment, but neither albumin nor sugar; the stools are acholic.

Syphilis of the liver was suspected, and the patient treated accordingly, receiving three grams of iodide of potassium daily. Two weeks later he reported that during the last week he felt no more pains in the liver. His skin was much less jaundiced, the urine no longer contained bile, and the fæces had assumed a normal dark-brown appearance.

In connection with the cases described above, it may be of advantage to discuss the principal points of symptomatology, diagnosis, prognosis, and treatment of syphilis of the liver.

Symptomatology.—In the majority of cases of syphilis of the liver, pains in the right hypochondrium are present, sometimes constantly, sometimes in the form of attacks; in the latter case they usually are of a very severe character, occasionally much resembling gallstone colic.

Various disturbances of digestion, as lack of appetite, frequent eructations, bad taste in the mouth, constipation, much more rarely diarrhœa, are found in nearly every case of this affection. We often meet with a feeling of tension in the upper half of the abdomen. General malaise, restless sleep, moroseness, weakness, etc., are also frequently present. If the affection of the liver has been in existence for some time, the patients usually lose in weight, but never to such an extent as in malignant neoplasms of this organ.

Icterus may be acute, persisting for a short time and then disappearing, or it may become chronic. In the first case we have either a variety of catarrhal icterus accompanying the syphilitic process in the liver or a gumma temporarily compressing the hepatic duct. In chronic icterus there is either a narrowing of the hepatic duct by gummatous tumors or scar tissue, or the connective tissue proliferation involves more especially the biliary ducts of the liver. The color of the skin in most patients, except those suffering from icterus, is not changed. It is only in the later stages of the disease that an ashen or light-brown discoloration of the skin is observed.

No matter to which of the above-mentioned groups the morbid process in the liver belongs, the organ is

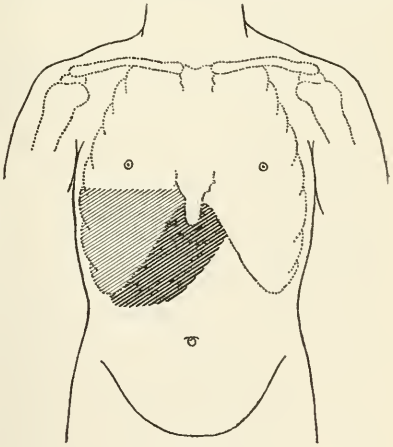

Fig 9.—Benjamin Z

usually found more or less swollen, extending in the right mammillary line beyond the free border of the ribs. If gummata are present they may frequently be recognized as somewhat uneven, round, hard nodules on the surface of the liver. If there is a cirrhotic process due to syphilis, a marked swelling of the organ is encountered. In the more advanced stages of syphilis of the liver, amyloid degeneration appears. The organ, then, presents a harder and smoother appearance than normally.

Enlargement of the spleen was not of constant

occurrence in my cases. Ascites may develop in a late stage of the disease. In none of the cases described above had this stage been reached.

Diagnosis.—The diagnosis of hepatic syphilis can be most positively made in cases in which there exist gummata of the liver, together with other signs of a present or recent attack of syphilis (Cases I, II). The diagnosis is more difficult when we find tumors of the liver in persons without other signs of existing syphilitic processes, and either with or without a history of previous syphilitic infection (Cases III, IV, VI, VII, VIII). In these cases the question whether we have to deal with syphilis of the liver can be decided only after observing the effect of antiluetic treatment. If the tumor diminishes or disappears and the symptoms at the same time improve we have to deal with gummatous tumors.

The diagnosis is less certain in cases in which there is simply an enlarged, somewhat indurated liver, with or without icterus, but without gummata (Cases V, IX, X). In these cases the diagnosis, even under the most favorable circumstances—*i. e.*, history of previous syphilitic infection, presence of bony tumors, success of antiluetic treatment—can be made during life with some degree of probability, but never with absolute certainty. For syphilitic cirrhosis of the liver resembles so much the ordinary hypertrophic cirrhosis that clinically they can hardly be distinguished. The latter form also is often much benefited by the use of iodide of potassium, although to a less degree than the syphilitic variety.

Differential Diagnosis.—Gummata of the liver are easily confounded with malignant neoplasms. Regarding the degree of resistance found in these two diseases I believe that it is hardly of sufficiently different character to aid us in the diagnosis. We must therefore look for other points. If the disease has lasted for some time (one and one-half to two years or more); if there exist syphilitic manifestations, and if there has been no considerable loss of weight, the resistance encountered in the liver may be looked upon as in all probability syphilitic.

On the other hand, a slow, steadily progressing affection of the liver, without periods of comparative well being, with considerable loss of strength and weight, together with the presence of a neoplasm in the digestive tract (œsophagus, stomach, bowel) would speak for the malignant nature of the neoplasm.

An increase of eosinophile cells in the blood according to Neusser points to syphilis. A disappearance of the tumor after a tentative antiluetic treatment argues most positively in favor of gumma.

Diffuse syphilitic enlargement of the liver may easily be confounded with hypertrophic cirrhosis induced by the abuse of alcohol. In the first case there is usually a history of syphilis. At the same time other syphilitic manifestations are frequently present in the body. Icterus is often met with, and a considerable enlargement of the spleen may already be present at an early period. Antiluetic treatment has a prompt effect.

If, however, we have to do with a simple hypertrophic cirrhosis of the liver caused by alcohol, there is ordinarily a history of the abuse of alcohol and perhaps also of tobacco. Frequently an alcoholic gastritis is present. Moreover, the enlargement of the spleen occurs much later and icterus seems to be rarer. Iodide of potassium, it is true, sometimes exerts a favorable influence in this affection also, but not to such a degree as in syphilis.

Prognosis.—According to most references in literature it seems at first sight as though the prognosis of hepatic syphilis was rather grave. Thus Peiser, whom I have mentioned before, gives twenty-nine deaths among thirty-four cases. Most of the cases of syphilis of the liver, however, that have been published were in the final stages of the disease (ascites, etc.), and were no longer amenable to any treatment. If, however, the diagnosis is made at a stage of the disease when the patient has not lost too much strength and when grave symptoms (ascites, albuminuria, etc.) have not yet occurred, the prognosis according to my experience is very favorable. Of the ten cases above detailed only one patient died, and even this one had been considerably benefited for five or six months, whereas all the others were either perfectly cured or much improved.

Treatment.—The principle of treatment of luetic affections of the liver consists in the measures directed against syphilis. Iodide of potassium or iodide of sodium and similar preparations of iodine play an important rôle. At first two to three grams of the potassium salt are given daily, the amount being gradually increased to five or six grams. Larger doses I have seldom used.

Although in some cases potassium iodide alone may produce the desired result, yet I have seen the best results from the combined use of this drug with inunctions of mercury (ung. hydrarg. 2.0 daily). The antiluetic treatment should be continued for a long time (two to three months and longer).

Beside the specific treatment attention must be paid to the following points: when icterus is present, glycerin (one teaspoonful t. i. d. half an hour before meals) has usually been of great service to me. In the presence of an anæmic condition, iron or arsenic with iron is indicated. Marked ascites may have to be relieved by puncture. In the same manner any other complications present must be treated *lege artis*.

Proper dietetic and hygienic management is also essential. The patient should sleep in a large, well-ventilated room, and be much in the open air during the day. The diet should be bland, but should contain a sufficient amount of nutritive substances. All alcoholic beverages must be forbidden, also the use of strong tea or coffee. Milk and milk soups (gruels), eggs, bread, vegetables, and stewed fruits should be freely given, whereas meats should be taken only in small quantities and not too often.

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PREGNANCY FOLLOWING MYOMECTOMY.*

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By way of preface, I should like to state that I am an ardent advocate of true conservatism in gynecology, and I read this paper with the hope that the facts presented will aid in defining the proper course to pursue in dealing with a large proportion of the cases of uterine fibromyomata. There is, even in this advanced and brilliant era of surgery, great diversity of opinion as to the proper method of dealing with such cases. This diversity extends all the way from the ultra conservative, who would place his whole dependence upon the use of drugs, electricity, or a combination of the two, to the ultra radical, who would perform hysterectomy in nearly every case.

It is not my intention to present a treatise upon the technique of operations upon the uterus, but to revert briefly to their early history as bearing upon my subject, which has been one of especial interest to me. The method by which most of human advancement has been made is that of slow and steady steps, one mind adding to another its mite of progress until finally the present development of a science would scarcely be recognized by the originator of the productive idea. It is only comparatively rarely that some master mind sheds a flood of light upon a subject, thereby marking the beginning of an era.

The operation of uterine myomectomy is no exception to this rule. Its evolution has been gradual, notwithstanding the fact that to A. Martin, of Berlin, is usually assigned the credit for having been the first to perform it, and of inaugurating whatever of progress it may represent. Beginning with Lizar's case,[1] in 1825, the abdomen was opened fourteen times for supposed ovarian tumors; but as the operators found themselves confronted by uterine fibroids, the abdominal wound was immediately closed.

The first to attempt extirpation of a subserous pedunculated tumor was Granville[2] in 1829. His patient died. Vaginal enucleation was done with success by Ammussat and Velpeau in 1840. Lane, of England, successfully removed a pedunculated tumor from the uterus by laparotomy, on February 15, 1844. W. L. Atlee[3] successfully removed a pedunculated fibroid, weighing over two pounds, on August 28, 1844. Koeberle improved the technique of the operation for removal of pedunculated subserous tumors by employing the metallic loop and ligature tightener, which did away with hemorrhage.

In 1866 Caternault published twenty cases of gastrostomy for the extirpation of pedicled tumors. Spiegelberg,[4] in 1874, removed from the uterus a fibrocystic tumor of the posterior wall which he had mistaken for an ovarian tumor. The patient died.

In 1878 Sir Spencer Wells[5] advocated moving the tumor together with a wedge-shaped piece of the uterus. He enucleated an interstitial fibroid by the abdominal route, but the patient died of hemorrhage and shock four hours later.

This now brings us to an important point in the development of the operation, a contribution[6] so important and of such interest that I present the following abstract of it:

Burckhardt reports a case as follows: On May 11, 1880, an unmarried woman, aged thirty-five, came to Martin's clinic on account of profuse menstruation. During the past year the metrorrhagia had been accompanied by colicky pains. About January, 1880, she began to suffer from anorexia, vertigo, anasarca of the legs, and rapid loss of strength. Upon examination at the clinic, she was seen to be highly anæmic, and the presence of a uterine tumor was recognized. The diagnosis was made of fibromyoma of the uterus, and an operation was demanded because of the excessive hemorrhage. The choice lay between vaginal and abdominal ablation of the tumor. To decide this point it became necessary to locate exactly its site. The essential and interesting features of the case were as follows: The cervix was first dilated with Barnes' bags and the tumor palpated with the finger in the uterus. It was located in the posterior wall. Because the patient did not well tolerate this vaginal interference it was decided to remove it by the abdominal route. The uterus was drawn forth by means of hands and forceps, and a rubber tube was tied about it, passing beneath the uplifted tubes and ovaries. The fundus and anterior wall were laid open, and the tumor projecting forward from the posterior wall was attacked from the front by splitting the mucous membrane of the posterior wall of the uterus. A piece of mucous membrane as large as the hand was removed with the tumor. The bed of the fibroma was obliterated by four deep sutures, and the mucous membrane united. The original incision in the fundus and anterior wall was then closed with superficial and deep sutures. The ovaries were found to be enlarged and cystic, and were extirpated. The operation required one hour and a half, and was done under carbolic spray. The patient was placed in bed with an ice-bag on the abdomen, and collapsed after coming out of narcosis. She ultimately recovered, after having an extensive abscess of the abdominal wall.

To this successful case of Martin and its accurate description and publication by Burckhardt we are indebted for the popularization of an operation which has since become one of the well-recognized surgical procedures, and which has, I believe, a most brilliant future. Its essential details have not been improved, but to them has been added modern technique. It is not easy for a surgeon of to-day to realize the difficulties under which one labored at that time, but the following quotation from Emmet's Gynecology[7] will serve to illustrate this: "Under certain circumstances it may be good practice to open the abdominal cavity for the purpose of removing pedunculated fibrous growths from the uterus, particularly now that the introduction of the antiseptic method has so greatly reduced the risk of such surgical procedures." Again: "As soon as I had been able to satisfy myself of the existence of a sufficient length of pedicle I would not hesitate to perform the operation, if the pressure of the tumor caused great irritation." Again: "I have removed the whole or portions of the uterus in five instances and notwithstanding the greatest care to insure a favorable result all the patients died, sooner or later, from blood poisoning engendered about the stump." After quoting the statistics of hysterectomies for fibroid in the hands of seventeen of the world's greatest experts in the operation, which gave the following aggregate

*Read at a meeting of the Medical Society of the County of New York, May 27, 1901.

results: Number of operations, 359; number of recoveries, 227; number of deaths, 132; death-rate, forty-seven per cent., he goes on to state: "The general operator can in no wise approximate to these results."

The above quotations from the work of one of the greatest gynecologists of the time are of great interest as showing, in the first place, the crude state of myomectomy and hysterectomy at such a comparatively recent date as 1884, and, in the second place, the remarkable reduction of death-rate since that time.

Let us hear what a gynecologist had to say of prognosis in these cases in 1898:[8] "With increasing experience in performing myomectomies, after eliminating the possibility of any grave extra-pelvic complications, and assuring himself that there is no extensive pelvic inflammation, the skilful operator will be able to assure all young patients with myomatous uteri which do not rise above the umbilicus that he will, in all human probability, be able to extirpate the tumors and leave the uterus, ovaries, and oviducts." What a vast contrast is there between the gloomy outlook for a woman affected by a fibromyoma in 1884 and the roseate prospect of 1898, and yet this change of views has not been due to the discovery of any one man, but the accumulated knowledge and experience of the many. The latter views are upheld by the present experience of Dr. Emmet.

The loss of the ovaries and uterus when occurring to a young married woman who has never borne children is a tragedy in her life. The value of the ovaries on account of a secretion peculiar to them is now well recognized, and systematic and to a certain extent successful attempts have been made[9] even to transplant healthy ovarian tissue to women who have been deprived of them by operation. The preservation of the uterus and its adnexa not only maintains the integrity of the pelvic structures and normal functions, but also offers a fair prospect of childbearing, as the following cases demonstrate:

Martin[10] says that most operable myomata must be attacked by laparotomy. This refers not only to pedunculated forms, but to the enucleation of intraparietal forms. The first operation of laparotomy ever performed for this class of tumors was done by the author and reported by Burckhardt in 1880. (This statement I have shown to be erroneous. The credit belongs to Spencer Wells.)

The following is a report of Martin's case: The woman had already borne four children. She developed symptoms of hemorrhage and endometritis, due to the presence of a myoma, and underwent operation May 3, 1889. The enucleation was performed without difficulty, and convalescence was uneventful. In January, 1890, the menses ceased, and pregnancy became apparent, its evolution being accompanied by moderate complications. In April, the patient had a fall, and an abundant hemorrhage set in. A physician summoned in haste believed the chance for survival had gone by, and so attempted to remove the embryo, but was successful only after several days. Martin concluded from the woman's statements that the ovum could have been retained and regrets that the case could not have been under proper control, because of the peculiar interest attached to it.

In regard to other cases, Hegar gave Martin the details of one of his own, never published, in which the patient, after a myomectomy, bore a living but poorly nourished child. Martin concludes by recommending the conservative operation. Especially in young women we should only remove the corpus uteri *with* the myoma when it appears impossible to retain those parts which perform its function.

Krönlein reports the following case in a paper entitled "Remarks on the Advantages of Conservative Procedures in Myomectomy":[11]

The patient was twenty-six years old, engaged and about to be married. The abdomen was seen to enlarge with the coincidence of backache. The menses were normal. Examination showed a tumor so incorporated with the uterus that the mass resembled that of a uterus at the sixth month of pregnancy. A uterine sound would not pass. A diagnosis was made of rapidly growing myoma, subserous and starting from the fundus. It seemed unwise to subject this young woman, healthy, and about to wed, to an operation, especially if sterility must result therefrom. The patient and her friends requested that if possible the ability to conceive should be left intact. On July 1, 1888, Krönlein performed laparo-myomectomy. The tumor was seated upon the fundus by a broad base, passing without any apparent line of demarcation into the uterus itself. The uterus and tumor with appendages were tilted forward, and Olshausen's rubber tube was applied. Schroeder's method of forming a deep wedge-shaped or conical cavity was adopted, with resulting excision of the tumor. It was at first believed that the cavity of the uterus had been exposed to a minute extent, but this opening was found to be a lymph-space. The two sides of the wedge were duly smoothed and coaptated by three planes of sutures, with a special peritoneal suture. As some oozing followed the removal of the rubber tube, other sutures were deeply placed for hæmostasis. The uterus was left in its normal shape, but was a trifle larger than normal. The operation, which lasted one and three-quarters hours, was a complete success. The tumor weighed nearly eight pounds (3½ kilo.). The convalescence was uneventful, and the patient was discharged in perfect condition August 1, 1888. On November 15, 1888, she married. The menses were regular, just as before operation, and the last period occurred on March 14, 1889. Confinement was expected December 22, 1889, but was a little premature (December 9th). The accoucheur, hastily summoned, found labor well under way. On account of poor action of the expulsive forces, the labor was terminated with forceps. The puerperium was normal. The child was a healthy girl. A year and a half after the operation everything was as could be wished, although in February, 1890, patient had one sharp attack of metrorrhagia. There was a good laparotomy scar. Krönlein closes by a strong plea for conservative work, for leaving the ovaries, etc.

Ascher[12] reports two series of cases, one of enucleations, the other of hysterectomies. In the fourth case of the first series the patient is mentioned as having become pregnant after the operation. The history is subsequently given in full: The patient, aged twenty-two, had her first delivery in July, 1884, by forceps. There was a normal puerperium. She did not nurse the child. The first menses occurred seven weeks later, at the end of August, but the woman did not menstruate again until the middle of October. On November 20, there began persistent loss of blood, constant pain over sacrum, and pressure upon the rectum. The bleeding was more profuse at the regular time for menstruation, and was lumpy, but no decidual fragments were present. She had always been regular as a girl, the menses having been profuse and painful. The woman was examined under narcosis on January 20, 1885. The uterus was strongly anteflected; it was nine and one-half cm. long, the cavity was moderately wide, and the mucosa bled readily. Behind the uterus could be felt a very hard mass about the size of the fist, slightly movable upon

the uterus, which was continuous—save for an intervening fold—with a second mass which filled the entire right side of the lesser pelvis and iliac fossa. The tumors were constantly increasing in size, and were becoming more painful.

An operation was performed on January 26, 1885. A diagnosis had been made of subserous, retrouterine myoma plus some interligamentous formation, either hæmatoma or ovarian tumor. After laparotomy the myoma was found as per diagnosis. It had a broad base, and was readily enucleated, its bed being closed by suture. The larger mass was an old hæmatocele in the broad ligament, perhaps the remains of an extra-uterine pregnancy. The sac was emptied, closed by suture, and drained by the vagina. Convalescence was uneventful. Ascher simply states that this woman became pregnant in 1888, and had a normal labor. He makes no comment upon this fact, perhaps the first on record of its kind.

Werder reports a case of myomectomy with extraperitoneal treatment of the pedicle, followed by pregnancy and complicated by hemorrhages through the abdominal cicatrix.[13]

The patient, aged twenty-nine, had been married for a year, but was sterile; she had a large peritoneal fibroid of the uterus, with short, thick pedicle, which was treated extraperitoneally by elastic ligature. Eight or nine weeks later she became pregnant, while there was still a small sinus at the lower angle of the wound. The pregnancy was uneventful until the end of the fourth month, when hemorrhages took place through the fistula, which had meanwhile become larger from expansion of the abdomen. These hemorrhages recurred at regular intervals and caused considerable anæmia. Labor set in three weeks ahead of time, lasted twenty-four hours, and was terminated by forceps. The child was poorly developed. The placenta was adherent immediately beneath the fistula and required manual separation. As some of the uterine wall was gone at this point, the placenta actually adhered to the abdominal parietes, and was detached manually. The patient made a good recovery and left the hospital with fistula closed. The menses returned with hemorrhage through the fistula.

In an article entitled, "On the Question of Conservative Operations for Myoma and the Subsequent Functions of the Uterus," Muller[14] reports the following case: The patient was twenty-five years old, and had a large interstitial myoma of the anterior and left aspects of the uterus, which appeared soon after her first pregnancy. Hemorrhage, fever, and pain indicated beginning necrosis. The patient would not consent to be made sterile. Laparotomy was performed, the anterior uterine wall was split (under hæmostasis), and a tumor as large as three adult fists was enucleated, in part by the blunt method. The uterine cavity was opened to about the same extent as in Cæsarean section. As part of the anterior wall was suspiciously soft it was resected to the extent of half the size of the palm of the hand. The large uterine wound was then closed by catgut. The parietal peritoneum was also stitched about the uterine wound, and the cavity of the abdomen was drained with iodoform gauze. Convalescence was uneventful, and one year later the woman conceived; pregnancy advanced without any disturbances, and at the beginning of the tenth month a child was born, unfortunately dead, death having been due to foot presentation and suffocation by the umbilical cord.

Woyer reports a case of pregnancy and childbirth after abdominal myomectomy.[15]

The patient was thirty-four years of age. The menses began at fourteen, and were normal, lasting from three to six days. In 1882, she first noticed the presence of an abdominal tumor, which rapidly enlarged and was extirpated by the late Professor Bandl. The author had the opportunity of studying the record of the case made at the time. The tumor weighed over fifteen pounds and the length of operation was two and a half hours. The pedicle was cared for by the extraperitoneal method, and the elastic ligature was employed. The patient left hospital, having had weeks of after-treatment. The menses reappeared and were of the original type. A small, fistulous opening remained, and during the menses some drops of blood were discharged from it. In March, 1896, no menstruation having appeared for eight weeks, an abortion is said to have occurred. For the next six weeks blood escaped from the uterine fistula. In August, 1896, the periods, which had become regular and natural, again ceased. The abdomen began to enlarge, and fœtal movements were felt in January, 1897. Up to this time the patient had felt entirely well. On January 11th-12th, there was sudden and profuse hemorrhage from the fistula which caused her to seek hospital treatment.

The laparotomy scar was seen to extend to within two fingers' breadth of the navel, and at its upper end the fistula was seen. The uterus was evidently pregnant, the child being in the first transverse position. The fœtal heart sounds could be heard. Under simple rest in bed, the woman became perfectly free from symptoms and left the hospital January 27. She returned March 6, with slight hemorrhage from the fistula, which had also occurred on several prior occasions. She had become somewhat anæmic. The sound, passed into the fistula, brought forth a serous fluid tinged with blood. She was again placed in bed, and a compress was applied, and once more the symptoms subsided. There was one sharp attack of hemorrhage following a coughing spell. On April 6th there was a sudden escape through the fistula of a large amount of colorless fluid, in which were seen some necrotic shreds. Labor set in the night of April 7th to 8th. The fistula had now become patent to the finger, and when the latter was withdrawn the membranes could be seen to bulge at the orifice of the fistula. The pains were very strong and labor took place spontaneously, the child having assumed the natural position. The uterus contracted well after delivery, but the adhesions kept the fundus high up in the abdomen. The placenta came away naturally, and there was no postpartum hemorrhage. The child was still-born. Autopsy showed nothing but atelectasis and anæmia. The lochial secretion also came away through the fistula, and by May 23d the discharge had completely ceased, the woman being perfectly well.

Engström,[16] in an article on "Abdominal Enucleation of Myomata of the Corpus Uteri—Martin's Myomectomy," reports one hundred cases in detail. Under the head of pregnancy, he states that in isolated cases this may result; Martin had seen two such instances in one hundred and thirteen cases of operation—one ended in abortion, while the other went on to term.

Engström's four personal cases were as follows:

Case I. (No. 37).—Aged thirty-nine. The operation was performed April 25, 1893. A myoma, the size of a child's head, telangiectatic, and partly decomposed, was removed. It was enucleated from the posterior wall. The woman had been married seven years before the operation without having conceived, conception following upon the operation. The menses first ceased at the end of September, 1894. She contracted some kind of a fever and aborted February 20, 1895, being left with purulent metritis, etc. She again became pregnant and again aborted in the third month, at the end of May, 1896.

Case II. (No. 39).—The patient was married one

year before the operation, but never conceived. She became pregnant one year after the operation, which was severe. The uterus was adherent behind to the pelvis. Ten intramural myomata, from a hazelnut to a hen's egg in size, were enucleated, and one pedunculated growth the size of a duck's egg was ablated. The woman aborted in the fourth month after a long, rough ride.

Case III. (No. 50).—In this case a myoma the size of a hen's egg was enucleated from the anterior wall of the corpus uteri. The woman was then single. As soon as opportunity for conception occurred, pregnancy resulted. All went well and a living child was born without artificial aid.

Case IV. (No. 87).—The patient had been married twenty years before the operation and had aborted three times at the second or third month. The last abortion occurred six months before the operation. During the operation several loops of intestine had to be detached from the left ovary and fundus uteri. The left ovary was extirpated, and a myoma as large, as an English walnut was enucleated from the depths of the anterior wall. Eight months later the patient conceived, and at the time of the report was now three months pregnant.

As only twenty-two of these hundred women were both married and in the child-bearing period, the proportion of subsequent pregnancies was high—one case in somewhat less than six chances.

Amann stated, in a discussion on myomectomy before the German Gynecological Society, May, 1899,[17] that he once enucleated a myoma as large as a child's head from the posterior wall of the uterus, and the woman afterwards passed through a normal gestation and delivery.

Johnston[18] says that he has performed thirty-two myomectomies. In one case he removed seven tumors from one patient on account of sterility. She soon became pregnant, aborted at third month, again became pregnant, and went on to term.

On January 28, 1899, I saw Mrs. G. (referred to me by Dr. E. A. Davis, of New York), aged thirty-three years; she had been married two years, but had never been pregnant. Her first menstrual period occurred when she was fourteen years old, and she had since been regular every twenty-eight days; the duration of the flow was from four to five days. Menstruation was at first painful, and continued so until recent years, when it became free from pain, with the exception of the two occasions, the last of which caused her to seek the aid of a specialist. These periods were accompanied by severe and lancinating pains which led her to believe she had some uterine disease. The bowels were constipated, the appetite was fair, and sleep was not disturbed.

Bimanual examination showed the uterus to be converted into a mass of fibromyomata reaching nearly to the umbilicus. Myomectomy was advised.

On March 16, 1899, under ether narcosis a median abdominal incision five inches long was made. The uterus was drawn out of the incision on to the abdomen, and an elastic ligature was passed about its lower segment as low down in the pelvis as possible. After this had been secured the enucleation of the fibroids was begun. Sixteen tumors were removed through nine incisions. They varied in size from that of a hen's egg to that of a pea.

Each incision was carefully closed with No. 2 chromicized catgut (a suture absorbed in twenty-three days). Some of the deeper openings were closed from the bottom with layers of the same material placed in continuous suture, the remaining sutures, which passed through the muscular layer, being interrupted and at distances of about a quarter of an inch apart. Toward the end of the operation several very small tumors were discovered deep down in the tissues of the uterus by taking the now almost normally shaped organ between the thumb and fingers and feeling for them. They gave much the same sensation as that of a bullet buried in soft tissue which could be grasped between the fingers and thumb. These were cut down upon and dragged from their beds by means of a tenaculum, and deep catgut sutures were used to obliterate the cavities and close the wounds made in removing them. After all the tumors had been removed and the uterine wounds had been closed the elastic ligature was removed. There had been no loss of blood up to this point, but now there was considerable oozing. I applied compresses wrung out of very hot water repeatedly, but some points continued to bleed so freely that I deemed it wise to place some additional superficial sutures. In about ten minutes all bleeding had ceased, and the abdominal wound was closed with through and through silk-worm gut sutures. There had been no perceptible shock, and the patient was put to bed in good condition. No stimulation was necessary, and she made a perfectly uneventful recovery.

In August, 1900, Mrs. G. consulted me on account of symptoms of pregnancy. Examination revealed the fact that she was pregnant, the uterus being uniformly enlarged and showing no evidence of myomatous growth. On January 8, 1901, I was called to attend her in confinement. She was in labor for twelve hours and had rather an easy delivery, with vertex presentation and no complication save that of a slight laceration of the perineum, which was repaired at once with silver wire sutures. The baby was a boy and weighed seven and three-quarters pounds.

At this date both mother and child are in excellent health; and the uterus has undergone normal involution, and there is no sign of any tumor.

In Martin's case, there was no thought given to future pregnancies. His chief reason for doing myomectomy rather than hysterectomy seems to have been that he considered the former operation less dangerous than the latter. He removed the ovaries because they appeared to be enlarged. It is unfortunate that he did so, as otherwise his patient might have been absolutely cured, physiologically as well as symptomatically. It has been my observation that nearly all ovaries are enlarged in cases in which the myomata have reached any considerable size, the process being only a part of the general hyperplasia due to the increased blood supply of the uterus and its adnexa. It may, therefore, be reasonably expected to disappear with the resumption of normal conditions brought about by the removal of the tumor. This simple enlargement of the ovaries does not constitute sufficient ground for their removal, and they should in every case be left. Let us then not remove ovaries in partial or even complete hysterectomies for fibromyoma, unless there exists some powerful reason for doing so.

Unfortunately for the obstetrical side of these cases, no careful records were kept, but the following points are of interest. There are fourteen cases reported with eighteen pregnancies, three patients having been twice pregnant. Of the three patients who were twice pregnant there were two healthy children born. There were in all nine healthy children born at the normal term. Two children went to the normal period of gestation and were born dead. There were six abortions, most of them occurring at from three to four months. One pregnancy was still going on when reported at the third month. It is exceedingly interesting to note that although all these uteri had extensive scars from having had tumors enucleated

from them, in but two of the cases was it necessary to use forceps. All had normal presentations.

In the author's case, in which nine incisions had been made into the uterine tissue, the labor lasted twelve hours, and the expulsive force was ample, the only complication having been a lacerated perineum. In two cases gestation was complicated by a flow of blood or amniotic fluid from utero-abdominal fistulæ, which remained at the side of operation, but healthy children were born notwithstanding this complication. There were no abnormal positions and no puerperal complications.

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71 WEST FORTY-NINTH STREET.

THE SUMMIT FISSURE.

OVERSPHERE AND UNDERSPHERE.

By WALLACE WOOD, M.D.,
NEW YORK.

ACROSS the face of every cerebral hemisphere runs a zone of light and a zone of sound. Between the two there is a great gulf fixed, the lateral fissure. In the bovine brain this is clear. Now the eye gyrus and ear gyrus are at the summit of the sphere, hence this cut between them is the summit fissure.

There is an anterior sound and a posterior sound, and an anterior light and a posterior light, so the fissure is both anterior and posterior. In the human brain, between the sound and the light of the anterior, this fissure is called the second frontal, and between the sound and the light of the posterior, it appears as the end of the first temporal. In the ox this fissure is immense.

Brains fall into two grand divisions, the militant and the civil; and to the civil or industrial division belong *Bos taurus* and *homo*. Among all the cerebral hemispheres we may learn most from that of the ox. Lead forward the horned ruminant, therefore; let his simplicity explain our complexity.

A vertical line divides a body into fore and after; a horizontal line divides it into over and under or superior and inferior. The vertical line in the ox brain is the fissure of Sylvius; the horizontal line is the great lateral fissure, a wide and deep chasm, separating the temporal from the occipital lobe, that is, separating the mental eye from the mental ear, or the auditory area from the visual area.

In human brains this fissure is the first temporal, and, tracing backward, it is seen to separate the auditory and visual areas, projecting also into the auditory area. Between seeing and hearing in the bovine cerebrum there is a great gulf fixed. In order to become aware of this one must find it and fall into it. This the student will assuredly do if he dissect a bovine cerebrum. The hemisphere in hand seems veritably to be of two pieces, an upper and a lower. So deep and ghastly is this gaping cut, you can lay the pencil or the finger into it easily. Next to the fossa of Sylvius, it is the most prominent feature.

What is this great furrow; what is its significance? What is above it? The eye gyrus. What is below it? The ear gyrus. In all the gyrencephala it separates the temporal from the occipital lobe, the mental eye or house of vision from the mental ear, the house of audition. The eye gyrus and the ear gyrus are the zones that stretch along the summit of the sphere; therefore, this extraordinary gulf between the two cuts the summit of the sphere.

Three gyri sweep around it on the one side and three upon the other. Much as the fissure of Sylvius divides the sphere vertically into an anterior and a

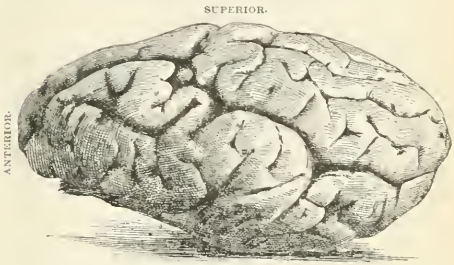

Fig. 1. Brain of *Bos taurus*, showing the great lateral fissure (summit fissure). Above this is the eye lobe; below it the ear lobe.

posterior, this horizontal fissure divides the sphere horizontally into a superior and an inferior. These two fissures then cut the sphere into four quarters; they are, or appear to be, in the bovine brain the *cardinal* fissures. Below this great cut are three gyri, the hippocampal, the Sylvian, and the ectosylvian. These three gyri culminate each in a head or lobule, the hippocampal lobule, the sphenoidal pole, and the temporal eminence. These are the centers of smell, taste, and hearing; these three lobules are to be regarded as the psychical heads of the olfactory nerve, the glossopharyngeal nerve, and the auditory nerve. Taste, smell, and hearing are inferior to the fissure; they belong to the under or lower half of the cerebrum. Above the fissure lie three other gyri, the fornicatus, the marginal, and the lateral. These three superior gyri are connected first with the eyes and next with the vast tract of the sensitive nerves and the motor nerves. By means of these three gyri the animal is a visile and a motile, and endowed with high sensibility, tactile and motile.

Thus, the superior half of the cerebrum appears to dominate the eyes, the head, the neck, the shoulder, hand, the vertebral column, the legs, and the tail; in other words, the dorsal half of the body, while the inferior portion connects with nose and ears, mouth and tongue. The brain by this fissure, then, is divided into a dorsum and a ventrum or an overcorps and an undercorps. To the superior half or hemisphere, the cerebral dorsum, the overcorps, belong the vertebral column, with its seven parts, the head, neck, trunk, and tail, the eyes, the arms, and the pelvic girdle; for these are connected with the fornicate, marginal, and lateral convolutions.

On the other hand, the inferior half of the cerebrum, that is, the inferior three convolutions—hippocampal, Sylvian, and ectosylvian gyri—are as certainly connected with the lips, the jaws, the tongue, the larynx, the pharynx, the viscera, and the genitalia, probably also the muscles and skin of the ventral aspect of the animal. Thus, in the three inferior gyri, the cerebral ventrum is the arborescence of olfactory, maxillary, glossopharyngeal, auditory, laryngeal, palatine, gustatory, pharyngeal, pneumogastric, intercostal, phrenic, cardiac, sympathetic, splanchnic, pudic, and pudendal nerves. It constitutes the intimate or intensive sphere of sensibility. Audition lies in this sphere.

An ox, a sheep, a deer, is a vertebrate by his spine and limbs, his vertebrate system, but an invertebrate by his ribs, ears, and jaws, which belong to his invertebrate or branchial system.* The branchial system is proximate (cardiac, pulmonary, phrenic, respiratory), while the vertebral system seems built around and upon it, hence is extended or distal.

What are the physiological functions that belong to the branchial or more intimate or under-inner half of the body? They are digestion, circulation, respiration, ingestion, egestion, reproduction, smell, taste, mastication, audition, and phonation.

The brain of the ox teaches us that audition and phonation are more intimate than vision and locomotion, belonging in fact to the intimate and inferior sphere. This is extraordinary. What connection or likeness can be found between audition and the intestinal tract? Let us see. A little thought will show us that every part of this lower, inner, or branchial system is grooved or tubular. The intestines are tubes, so are veins, arteries, so are the respiratory tracts and the excretory and secretory. Taste and smell lie in grooves. Audition and phonation grow out of the system. Of all this interior tubular tree, they are the spiritual flowers.

Intestines are material tubes, while vocal and auditory apparatus are spiritual tubes, that is, carrying only airs, waves, and tremors; nevertheless essentially tubular.

The superior or distal sphere of the body offers a contrast. The vertebral system is the base. The surrounding and superior sphere lies not in tubes, but in stems, plaques, and surfaces; a head, a neck, a tail, a leg, an arm, these are solid masses. Each one of these is a tactile-motor mechanism. The eye belongs with these; it is a flower of the cutaneous and muscular trunk, a flower of the tactile-motor sensibility, a flower of the vertebral stalk, of which arms and legs are branches. Ears and voice are flowers of the tubular tree; eyes and hands are flowers of the solid stalk, the vertebral tree.

Morphologically, according to Owen and Huxley, the body of a vertebrate consists of two tubes or hollows, the inferior intimate blood tube and the extra nervous tube—that is, a dorsal hollow and a ventral hollow. Morphologically, again, the body is built upon two axes, the intestinal or ventral axis and the dorsal or spinal axis; or, again, into a vertebrate and invertebrate or branchial half; or, again, it is made up of somatopleure and splanchnopleure; or, again, divided into vegetate and animate as regards function.

The above idea presented, as regards the body, in five different ways, forces itself strongly upon us as we find our ox brain falling so plainly into two halves, and when localization shows that of these two halves the over half is full of eyes, legs, and arms and heads and shoulders, *i. e.*, eye, leg, arm, hand, and shoulder centers, and the lower half full of ears, lips, tongues, nostrils, and jaws and vocal cords, that is, lip, tongue nostril, and maxillary centers, we seem to see a natural, longitudinal division in the brain-spheres similar to those found in the body-sphere.

Ears and viscera go together; eyes and limbs go together. Trace the oversphere. The significance of the eyes and vertebral column in fishes appears to be this—better locomotion—that is, better as compared to the invertebrata. With the reptilia, the added pair of girdles adapt this grander locomotion to land progression; and with birds the two girdles and the neck adapt the creature to progress on both air and land, and to a better prehension by the long neck. In the horse or deer these extensive powers, vision, locomotion, prehension, are well displayed, and the point of interest here is that the spirit of these powers resides in the superior half of the cerebrum, the half comprising the three arches above the horizontal fissure.

Eyes and limbs go together; ears and viscera go together. Trace the branchial or inferior and more intimate body sphere, the undersphere. In fishes it appears like a sack with a wide mouth; it is progressively differentiated and integrated as we pass to reptiles, birds, mammals. Intimate prehension, better mastication, better forms of heart and lungs, better ingestion, egestion, and reproduction are found as we ascend, but the curious part is that audition and phonation belong to this more intimate sphere of breath and blood. Those hollow organs, ears and larynx, are engrafted upon it just as are the grooves of nose and tongue; once more we seem to see them as the flowers of the tubular tree. They are close to the throat, heart, breath, and life-blood; they are filled with the language of the heart and the spirit.

Touch, movement, and sight are exterior and locomotor may be familiar, but not intimate; taste and smell are intimate. Smell, taste, hearing, and voice and the love passion and the biting of wrath or hate, these lie literally nearest the heart, the heart's blood and the milk of the breast, the blood of life and the breath of life and the sacred tree of life. Taste and smell are intimate senses, hearing and sight are distant senses, touching and handling are familiar senses.

If, however, we group three against three, ears, nose, and tongue go together as intensities or belonging to the under-inner sphere, while eyes, hands, and legs go together as extensions or belonging to the over-outer sphere. We may apply the measure to the body of a lion. The rampant legs, the striking paws, the flashing eye, and lashing tail, all are parts of the overcorps, and are members and mechanisms operated by the oversphere of the cerebrum, that is, the extension soul; while the nose and ears and the blood-red mouth and flame-like tongue, the reverberating roar of the expiring breath, and the ardent heart of generation are intense and most intimate parts and forces, and are of the undersphere. The mouth, the voice, the audition of a feline are more intimate powers; the eye and griffs are extension powers.

If the measure will apply to the lion, so also will it apply as well to the lamb. Seeing and going and grazing are extensions, while smelling and tasting and eating, hearing and bleating, are intense. The family relations are intense and intimate. Seeing and going and grazing are acts performed through connections of the overcorps and by the overanimus, while scenting, listening, bleating, eating, begetting, are acts performed through connections of the underbody and by the intimate animus.

Which sphere is greatest? Nothing can be more wonderful than touch, sight, and locomotion. These are the mechanical and etherial powers. Nothing can be more wonderful, except the anemos (the pneuma, the psyche) and the word, the spiritual powers, hearing and speaking and the power of reproducing.

Which sphere is greatest? In the closer, the heart and breath sphere are hearing and speaking, surely the

* See the osteology in Wiedersheim and Gegenbaur.

most spiritual and most intellectual powers and faculties. Here also are smell and taste, the fountains of sweetness and purity; here also eating and loving, which are the springs of love and hate. Touch, sight, and locomotion, are they greater than these? The eye, with the hands and feet, might hold a contention against the ear with the nose and the mouth, each side claiming superiority.

Once more we note, we must note, this curious fact that hearing and speaking belong to the more intimate vital sphere, belong with the acts and pathies of loving and biting, of smelling, tasting, sucking, licking, eating, hungering, struggling, and that, on the other hand, seeing and direction do not belong to this sphere, but to the wider and higher sphere of the legs and arms and vertebral column, the backbone of us.

Several deductions follow. By the superior arches of the brain, an animal is visile and motile, while by the inferior arches of the brain he is audile and olfactile. Primates are strongest in the one and bovines in the other. Primates (man) are visile-motile or souls of the eye and hand; lower mammalia are olfactile-audile, or, as it were, souls of the nose and ear.

From the metaphysical point of view, we may say that in the superior hemisphere reside force and form, while the inferior hemisphere is perhaps more the abode of plasm and spirit. These data may give us a rule to be applied to anthropological and ethical science. Whole races of men are olfactile-audile, souls rather of the nose and ear, more or less intimate and spiritual, more or less chemical and spiritual, more or less intense—as, for instance, the Hebrews.

Other races are visile-motile souls, more or less mechanical and etherial, souls of the eye and hand, such as the ancient Hellenes—extension souls. Hebraism is intense, Hellenism is extended. So, also, even as Hebrews are olfactile-audile souls and Hellenes are visile-motile souls, so the romantic spirit may be regarded as in a way olfactile-audile, that is, material-spiritual, while the classic spirit is motile-visile, that is, mechanical-etherial.

Two typical and terrible forces, the generative and the destructive, or love and wrath, lie in this inferior sphere. The two strongest of the gods, Love and War, rage through it in storms and calms. On the other hand, two other powers, Ambition and Pride, sit Hera-like and Jupiter-like enthroned above; they belong to the superior sphere.

The fine arts lend themselves to this division. Music, eloquence, rhapsody, rise in the under, inner, inferior, more intense, more intimate sphere. Architecture, sculpture, and painting and letters rise from the upper, the superior, the extension sphere. Cultus and culture will also fall into line. The art of dining, the arts of perfumery, and cleanliness (cleanliness is next to godliness), the most wonderful of all arts, marriage and parentage, belong to the under, the more intense, more intimate sphere. The place of the sacred hearth, the home and mother, are also here.

Other powers, wonder and fear, born of the eye sensibility and skin sensibility, these with supernal or reflected attachment give rise in the oversphere to the religious sentiment.

The art of living and thriving shows two spheres. Economy and sagacity, with their arts and ways, appear to belong to the undersphere, the under-inner sphere, while the mighty arts of Building and Engineering are extensions of the oversphere.

Three grand passions sleep and awaken in the inferior sphere. They are the love passion, the hunger passion, the anger passion. Three grand passions sleep and awaken in the superior sphere. They are the passion for rank, the passion for power, and the passion of pursuit.

NOTES ON MALARIAL FEVERS IN CENTRAL AMERICA.

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The question of the propagation of malarial fevers by mosquitos has been made the subject of much discussion, and it is evident that most observers have accepted the preconceived theory of the inoculation of the human organism with the plasmodium malariæ through the agency of these troublesome insects as a demonstrated fact. But there is another distributing agent, active in some parts of the world, which should not be overlooked. Here in the mountains of Honduras, four thousand feet above sea-level, we are above the mosquito belt and, as that term is generally employed, above the fever belt as well; and yet malarial fevers—both quotidian and tertian types—are of common occurrence. From what do they arise? The climate, generally speaking, is salubrious, with an equable, medium temperature the year round; there is an abundance of good water; and from the very location of the pueblo, well up the steep side of a lofty mountain, excellent natural drainage is afforded. It is true there are people passing to and from the coast (one hundred and twenty miles distant) and other low districts, but these are not the only ones who suffer from the fever; neither is it limited to persons predisposed to its manifestation by previous attacks. We cannot admit a quality of contagion, as that word is properly used; and, as already stated, both geographical and topographical features show that it is not indigenous to the locality.

How then is it propagated? Whatever other methods there may be, one, at least, is patent to the writer and that is by inoculation—not by mosquitos, for they are practically unknown here—but by fleas. The fleas here, as in other parts of the country, are constantly with us, and scarcely a day passes—except it be in the height of the rainy season—but what a person who is in contact with the natives, or who does not keep his own surroundings scrupulously free from dust and other debris, feels a demand to move anywhere from one to a dozen fleas from the surface of some part of his anatomy. They greatly molest the uninitiated Gringo; but, although they most certainly bite, they do not greatly annoy the native and the acclimated.

Circumstantial evidence is sufficiently abundant to convince the careful observer that the fleas transport the malaria. The writer's attention was first seriously directed to this subject by the prevalence of malarial fevers among the soldiers in the local cuartel. Out of the twenty or so native soldiers on duty here, there were usually from one to three down with fever. At times the occurrence of fever was easily accounted for in an individual, as in a new recruit who had recently arrived from a generally malarious district, but its almost constant occurrence there and apparent lack of selection were not easily explained. At length, the fleas, which never failed, at least of attempt, to make an impression upon the writer whenever he visited the cuartel, seriously engaged his attention. The more liberal use of the broom and of water, and also the thorough daily cleansing of the berths of the soldiers and the dusting of corners and crevices with powdered borax, were enjoined, and, although general cleanliness among persons thus quartered and who almost habitually sleep in their clothes (which, by the way, is entirely contrary to the custom of the ordinary native, who covers his or her naked body with a

blanket—previously shaken—and thus escapes much annoyance by fleas) was not to be expected, and although, *por fuerza*, a high degree of those conditions necessary for the abolition of the fleas was practically impossible, nevertheless, after accomplishing what was possible in this direction, the amount of fever among the soldiers decidedly decreased.

It is a matter of regret that there is not at hand a suitable microscope for determining whether or not the plasmodium malariæ can be demonstrated in the blood drawn by the fleas from patients suffering from malarial fever—this, however, will receive our attention at a later date.

Malarial fevers in tropical America present certain features of special interest to the clinician. To him who still retains a fair remembrance of the anatomical discourses of collegiate days, the part played in the pathology of this disease by that portion of the circulation comprehended by the vessels of the cœliac axis and the organs with which they are so intimately related, cannot escape observation. The liver, the spleen, and the stomach are all involved: the latter, apparently, quite passively, the liver quite actively, and the spleen energetically. The writer has frequently submitted to careful physical examination victims of various attacks of tropical malaria—both during an attack of the fever and after varying periods of time have elapsed since an attack. During an attack the gastric and hepatic disturbances are usually quite severe, but it is the splenic involvement which is often a particular cause of trouble after the regular routine fever and chills have passed. So common is this disturbance of the spleen that many natives who present themselves for treatment of digestive disturbances, and particularly of those accompanied by pain and swelling of the abdomen, frequently remark: "*Quién sabe, si es inflamación del bazo que tengo*" ("I don't know if it is inflammation of the spleen that I have"), or they will make a positive, and sometimes correct, diagnosis, and say, "*Tengo el bazo inflamado*" ("My spleen is inflamed") and specially request remedies for the same.

Certain it is that "el bazo" is frequently inflamed and enlarged, even among children. The writer has frequently found it encroaching on the diaphragm above, extending laterally from the lumbar region behind to beyond the median line in front, and reaching down into the pelvis. At the same time there is occasionally encountered a greatly enlarged or congested liver, all together producing considerable protuberance of the abdomen, dyspnœa, digestive disturbances, great debility, etc. Under treatment, however, most cases generally do very well.

The general plan of treatment for these malarial fevers and their sequelæ, which I have found to yield the best results, is the administration of quinine and acetanilid in combination, together with calomel or saline laxatives, during the run of the fever; and quinine and mineral acids—or Fowler's solution—together with podophyllin, or similar hepatic stimulant, for the subsequent disturbances.

The "Fourth Disease."—By this designation J. J. Weaver refers to an eruptive disease having some of the characteristics of measles, some of scarlet fever, and some of German measles, perhaps resembling scarlet fever more than either of the others, yet apparently distinct from all three. The following are the points of distinction advanced by the author: The rash is indistinguishable in character from that of scarlet fever. In all his cases, however, unlike scarlet fever, it appeared first on the face—generally round about the mouth. In the next place, even when the rash is extensive—for instance, all over the front and back of body and limbs—the temperature is not high—not above about 100° usually—and the pulse is not accelerated, as one would expect to find in scarlet fever. In fact, the "fourth disease" is to be distinguished, as far as his present experience goes, by the fact that, in spite of an extensive and well-marked scarlatinal rash, there is little or no rise of temperature or pulse, the throat symptoms are slight or absent, there is little or no feeling of illness, and no loss of appetite (the patient eats, or wishes to eat, his food as usual). In addition to the above points of distinction, Dukes lays a good deal of stress—in distinguishing "fourth disease" from scarlet fever—on the tongue, which in scarlet fever peels on the fourth day, but in "fourth disease" does not. In all other respects "fourth disease" is very like German measles—the eruption is usually the first symptom in both diseases, the incubation period is from nine to twenty-one days, and the throat and eye symptoms are much the same. In none of the cases here recorded as "fourth disease" was there any sneezing, coryza, or cough. The enlargement of the lymphatic glands—particularly of the posterior cervical glands—which is said to be pretty general in German measles, does not appear to be so general in "fourth disease." In none of the cases recorded in this paper was any enlargement noticed, nor was there complaint of them by any of the patients. Opinions differ as to the existence of desquamation, the general consensus of opinion being that it does not occur.—*Dublin Journal of Medical Science.*

Home Treatment of Phthisis.—Guy Hinsdale considers home treatment to be usually a makeshift, adopted from necessity and rarely from choice. Persons who leave their homes for hospitals, sanatoriums, and even open resorts, will do more for themselves than they would at home, and conform more readily to the régime prescribed. City air is impure, full of dust, smoke, carbonic-acid gas, and pathogenic organisms; moreover, at home, in the winter, the transitions regarding relative humidity vary too greatly between indoors and outdoors. Under the open-air treatment, the patient has few, if any, of these transitions. In Colorado and New Mexico he has dry air all the time. The place where a person has contracted phthisis is usually not a good place for him to remain for treatment.—*Pennsylvania Medical Journal.*

The Pancreas in the Infective Diseases of Childhood.—Dante Pacchioni states that the pancreas undergoes degenerative or inflammatory changes in the infective diseases of childhood, the former being the more frequent and consisting in fatty degeneration of the cells of the acini. This has been found in diphtheria and in tuberculosis. Increase in the interstitial connective tissue was found in a case of congenital syphilis. It must be borne in mind that cadaveric decomposition causes profound changes in the pancreatic cells. The clinical diagnosis of these alterations in the pancreas in infective diseases is not as yet possible. To them we may ascribe the transitory glycosuria and profound and rapid emaciation sometimes observed in cases of diphtheria or scarlet fever.—*Lo Sperimentale.*

A Case of Tropical Abscess of the Spleen with Sterile Pus.—E. Albert reports a case from Algeria. The affection, corresponding to hepatic abscess, is as yet little known; the author has been able to find only nine cases in the literature of tropical pathology. The conclusions reached from his case and from the others are that malaria plays a part in the etiology by predisposing the organ to disease; that there are some abscesses in which the pus is sterile, and that the pus, which usually opens into the abdomen, may, by means of peritoneal adhesions, find its way to the exterior, and take on the aspect of an abscess of the abdominal wall.—*Revue de Médecine.*

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THE NATURE OF PARETIC DEMENTIA.

THERE is reason to believe that while syphilis is far and away the most common cause of paretic dementia, as it is likewise of tabes dorsalis, it is not the sole cause. It would seem, further, that it is not syphilis directly that is the responsible factor, but that the nervous disease occurs as the result of some secondary effect. This, it is likely, is of a toxic character, and it is an open question whether it is exerted upon the nervous elements directly or indirectly through the blood-vessels. Some interesting observations bearing upon this important subject are recorded in papers read at a recent meeting of the Medico-Chirurgical Society of Edinburgh by Dr. Lewis C. Bruce and Dr. W. Ford Robertson (*British Medical Journal*, June 29, 1901). The former expresses the opinion that the alimentary system is invariably affected throughout the whole course of the disease—obstinate constipation, biliousness, capricious appetite, gastric crises, and failure of digestive and assimilative power being common symptoms. From personal observation he is, further, in accord with the view that the temperature of general paralysis of the insane is characteristic, the peculiarity consisting in a recurring febrile attack every one or two weeks. This he regards as expressive of the resistive reaction of the body to some toxic influence, and as confirmatory of this belief he considers the hyperleucocytosis that he found always to accompany the elevation of temperature. Remission in the symptoms was observed in some cases complicated by acute infection, such as erysipelas, pneumonia, or carbuncle, and it was preceded by marked hyperleucocytosis. In other instances, such remission was associated with improvement in the powers of the alimentary system and also with leucocytosis. Under such circumstances, the blood-serum was capable of causing agglutination of bacillus coli in dilutions in which the blood, from patients in a progressive stage or from healthy persons, was inactive. Upon the basis of this experience, blood-serum from a patient in a remission was injected into a patient in the progressive stage, with the apparent result of ameliorating the symptoms. As the outcome of these observations, the conclusion is expressed that general paralysis is a disease due directly to poisoning by the toxins of bacteria whose point of attack is through the gastric and intestinal mucous membrane. This poisoning is probably of a mixed character, but the bacillus coli is apparently one of the noxious organisms. The result of treatment with serum taken from a case of general paralysis in a condition of remission and injected subcutaneously into an early progressive case points strongly to the fact that some form of serum-therapy is the proper treatment for this as yet incurable disease.

As the result of a histological study in fatal cases of general paralysis of the insane, Dr. Robertson concludes that the disease is dependent upon the occurrence of a chronic toxæmia of gastro-intestinal origin, the toxins being mainly bacterial, and formed in consequence of a partial breakdown of those forces by which the harmful development of the micro-organisms that constitute the ordinary flora of the alimentary tract is normally prevented. The toxins are absorbed and tend especially to produce proliferative and degenerative changes in the vessels of the central nervous system. These vascular changes tend to set in earliest in those parts of the brain that are relatively best supplied with blood because their walls are brought in contact with the largest quantity of toxins. It is believed that tabes dorsalis is dependent upon the same form of toxæmia, the part played by syphilis in the pathogenesis of both diseases being essentially that of altering the natural immunity. There is some evidence in favor of the hypothesis that this alteration in the natural immunity is dependent upon commencing exhaustion of the leucoblastic function of the bone-marrow. The treatment of general paralysis and of tabes dorsalis should be directed primarily to the correction of the disorder of the alimentary tract, and probably the only means by which it will be found possible to check the excessive growth of the gastro-intestinal bacteria consists in the employment of a specific antitoxin. To arrest the disease by such means may prove more practicable than would at first sight appear, because it is probable that the specially injurious toxins are the products of only a few bacterial forms.

CO-EXISTENCE OF THE TYPHOID AND MALARIAL INFECTIONS.

THE question as to whether the condition, termed by Woodward in 1862 typho-malarial fever, is a specific disease or is malaria co-existing with typhoid fever has been at intervals since that date a much disputed point. Woodward himself, although he was responsible for the misleading denomination, did not consider that it expressed the affection correctly, for in 1876 at the Medical Congress held that year in Philadelphia, he read a paper in which he distinctly stated that malaria and typhoid fever occurring in the same individual at the same time should not be looked upon as a specific disease, but rather as a coincident infection.

Moreover, the greater number of physicians who have had the opportunity of studying these maladies have passed their opinion to the effect that, when a person is impregnated with the poison of both diseases concurrently, coincident infection is the right word to apply to the state.

Dr. W. G. Thompson, writing of the so-called typho-malarial fever in 1893, said: "The name typho-malarial fever must not be held to imply a specific disease, but rather a combination or co-existence of two diseases, typhoid fever and malarial

fever, in the same person." Osler Thayer, and the French investigators take practically identical views.

The Spanish-American War, during which a large number of soldiers were attacked by typhoid fever accompanied by undeniable symptoms of malaria, aroused renewed interest in the subject, and efforts have been made to settle the matter once and for all. Dr. Irving P. Lyon of Buffalo has set himself to the task and has recently published a pamphlet in which the whole question is intelligently and exhaustively dealt with. He has gathered from various sources, twenty-nine well-authenticated cases, to which he has added one which he himself had charge of in the Johns Hopkins Hospital, and he has reached the conclusion that what is known as typho-malarial fever is actually, as Woodward declared in 1876, coincident typhoid and malarial infection.

Perhaps the portion of Dr. Lyon's paper which will possess the greatest interest to the majority of our readers is his account of the discrepancy in the description of the two-fold infection given by American and French observers. The French writers regard the fever in a far more serious light than do the Americans, asserting that the symptoms are in most instances severe and the mortality correspondingly high, and that rose spots are the rule rather than the exception. The Americans say that the duration of the fever is shorter, and that it is in all respects of a milder type than true typhoid fever and that the occurrence of rose spots is infrequent, while the naturally prognosis is favorable and the mortality quite low. How then to reconcile these diverging views is somewhat difficult.

The explanation given by Dr. Lyon is that a coincident malarial and typhoid infection, as described by French writers, is really in a high degree dangerous to life, for the reason that it is a true infection, but that the typho-malarial fever which is so often adverted to by American writers as prevailing in many parts of the United States, is not in fact the two diseases in conjunction at all, but simply mild typhoid fever or continued malarial fever.

With respect to the clinical picture presented in the cases recorded by Dr. Lyon and in those described by French writers, typhoid fever in nearly all the cases dominated the scene and this would seem to indicate, as Continental observers have suggested, that typhoid fever is the more masterful disease; but as Dr. Lyon wisely points out the important fact must not be forgotten that quinine was freely used against the malarial element whenever it appeared, and in all probability, in some cases at least, completely changed the clinical picture that would otherwise have been seen.

ANIMAL PARASITES IN THE PHILIPPINES.

The Medical Record has persistently urged the establishment by the Government of the United States of a school of tropical medicine. In parts of this country, several diseases met with in the tropics are more or less prevalent, in Porto Rico and Cuba of course still more occur, while the Philippines is a hotbed of a large number of tropical diseases, some of which are obscure and comparatively unknown. A wide field is therefore provided for the pursuit of medical knowledge into which it might be thought that the ruling powers of the United States would be eager to provide facilities for their scientific men to delve. In the meantime Colonel Charles Greenleaf, the Chief Surgeon of our army in the Philippines, has wisely decided that the medical profession of America shall profit if it will by the results of the investigations made by the Army Pathological Laboratory workers in the Philippines, and to this end has ordered to be published a series of medical circulars dealing with the diseases encountered in that island.

These circulars are issued under the direction of First Lieutenant Richard P. Strong, U. S. A., in charge of the Army Pathological Laboratory in Manila. The first number is devoted to a brief consideration of the animal parasites of the Philippines. As Lieutenant Strong modestly says in a short preface the descriptions are given of the parasites as they occur in these islands and sometimes not with the idea of adding anything new, either to their life history, to their anatomical structure, or to their pathological significance. They are recorded in this form because it is hoped they may give some idea to physicians who have lately arrived in the Philippines of the more common intestinal parasites to be encountered there.

Concerning the amœba dysenteriæ the statement is made that of all the intestinal parasites met with in Manila it is the most common and the most fatal in its effects. One hundred and fourteen of 386 deaths among American troops were due to amœbic dysentery, and it disables many more men than any other disease.

Of the infusoria but one variety of the order of Heterotricha has been observed, viz., the Balantidium coli (Stein), Paramecium coli (Malmsten).

Three flagellates have been encountered. Of the tæniæ only two of the adult forms have been observed and no particular investigations have been made in regard to them. Referring to the nematodes, Lieutenant Strong and his co-workers say that, although trichina spiralis is common, no case of trichinosis has come under their notice, and but one case of filariasis. A somewhat lengthy description is given of the ankylostoma duodenale, and it is stated that no confirmation can be accorded the recent statement of Giles that the parasite represents an example of dimorphism or heterogenesis.

Much credit is due to the compilers of the little work, which should prove of value both to army surgeons and to those in civil life. It is also to be hoped that the usefulness of investigating tropical diseases may by these means be impressed upon the Government and that the wisdom of establishing a school of tropical medicine upon a scale commensurate with the resources of the country may be demonstrated.

RENAL TENSION.

It not rarely happens that relief of pre-existing symptoms is afforded by surgical operation, even when the procedure originally intended is not carried out because the condition diagnosticated is not found to exist. No satisfactory explanation has yet been given for this sequence of events, although the influence of suggestion, of manipulation, of exposure to light and air, and of the "operation *per se*," has been invoked to this end. Of course when any direct operative procedure is undertaken

the credit naturally will be given to it, and it must be admitted that an incision into diseased tissue may do good by relieving stasis and engorgement. This essentially is the explanation offered by Mr. Reginald Harrison for the good effects of exploratory puncture or incision of the kidney in the presence of albumin and other renal symptoms suggestive of calculi or other removable conditions, but of which no evidence is discoverable on operation. In a paper on this subject read before the Surgical Section of the British Medical Association at Cheltenham (see page 270), Mr. Harrison expressed the belief that tension of the kidneys may result in destruction of the epithelial lining of the uriniferous tubules, with slow exudation of urine and disorganization, and that when this condition prevails relief may be expected from puncture or incision of either kidney. The indication for this measure is thought to reside in the presence (1) of progressive signs of kidney-deterioration, as shown by the persistence or increase of albumen, when it should be diminishing or disappearing from the urine, as in the natural course of inflammatory disorders ending in resolution; (2) of suppression of urine or an approach to this state; (3) of marked disturbance of the heart and circulatory apparatus in the course of inflammatory renal disorders. The operation consists in exposing the kidney through an incision in the loin and puncturing the organ, or, preferably, making one or more incisions through the capsule of the organ. Drainage is provided for, and the wound is closed and generally heals without difficulty. When both kidneys are affected, operation upon one is usually sufficient for all purposes. The proposition thus briefly outlined seems a radical one, and it is likely that the procedure will be resorted to only when relief cannot be expected from other measures or these have been employed and have failed, unless the kidney is exposed for the relief of some condition that is not found.

News of the Week.

Award of the Nobel Prizes.—Two of the prizes created under the terms of the will of Alfred Nobel, the Swedish engineer and chemist, have been awarded respectively to Dr. Niels Finsen, of Copenhagen, for his discovery of the light treatment for lupus, and to Professor Pavloff, the Russian physiologist, for his researches in metabolism. These prizes, five in number, are awarded annually to those who have done the most "for the benefit of humanity" during the year, and are each one-fifth of the income from an investment of about one million dollars.

A Volunteer for Experimentation with Bovine Tuberculosis.—It is reported from Denver that Mr. T. L. Monson, Colorado State Dairy Commissioner, has offered to submit himself to inoculation with bovine tuberculosis in order to test the question of the communicability of this disease to man. He is said to be a believer in the non-identity of the two forms of tubercle bacilli. If there are many such with the courage of their convictions, the solution of this problem should not be long delayed.

Hay Fever is said to have failed to make its annual appearance on time this year in various parts of the country, and the usual victims and physicians are alike puzzled to account for the delay. Many persons, however, are never attacked until some day in the latter part of August, so that it is still too early for jubilation.

The War on Mosquitos.—Dr. Doty, the Health Officer of the Port, who has been attacking mosquitos in their haunts on Staten Island, has apparently succeeded in materially reducing the number of these insects in the district where the experiment was tried. In this district the inhabitants state there has been a positive change for the better. In several houses lamps are now lighted at night which have not been in use for weeks, and the number of mosquitos has apparently been greatly diminished. No permanent improvement can be looked for, however, as Dr. Doty's operations have been conducted over too narrow an area, and so long as the conditions outside remain as before, there will be little change. The object of the experiment was to demonstrate the feasibility of practically exterminating mosquitos by concerted measures on the part of the sanitary authorities, and this, it is claimed, has been done. Many specimens of anopheles, both larvæ and adult females, were found.

War on Rats in Manila.—An appropriation of $2,500 has been made to meet the expense of a bounty offered by the Manila Board of Health of a cent and a half on every rat killed. This action is taken in the hope of finally stamping out the plague which lurks among the Chinese residents of the city.

Dr. Juan Santos Fernández, of Havana, was the recipient of a gold medal from a number of his colleagues on June 24, his feast day. The medal was given him as a token of appreciation for his labors as President of the Third Pan-American Medical Congress. Dr. Alfonso Betancourt made the speech of presentation, to which Dr. Santos Fernández briefly but feelingly replied.

The Two Oldest Living Alumni of Trinity College are physicians, as we learn from the *Bulletin* for June, 1901, which contains portraits of both. Dr. Gurdon Wadsworth Russell, of the class of 1834, was graduated in medicine from the Yale Medical School in 1837, and lives in Hartford. Dr. Nathaniel Oliver Cornwall, of the class of 1839, was graduated in medicine from the College of Physicians and Surgeons, New York, in 1846. Most of his life has been passed in South America, but his home now is near Portland, Conn.

An Improvement on Christian Science.—Among the natives of the New Hebrides it is the custom, during the prevalence of any epidemic disease, to seek to appease the Divine wrath by strangling the parents of the children and young persons who die. At the present time dysentery exists there, and the mortality from strangling is said to exceed that from the prevailing disease. The treatment there is on the Christian Science order through the incantation of healers or medicine men, which suggests the idea that it might be well always to associate the penalty with this form of treatment. It would no doubt lead to the saving of many lives of innocents now sacrificed to parental fanaticism.

Pay for City Vaccinators.—When the present smallpox visitation first appeared last winter a corps of vaccinators was established by taking forty-five physicians of the school medical staff and appointing them health inspectors. In their former position they received $60 a month, but the pay of a health inspector is $100. The members of the vaccinating corps thus created were paid the larger amount up

to July, when the Civil Service Commission objected on the ground that they had passed examinations only for the school staff and were not entitled to the higher salary. The Supreme Court has now decided that the action of the Civil Service Board in refusing to sign the payroll of the forty-five Health Board inspectors, assigned to vaccinate during the smallpox scare, is unconstitutional. All the men have been reappointed at the same salary, $100 per month, and notified to resume their duties.

Mosquitos in Spanish.—The interesting work on mosquitos by Dr. L. O. Howard is to be translated into Spanish for the benefit of our tropical neighbors.

An Exhibition of Giants was held not long ago in Rouen, France. One of the exhibits, a Frenchman 9 feet 2 inches tall, is to marry another, an English woman measuring 8 feet 3 inches in height.

A Congress of Historical Science is to be held in Rome in the spring of 1902. The committee of arrangements has asked that the Government of the United States send delegates to the congress and invites the participation of American scientists, artists, and men of letters. The congress will discuss all subjects of historical character, including the history of medicine.

Rewards for the Empress's Physicians.—Emperor William of Germany has conferred on Prof. Renvers the title of privy sanitary counsellor and has also bestowed an order on Dr. Spielhagen, who, with Prof. Renvers, attended the dowager empress during her illness. In addition the six ladies-in-waiting of the dead empress have received Red Cross medals.

A Medical Mayor.—Dr. Robert J. Black, the Mayor of McKeesport, Pa., who has recently received a good deal of newspaper notice in connection with the strike of the iron workers, is a physician. He was graduated from the College of Physicians and Surgeons, Baltimore, in 1881.

The Skene Library.—A building for the library donated to Griffin's Corners, N. Y., by the late Dr. A. J. C. Skene of Brooklyn, is to be erected by Mr. Andrew Carnegie. Dr. Skene had planned to have the library suitably housed, but died before such a structure could be built. The building will be called the Skene Library in memory of the donor of the books.

Against the Spitting Nuisance in Paris.—A few days ago thousands of notices were posted on dead walls, houses, boardings, and lampposts in Paris, to the effect that "The public are earnestly requested, in order to avoid the danger of propagating tuberculosis and other zymotic diseases, not to spit in the streets." This notice was issued in accordance with a vote of the municipal council on July 8.

Pure Milk in Chicago.—The health authorities of Chicago have been waging war recently against milk dealers who use formalin as a preservative of milk, information having reached them that this practice was growing very common. The milk is now tested as it arrives at the railway station, and any containing preservatives or of a specific gravity indicating the addition of considerable quantities of water is thrown away.

For the Protection of the Insane.—A citizen of New York has offered a reward of $500 for the "conviction of any person ill-treating an insane person in any city institution." This offer is of course well meant, but we believe with *Charities*, that it will accomplish little good, and may tempt some unscrupulous person to false swearing. A much better expenditure of this money, our esteemed contemporary thinks, would be an endeavor to get as superintendent of the Bellevue insane pavilion, where abuse is said to have occurred, some physician experienced in the organization of hospitals for the insane, who if freed from the machinery of city government and given the powers now possessed by superintendents of State hospitals for the insane, "would change this assumed demoniacal stronghold into an abode of content, peace, and harmony."

Veterinarians in the Army.—The veterinary journals are commenting on a picture of a group of veterinary officers of the allied armies in China, showing that those in the armies of England, France, Germany, Italy, and Japan were uniformed officials, component parts of their respective armies, while the American representative was a civilian, not a member of the army.

Smallpox in Middletown.—A number of cases of what seems to be mild smallpox, but of which the diagnosis is somewhat uncertain, are reported from Middletown, N. Y. The disease was brought to the city by two children who were boarding near the city limits. The mother contracted the disease, from which she died. Before death she was removed to a house in the city, and one of the men who assisted in the sick woman's removal, a trained nurse, and a cousin of the dead woman, who assisted in the care of the patient, were all attacked later by the disease. All of the sick are isolated in their respective homes, and every precaution is being taken to prevent a further spread.

The American Association of Obstetricians and Gynæcologists will hold its fourteenth annual meeting at the Hotel Hollenden, Cleveland, Ohio, Tuesday, Wednesday, and Thursday, September 17, 18 and 19, 1901, under the presidency of Dr. William E. B. Davis, of Birmingham, Ala. The committee of arrangements is composed of Dr. M. Rosenwasser, 722 Woodland avenue, and Dr. William H. Humiston, 122 Euclid avenue, Cleveland, either of whom may be addressed concerning rooms or other local information regarding the meeting.

The College of Physicians and Surgeons of Chicago.—The building occupied by this college, the medical department of the University of Illinois, was destroyed by fire, as our readers may remember, on June 25. The work of the college was only temporarily interrupted, and is now proceeding in the new house as smoothly as before.

The Summer Health Corps in Chicago is a volunteer body of twenty physicians who make a regular inspection of the tenement houses of the city, giving instruction and advice to mothers how to keep their babies in good health, and prescribing for the sick children when such are not under the care of any physician. There is also a volunteer corps of nurses who visit the sick whenever requested to do so by the health inspectors.

An International Zoological Congress was held in Berlin during the present week. Among the Americans present were Professors Wilson, of Columbia; MacMurrich, of Michigan; Woodworth, of California; Patton, of Dartmouth; Murrill, of Cornell, and Mark, of Harvard; Dr. Charles W. Stiles, of the Department of Agriculture, and Mr. Leonard Steinger, curator of the National Museum at Washington.

Open-air Treatment for the Tuberculous Insane.—We learn from *Charities* that a system of outdoor treatment for insane tuberculous patients has been in operation in the Manhattan State Hospital for

the last two months. The State Commission in Lunacy reports that it has been attended with gratifying results. Since July 1 about sixty patients have lived and slept in wooden-floored tents on the hospital grounds. As a result many formerly bedridden patients are now able to walk and care for themselves.

Mosquitos at Sea.—The surgeons of the Marine Hospital service have reported two instances coming under their notice of ships at sea being invaded by swarms of mosquitos. One of these vessels was the ship *America* which was visited by mosquitos when about ten miles from Chandeleur Island in the Gulf of Mexico. The other was the Spanish bark *Maria Blonquer* which, according to the testimony of the crew, was twenty-two days out from Rio de Janeiro and hundreds of miles from any known land when visited by a great swarm of these insects.

Bequests to Philadelphia Hospitals.—By the will of the late Emily Phillips, of Philadelphia, the following bequests, among others, are made: Jefferson Medical College Hospital, for a free bed in memory of her brother, Henry M. Phillips, $10,000; to the Jewish Hospital, for a ward to be called the Henry M. Phillips Ward, $40,000; Pennsylvania Hospital, $4,000; Philadelphia Hospital for Incurables, $5,000; Montefiore Home for Chronic Invalids, $5,000; Home for Aged and Infirm Hebrews in Philadelphia, $5,000; Medico-Chirurgical Hospital, $1,000; Aged Couples' Home, $1,000; Children's Sanitarium Association, $2,000; Howard Hospital, $1,000.

Obituary Notes.—Dr. Charles Hampden Field committed suicide in Alameda, Cal., on August 6, by inhaling illuminating gas. He was formerly a surgeon in the United States Army. He was also an ex-surgeon of the Pension Bureau, and at one time surgeon of the Union Pacific Railroad.

Dr. Nathaniel Moore Jones of Cleveland, Ohio, died August 1, 1901, of carcinoma of the stomach. He was born in Stowe, Summit county, Ohio, October 5, 1840. At the outbreak of the Rebellion he had been reading medicine in his brother's office for three years, and enlisted in the 115th O. V. I., serving for three years first as a hospital steward, later as Assistant Surgeon. He was graduated from the medical College of Wooster University in 1866, and practised medicine in Cleveland for thirty-five years.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THREE CONGRESSES—LONDON, EASTBOURNE, CHELTENHAM—HOSPITAL SUNDAY FUND AWARDS—NATIONAL HOSPITAL—DINNER TO SURGEON-GENERAL JAMESON.

London, August 2, 1901.

The tuberculosis congress has occupied so much of our attention that other subjects have been put in the shade, though it must be acknowledged that some of our confrères are declaring they have heard enough of Koch and his opponents to last until after a good holiday, and a good number have started. Not a few have gone to Cheltenham for the British Medical Meeting, where the discussion on the reorganization of the association interests a considerable number as much as the work in the sections. I hear, too, that the reception of visitors by "the Garden City," as Cheltenham calls itself, has been as hospitable as possible, and all sorts of social distractions have been provided by the profession there. But your reporters will inform you of what has been done and I leave to them that duty and turn to other subjects.

Another Congress has been sitting during the week—the Royal Institute of Public Health. It is the season for such gatherings. This meeting was held at the pleasant sea-side town of Eastbourne and attracted about 1,000 visitors. The Duke of Devonshire, who is the President, discoursed on the infections against which a health resort should guard itself. They were, he said, indigenous and exotic; as to the former the success of the local authority would be in proportion to its local standing and its means of dealing with infection generally. As to the latter a district was to some extent guarded by superior authorities against foreign diseases, as cholera, plague, etc. The Duke then spoke of protection against smallpox, which, though mainly belonging to local self government, is also to a certain degree undertaken by Imperial authority. He warned his hearers against the neglect of vaccination and told Eastbourne the danger of a health resort becoming ruined by an epidemic of smallpox.

Dr. Newsholme of Brighton presided over one of the sections and urged that the time is ripe for compulsory notification in all cases in which there is reasonable doubt for suspecting infectious disease—a view which, though widely held by sanitarians, does not commend itself to the public. He held that Koch's statement about bovine tuberculosis was premature, and should be investigated under government auspices.

At this Congress Dr. Greenwood of Crewe brought forward the subject of danger in railway carriages, and urged medical legislation to compel disinfection and better cleansing of these vehicles. It was beyond dispute that they often contained tubercle bacilli which, in such enclosed places, retained their virulence for a long time. Persons predisposed to phthisis ran great risk in entering such carriages, and the danger was greater when the windows were kept shut. A resolution was adopted calling attention of the government to the danger caused by lack of frequent wet cleansing and disinfecting of railway carriages, tramcars, and omnibuses.

Other papers dealt with the hygiene of elementary schools, education on health subjects, the late epidemic of plague in Glasgow, and the housing of the poor.

The Council of the Hospital Sunday Fund met on Tuesday under the presidency of the Lord Mayor, when £44,534 were distributed. The collection this year had reached only £51,000, so that the ambition of the Council to reach £100,000 is hardly likely to be attained for some years. It was proposed to withhold the award to the National Hospital for Paralysis and Epilepsy until complete harmony had been restored between the staff and the Board. But an outcry was raised by its friends, and the Council gave way and agreed to pay last and this years' grant, but to defer future payments in the event of further disagreements cropping up. A plea for another institution was equally successful, showing that the Council can swallow its convictions when influential persons speak, although it suffers its officials to repudiate the claims of smaller institutions.

The dinner to Surgeon-General Jameson, C. B., late Director General of the Army Medical Department, was the occasion of considerable enthusiasm, and must have been gratifying to this distinguished officer. The dinner may be regarded as a protest against the government, which allowed General Jameson to retire without a word of thanks or acknowledgment for his services—still less the honor usually conferred. Sir W. McCormac again testified that the department had worked well, and he mentioned that at the present time not a single candidate is applying for admission into the Medical Service. The blame of other departments has been shifted on to the medical, which has done better than any; the ex-director foresaw and provided against the contingencies that took place, but his plans were frustrated by others.

NOTES ON SOME OF THE MEDICAL FEATURES OF THE PAN-AMERICAN EXPOSITION.

THE EMERGENCY HOSPITAL—THE INCUBATORS—THE CRÈCHE—DEFECTIVE VENTILATION IN THE ART GALLERY—THE ARMY MEDICAL EXHIBIT—THE MARINE-HOSPITAL SERVICE.

(Special Correspondence of The Medical Record.)

There is much in the Exposition at Buffalo to attract and hold the attention of scientific and medical men. A person desirous of viewing thoroughly and of studying with some care the numerous exhibits exemplifying progress in medicine and science, will not only need to have a considerable amount of time at his disposal, but will also find his task greatly facilitated if he has a knowledge of the location of the features of interest.

Upon entering the West Amherst Gate the first building that strikes the view is the Emergency Hospital, the general plan and functions of which were described at length in the Medical Record some three months ago. It may nevertheless be mentioned that its province is

wholly restricted to emergency work, that serious cases are transferred to institutions outside the grounds, and that no patient is permitted to remain overnight. The building contains twenty-six beds, and is excellently equipped in accordance with the latest methods of sanitary science. The medical director of the Exposition, Dr. Roswell Park, looks after its administration and, with Dr. Vertney Kenerson, the physician directly in charge, visits the institution daily. The house staff is composed of six young medical men who take duty in turn, two at the same time. The nursing staff comprises four nurses. There is also in the service of the hospital an automobile ambulance in charge of medical students of the University of Buffalo.

The hospital during the three months of the Exposition's existence has treated upwards of 3,000 cases, the majority of which have been medical. It is satisfactory to note that there have been but few cases of a grave nature and that the occurrence of sunstroke and heat exhaustion has been remarkably rare. This fact, when taking into consideration the prevalence of excessive heat all over the country at the end of June and at the beginning of July is decidedly noteworthy, and says volumes for the salubrity of Buffalo.

By far the larger number of those who have made use of the hospital up to the present time have been women, while among the employees and temporary residents of the Exposition the foreign element has supplied the bulk of the patients. The complaints have been characterized for the most part by their simple nature, and there has been no suspicion of anything resembling an epidemic. Probably the diarrhœa and stomach disturbances to which the foreigners have shown themselves especially prone, may be attributed to an unaccustomed mode of living, and perhaps to injudicious eating and drinking. On the whole, however, the health of the Exposition inhabitants has been highly satisfactory, as has been also the health of the visitors to the great fair.

Those who are responsible for the management and supervision of the Emergency Hospital must be commended for the admirable manner in which their duties have been carried out, and they can lay the flattering unction to their hearts that their work has been well appreciated by the general public.

The incubation of infants seems, to use an every-day colloquial expression, to have "caught on" in more than one sense of the word. The method, of course, is largely resorted to for the rearing of weakly infants, and it also would appear to be equally popular from an exhibition standpoint.

In London, some few years ago, an exhibition of infants in incubators was an adjunct to Barnum's show, and at that time the *Lancet* passed severe strictures upon the procedure, declaring that the scheme was deserving of grave censure, and that it was neither fitting nor right that hapless babes should be placed on exhibition for the sake of gain. While one may agree with the remarks of our contemporary so far as this side of the question is concerned, it nevertheless cannot be denied that incubators have been the means of saving the life of many a prematurely born infant—whether for its weal or woe is altogether another matter. As, however, it seems that incubators have come to stay, the object should certainly be to provide the very best of the kind. The invention of and improvements made in the couveuse have been dealt with fully at different times in the MEDICAL RECORD.

The incubators, twelve in number, are placed around a well-lighted room of which the walls and floors are impermeable. The incubators are glass-covered, and the infant reposes upon a mattress of woven wire, padded with soft material. A card is placed above each incubator, stating the date of the occupant's birth, its weight, and other details. A uniform temperature is assured in the incubators by means of a thermostat. The heat is derived from a metal boiler, which can be heated by a Bunsen burner or by an ordinary lamp. Ventilation is provided by the introduction of fresh air into the incubator from outside, the air being sterilized by filtration through an antiseptic fluid and then through cotton. The infants are taken out of the incubator every two hours and removed to a small room fitted as a nursery, there being fed by wet nurses and inspected as to their condition of cleanliness.

Nearly all the infants on exhibition are stated to be seven months children. Whatever may be thought of the incubation method of preserving life, it must be confessed that the exhibition at Buffalo is excellently conducted, and is one of the most popular of the entire exposition. Indeed it is quite amusing to watch the crowds that frequent the baby show, which but goes to prove that after all a spectacle of human interest is most attractive to all classes.

On one side of the Emergency Hospital a "crèche" has been established, the lack of such a necessary haven of rest for weary little ones having been greatly felt. Its institution was largely due to the eloquent plea on behalf of tired mothers and children set forth recently in the *Boston Medical and Surgical Journal*. The crèche will be undoubtedly welcomed with lively feelings of gratitude, and will not only be highly appreciated by mothers of small families, but will be the means of bringing to the exposition many parents with their quivers full who would otherwise be compelled to forego a visit.

A few words may be said in regard to the sanitation of the Exposition as a whole. The buildings are almost without exception well constructed, and due attention has been paid to their ventilation and hygienic qualities generally. There is, however, one conspicuous and even glaring exception to this satisfactory state of affairs, and this too in a building which contains one of the most attractive and popular displays on the grounds, and which is largely frequented by visitors to the Exposition. The ventilation and sanitary arrangements of the art galleries, are, to put the case mildly, extremely defective. When the weather is warm, the atmosphere of the interior of the structure devoted to the fine arts is oppressive to a degree, and judging from the odor which commonly prevails, there must be something very wrong with the plan upon which the sanitation has been conceived. Even an enthusiast in art, and one who is carried away by his love for the beautiful, is nevertheless, rarely so unconscious of sublunary matters as to be unwitting of heat and altogether careless of an offence to his olfactory organs; while to the ordinary individual the discomforts of the art building are apt to outweigh the pleasure of gazing upon the really fine specimens of the artist's and sculptor's craft contained therein.

Perhaps the most instructive and interesting display in the entire Exposition—at any rate to the medical man—is that made by the medical department of the army. This exhibit, which is under the direction of Captain Edward L. Munson, of the United States Army Medical Department, is the largest and most complete of any in the exposition, and represents a model brigade field hospital, exemplifying its equipment and working down to the smallest detail. The only drawback to the unqualified success of this practical presentation of army medical methods is that the space allotted is decidedly limited in extent. So that, although the brigade field hospital is in itself illustrative of its object, the drill of the Hospital Corps has to be considerably curtailed owing to inadequacy of area.

The tents constituting the brigade field hospital are pitched in close proximity to the main Government Buildings, and are arranged in form of a cross, the medical and surgical tents, mess kitchen, and office tents being placed within the arms of the cross, a position shown by experience to be the most convenient as well as calling for the least amount of time and energy. One hundred beds are provided in the hospital for a brigade numbering 5,375 war strength; a proportion of two per cent. sick can thus be cared for.

The tents used are those invented by Captain Munson, and it is claimed for them that their ventilation is effective, and that the temperature of the interior is, in tropical climates, materially lowered. The test to which these tents have been put in Cuba and the Philippines is stated to have justified the encomiums passed upon them. The exhibit at Buffalo is the first that has been publicly given of the improved methods now in vogue in the U. S. Army Medical Department. The revised system is the outcome of the careful and prolonged deliberations of a board of medical officers, who made a painstaking study of army medical arrangements of the principal countries of the world, by personal observation or by correspondence. Any features worthy of adoption were embodied into the American system, the weak spots were eliminated or improved upon, and the assertion is now confidently made that no nation of the world can equal or even approach the Army Medical Department of this country as regards its organization and more especially its equipment. Economy of space and reduction of weight of material has been the watchword, and this result has been reached not only without detriment to the health or comfort of the soldier, but rather to his advantage. The lesson learned in the war with Spain has been fully utilized, and drugs in sufficient varieties and quantities to last a field brigade at war strength, under active service conditions for ninety days, are carried with the dispensary tents of the hospital. Space is lacking to describe at length the many ingenious devices resorted to, for the purpose of packing within a small compass, and thereby rendering transportation easier. It will suffice to point to the new model medical chest as a striking example. This chest, while weighing but eighty pounds, or thereabouts, contains drugs and medical supplies enough to last in the ordinary way 1,600 men for ninety days. Three field chests—medical and

surgical and sterilizer—form a regimental set, one of which can be carried by one man, two by two men on a litter, and three constitute a mule load. The same judgment has been displayed to render transportation as easy as possible in the mode of packing the hospital furniture. Each table in a tent can be quickly transformed into an operating table, and, with the chairs, can be taken to pieces and placed in a small chest. The bedding and other impedimenta of a hospital tent are contained in a canvas bag. In fact, a tyro even in army medical matters cannot fail to be impressed with the ingeniously simple devices, thought out and put into practice for the behoof of the soldier, and to enable a field hospital to keep in touch with troops on the march, and thus permit the Army Medical Department to perform its duties efficiently. The army hospital corps give twice in the day, on a plot of ground adjoining the brigade field hospital, a smartly-executed exhibition of an emergency drill. The army medical exhibit is quite one of the most popular features of the exhibition, and is daily thronged by a crowd of the interested and curious.

In the main Government Building the U. S. Marine Hospital Service has a comparatively small but sufficiently complete exhibit, illustrating in an effective manner the methods and material of the service.

The exhibits are under the charge of Mr. Samuel W. Richardson, hospital steward, whose duties for many years have been rather of an executive nature than those appertaining to the rank of steward.

Models are shown of quarantine stations and detention camps; models of a section of a ward and of a marine-hospital operating room; a Kinyoun-Francis vacuum chamber as used at quarantine stations for disinfection of clothing; a complete X-ray outfit; a traveling laboratory. This latter is an eminently useful and, indeed, under certain circumstances, an essential part of the service's equipment. It may be easily understood that at times specimens for bacteriological investigation or for chemical analysis must be examined at once, as many would spoil during transportation to the Hygienic Laboratory at Washington. Therefore, a traveling laboratory, furnished for making immediate bacteriological examinations and chemical analyses, such as used by the Marine-Hospital Service, may be said to be a necessary adjunct to its outfit.

Another feature of this exhibit which is deserving of special mention is the system of clinical reports devised by Surgeon-General Wyman. Clinical record sheets are issued for the use of the ward physician, upon which he writes in the usual way a history of the case, treatment, diet, etc. The point, however, to which it is wished to draw particular attention is that upon the discharge or death of the patient, these sheets, together with the temperature chart, are bound in a paper cover, upon the outside of which are inscribed the name, malady, and age of the patient, with other facts bearing on the case. The reports, thus bound, are then arranged in cabinets, under the head of the disease from which the patient suffered, and, further, in another part of the cabinets, the case is tabulated under the name of the patient. The merits of this system are obvious, as prompt reference can be had to the history of any case. It would be superfluous here to touch upon the excellent work done in the past by the Marine-Hospital Service. The exhibits at the Buffalo Exposition are, however, a remarkably convincing evidence that it is the object of the service to retain and add to a well-earned reputation, and with this end in view, to spare neither brains nor time in improving the organization and equipment and in taking any steps which would seem to tend to the perfecting of the establishment.

THE PRE-OPERATIVE DIAGNOSIS OF "TUBAL ABORTION" AS DISTINGUISHED FROM ACTUAL RUPTURE OF AN ECTOPIC TUBE.

To the Editor of the Medical Record.

Sir: Permit me to ask for a little of your valuable space for a short but important correction.

In a recent issue, under the report of the Section on Obstetrics and Gynæcology of the Academy of Medicine, at a stated meeting held May 23, 1901, your reporter says: "Dr. Paul F. Mundé presented specimens from two cases of ectopic pregnancy, one of them a tubal abortion. Because of the *sudden sharp pain and rapid collapse* and the symptoms of *gradual internal hemorrhage* (italics mine) he had been able to make the diagnosis of tubal abortion in this instance before operating." Your reporter should have said, as I stated at the time, "because of the *absence* of sudden sharp pain and rapid collapse, etc.," for the absence of these symptoms, together with the evidence of gradual, slow, persistent internal hemorrhage, as shown by the steadily increasing general anæmia, are the characteristic signs of tubal abortion as distinguished from the sharp, acute pains and sudden alarming collapse peculiar to the rupture of a disturbed ectopic tube at some point between its uterine and abdominal orifices. To understand this distinction clearly I may, perhaps, be allowed to say that a "tubal abortion" is the gradual detachment of an impregnated ovum from its faulty location in the ampulla of the tube close to its abdominal orifice; there is no rupture of the tubal calibre, but merely a tearing loose of chorionic attachments, which process, as in ordinary uterine abortion, is attended by bleeding, often merely oozing, and is devoid of any particular pain. This condition usually attracts attention through the gradually increasing general anæmia, and the pressure and weight in the pelvis, and especially on the rectum, as the amount of effused blood increases and the coagulum becomes firmer. I have seen such a tubal abortion continue for three weeks, the pelvic tumor gradually growing from the size of a hickory nut to that of a cocoanut, and the anæmia steadily increasing without pain or urgent symptoms until it was thought justifiable to open the abdomen, and the suspected diagnosis of ruptured ectopic pregnancy was confirmed and amended by the discovery that the case was really a tubal abortion. The practical importance of making an early correct diagnosis of tubal abortion, as distinguished from true rupture of an ectopic tube, is evident from a clinical standpoint—for the ruptured tube is a far more serious and urgent condition—as well as on surgical grounds, since, while both require operation in the large majority of instances, the tubal abortion may often wait, whereas the ruptured tube usually demands its immediate removal. There is one more point, and that is, that an ectopic tube may rupture into the peritoneal cavity or between the layers of the broad ligament, in which latter case the effused blood can be evacuated through an extraperitoneal vaginal incision, and a speedy cure effected, or if comparatively small in quantity may be absorbed, and an operation avoided; whereas the hemorrhage from a tubal abortion is always intraperitoneal, and unless very trifling, invariably calls for an abdominal or vaginal section and the removal of both tube and coagula. Paul F. Mundé.

Southampton, L. I., July 29, 1901.

Progress of Medical Science.

Journal American Medical Association, August 10, 1901.

Primary Carcinoma of the Nasopharynx.—Chevalier Jackson gives a table of 14 cases. The points which he suggests for discussion are the following: 1. Why is carcinoma of the nasopharynx relatively so rare? 2. Has the relative infrequency of carcinoma of the nasopharynx any bearing on the subject of irritation in the etiology of cancer? 3. Is a radical operation ever justifiable in undoubted carcinoma of the nasopharynx? 4. If justifiable in the very early stages, at what stage does a radical operation become unjustifiable? 5. If a radical operation be unjustifiable, what can we do to make the termination euthanasia, not cacothanasia?

Case of Nasal Sarcoma.—Dunbar Roy reports a case in which the cutting off of the blood supply by ligating the external carotids was tried, but without lasting benefit, as the patient died seven months after the appearance of the first symptoms. The tumor began as a stopping up of the nasal cavity. The symptoms of severe bleeding whenever any growth within the nasal cavities is touched should make us suspicious, says the author, and such should be removed early in the most radical way possible. He is opposed to curetting, for it offers a chance of turning benignant into malignant growths, if such a thing is possible. Toxins are effective by destroying the growth, but in the case reported their use was not persisted in, for the resulting disfigurement would have been worse than death.

Report of a Case of "Epithelioma" Involving Tonsil, Faucial Pillar, Tongue, and Buccal Surface, with Treatment and Apparent Cure.—S. A. Oren reports a case diagnosed as epithelioma by the Columbus Medical Laboratory of Chicago. Specific treatment was given internally on general principles, and externally sprays of various solutions were employed. Oftentimes the trouble seemed under control, and then would apparently spread. Cox-comb growths were snipped off and the base was cauterized. Hypodermic injections of pure alcohol were made in several places outside of the periphery of the ulcer and in and above the anterior faucial pillar. The resulting inflammation soon subsided, leaving a circumscribed hard mass. This, after the injection of suprarenal extract and cocain, was dissected out, the base of the wound being curetted and cauterized. The patient was apparently cured, and for a year has had no return of symptoms. The author urges hopefulness and patient treatment in these apparently hopeless cases.

The New York Medical Journal, August 10, 1901.

Suggestion for a Study of Fats in Their Relation to Physiological Chemistry, Therapeutics, and Toxicology.—John Reid thus sums up his views: 1, In urinary analysis, oleic acid is useful and speedy in dissolving various principles; 2, in analyzing organs, they may be partly analyzed by acidulating and extracting with supernatant oleic acid, or the fat should be skimmed off and treated with benzine, so as to make complete the analysis; 3, fat may be used to eliminate poisons from the body; 4, the elective affinity of drugs may be partly due to their fat affinity; 5, the whole subject of fat in its relation to the economy is worthy of careful study.

The Home Treatment of Tuberculosis.—Irwin H. Hance mentions the following points as the essentials in home treatment (*i.e.*, care of the patient in some near-by country place where the environment is changed but climatic conditions remain the same). *Fresh air*, every day and every night, the more the better. *Food*—over-feeding must be the rule; food alone improves nutrition and produces increased powers of resistance. This is nature's sole means of eluding the excursions of the disease, diminishing its powers for evil, and producing a condition of arrest which neither medicines nor serums have as yet been capable of doing. *Rest* should be absolute in febrile cases and in all cases at the commencement of treatment for from one to four weeks. The physician must carefully watch the effects of exercise as to temperature, heart's action, chills, blood in the sputum, weight, and over-fatigue. The care of the skin is very important. Directions for bathing are given.

Cleft Palate and Its Association with Hare-Lip.—John H. Branth says in reference to the hare-lip operation, that the law to sacrifice as little as possible holds good here as in palate operations. A simple notch, where the floor of the nostril is not involved, can be remedied by a simple inverted V-incision above the vermilion border; the inner V is pulled down, and the lateral angles are brought together by stitches; the now lower portion *must* be pendent, to allow for cicatricial contraction, or the result will be a small notch. Where the labial fissures extend into the nostril, as occurs in complete cleft, we have left, after the successful palate operation, either a single or a double hare-lip. The problem is to build a floor for the anterior nostril. This is best achieved by Colles' (of Dublin) so-called æsthetic operation. The cuts are so made as to join the fibres of the orbicularis oris firmly and, by the writer's modification *without angles;* the incisions will fall in the line of the infranasal columns, which are in fœtal life the lines of union. Cicatrices here will look like normal facial lines, and in later life cannot be defined as surgical scars.

Philadelphia Medical Journal, August 10, 1901.

Report of a Case of Raynaud's Disease.—Benjamin F. Lyle and John E. Greiwe present a case of Raynaud's disease with fatal termination, with a detailed pathological report. The conclusions are that there are two classes of cases; those in which the exciting cause acts temporarily and in which the symptoms disappear with the cessation of the cause, and those cases in which the cause acts upon the peripheral vessels causing changes in their calibre by endothelial proliferation. It is fair to consider that the disease may show besides lesions of the extremities, series changes in the internal organs.

The Bucco-Antral Route in Neurectomy for the Relief of Tic Douloureux.—Gordon King advocates the Fraenkel method for neurectomy of the second branch of the trigeminus in obstinate neuralgia. In two cases in his own practice he operated by this method, slightly modified in that after incision he elevated the periosteum as high as the infraorbital foramen, divided the nerve at this point and opened the entire canal into the antrum, simplifying the original procedure, allowing the resection of a greater length of nerve and insuring complete closure of the wound by dispensing with the gauze drain. He removed the nerve by twisting and avulsion. He favors extracranial resection of the nerve trunks in obstinate trifacial neuralgias before the dangerous operations are attempted.

A Case of Tic Douloureux with Successful Removal of the Gasserian Ganglion.—Henry T. Williams reports a case of trifacial neuralgia in a woman thirty-eight years old, which had lasted with intermissions, for ten years. She had undergone, without permanent relief, division of the nerves on the right side of the face, extraction of all the teeth, removal of the superior maxillary ganglion, trephining of the inferior maxillary bone, and finally became such a sufferer that she could not sleep without anodynes, and could only with difficulty eat soft food. At the final operation the Gasserian ganglion was removed, and about a quarter of an inch of the superior and inferior maxillary divisions of the trifacial was resected. The Gasserian fissure was also scraped. Primary union occurred, the patient being discharged well in eighteen days. She was free from pain, could open her mouth wide, and four days after operation could eat solid food. Several months later she was well and without pain.

American Medicine, August 10, 1901.

Hay Fever in Mid-ocean.—W. C. Hollopeter reports a case of hay fever occurring in mid-ocean. He offers as a possible explanation that there may have been some articles in the individual's cabin that had not been disturbed since his attack of the year before, and that the use of some of these objects, books, etc., may have provoked the respiratory irritation.

Acute Dilatation of the Stomach.—Julius Friedenwald reviews the literature of this subject, dividing the cases into two varieties—those due to sudden overloading of the stomach or gross dietary error, and those due to muscular paralysis of the stomach of central origin. He reports two cases of the first variety in his own practice. He thinks it advisable to consider the possible occurrence of acute dilatation in all cases of acute dyspepsia and to empty the stomach quickly to avoid such a contingency.

Medical News, August 10, 1901.

Gouty Affections of the Kidneys.—Richard K. Macalester states that in all cases of gout as well as lithæmia in which he has made quantitative analyses of the urine, there was without exception a marked diminution of the daily amount of urea excreted independent of any evidence, chemical or microscopic, of coexisting renal lesion. The relative etiology of gout and kidney disease is still a matter of controversy. His results in the treatment of these affections by mineral-water baths have been encouraging.

The Therapeutics of Subacute and Chronic Heart Diseases.—Thomas E. Satterthwaite indicates the following changes in modern therapy of subacute and chronic heart diseases: The treatment by complete rest has given way to rest alternating with activity; venesection has been replaced by determination of the blood to the surface through resistant exercises and carbonated baths; hydragogue cathartics, by stomachics, mild laxatives, and diuretics; heart stimulants, by general nerve stimulants or sedatives and nutrients, while the digitalis group is used chiefly for diuretic action in renal complications. Drugs of the digitalis group, including strophanthus, convallaria, and adonis are uncertain, therefore dangerous, and should only be employed when other remedies are inadvisable, in renal or hepatic complications, or when the object is merely to prolong life.

The Condition of the Kidneys with Reference to the Employment of Diuretics.—Arthur R. Elliott concludes that diuretics, with the exception of the irritant-epithelial class, affect the urine indirectly through the circulation, and that the secretory diuretics are contraindicated in irritative and inflammatory renal conditions. Simple diluents and salines are best adapted to functional urinary disorders, as the main object is to overcome concentration and hyperacidity of the urine. In acute nephritis, saline diuretics exert a beneficial influence by increasing elimination; the most powerful eliminant is subcutaneous saline infusion. In chronic nephritis the cardiovascular diuretics are the most useful, the symptoms being usually the result of circulatory failure. Dropsy of purely renal origin is not favorably influenced by diuretics. The condition of the heart and circulatory apparatus in most cases of morbid renal conditions determines the choice of a diuretic.

Uræmia and Its Differential Diagnosis.—S. D. Hopkins differentiates uræmia from cerebral hemorrhage by the presence in the latter of constant hemiplegia, conjugate deviation of the eyes, and pupillary inequality; from unilateral convulsions of cerebral disease by the seat of convulsions being constant; from simple syncope by absence of muscular rigidity, paralysis, and retinal change; in chloral poisoning there is no muscular twitching; alcoholic coma is always noisy; in lead poisoning, lead is present in the urine, and there is the characteristic blue line; in diabetes mellitus the sugar in the urine points to the diagnosis; in epileptic coma when the previous history is not obtained, absence of albumin and casts in the urine and of retinal degenerative changes would be differential points. Convulsions or coma of dementia, chronic alcoholism, and syphilis can be detected by symptoms pointing to organic brain disease.

The Boston Medical and Surgical Journal, August 8, 1901

Intracranial Pressure after Head Injuries.—Walter B. Cannon concludes, from the results of experimentation,

that injuries to the brain interfere with its proper blood supply. Such interference causes an increased osmotic pressure within the tissues, and a consequent taking up of water from the surrounding plasma. The swelling and œdema of the brain after head injuries, therefore, are not due to passive transudation, but are the result of an active process in the tissues themselves, a force many times greater than blood pressure, and amply sufficient to produce all the pressure symptoms and account for all the signs of intracranial tension which the clinical cases of cerebral trauma often manifest.

The Relation of Bodily Mutilations to Longevity.—John Homans, writing from the standpoint of life insurance, says that injuries to the skull, with loss of substance, prevent the applicant from being a good risk; without loss of substance, and with no symptoms, he would be as good a risk as any one. Loss of sight from injury is no bar, but those whose eyes have been removed for carcinmatous or sarcomatous growth are usually short lived. Loss of limbs is apt to induce mental depression and a resort to alcohol and morphine. Persons whose stomach, spleen, liver, or kidneys have been interfered with surgically or by accident do not promise a longevity which would justify their insurance. Those who have suffered removal of a small portion of the intestines for injuries or gangrenous hernia, or of the appendix, have a good chance of living to be old. Women who have had ovariotomy or hysterectomy performed are not apt to be so long-lived as the healthy. After hysterectomy performed for fibroid tumors, however, the probability of longevity is good. By careful selection many mutilated persons might be picked out who would be good subjects for life insurance.

The Lancet, August 3, 1901.

The Relation of Alcoholism to Tuberculosis.—T. N. Kelynack says that three views of this subject are possible: (1) That alcoholism is antagonistic to tuberculosis; (2) that alcoholism bears no special relationship to tuberculosis; and (3) that alcoholism definitely predisposes to tuberculosis. The author reviews the opinion of various authorities in regard to these three views. In his own hospital work he has for years analyzed and observed cases bearing on this subject. Eight fatal cases of peripheral neuritis occurring in alcoholics were subjected to pathological examination, and pulmonary tuberculosis was found in seven. In the recent outbreak of arsenical neuritis in Manchester, which occurred principally in alcoholics among the poorer classes, in many of the fatal cases there was pulmonary tuberculosis. Tuberculosis is also of frequent occurrence in the subjects of alcoholic cirrhosis of the liver. Out of 121 cases of common cirrhosis, tuberculosis was present in twenty-eight.

On the Mortality among Rats at the Cape Town Docks which Preceded the Present Epidemic of Plague.—Alexander Edington, who made bacteriological investigations of the plague and of the rats at Cape Town, gives the results obtained in detail. He says that although the cultures of the rat microbe are very similar to the somewhat non-characteristic growth of plague, and although the cultures in buttered bouillon give rise to stalactite growth, yet the microscopical form of the bacteria in the body of the rat, together with its pathogenic action, are somewhat at variance with what we know of true plague bacilli. Moreover, he has had numerous opportunities of observing rats affected with bubonic plague in Port Elizabeth; but although he has found an abundance of plague bacilli more or less virulent in action, he has not seen one case in which the rat microbe found in the early mortality at the south arm of the Cape Town docks has reappeared. He must, therefore, until further observations have otherwise convinced him, adhere to his belief that the disease which primarily caused the mortality among the rats at the Cape Town docks was not true bubonic plague, although undoubtedly caused by a variety of the bacillus of hemorrhagic septicæmia.

Münchener med. Wochenschrift, July 16 *and* 23, 1901.

A Crystalline Immunization Product.—H. Buchner and L. Geret describe a reaction occurring when the serum of rabbits that have been prepared by the previous injection of pepton is added to a solution of the same sort of pepton. The fluids are poured into a test-tube so as to form two layers, when after a longer or shorter period of time a precipitate forms at their line of junction and attaches itself to the sides of the tube. This precipitate is made up of minute bodies or "globulites." A similar precipitation takes place if, instead of pepton solution, defibrinated bullock's blood is used to prepare the animal, but the pepton solution used for the second part of the experiment must be beef pepton, as that of other animals does not give the specific reaction. The globulites may be readily formed for study beneath the microscope by placing a drop each of specific serum and pepton solution on a cover glass so that their edges touch, and inverting over a hollow slide. The bodies vary in size from 2 to 30 μ, according to the rapidity of formation, are highly refractile, and very resistant to the action of strong acids and alkalies.

The Tenacity of the Scarlatinal Contagium.—F. Lommel reports a case which demonstrates the extraordinary longevity of this virus with almost the accuracy of a physiological experiment. One of the inmates in an institution for deaf children contracted scarlatina, was kept overnight in the isolating room, and then sent to a hospital for treatment, whence he returned in due time and resumed his intercourse with the other children without the occurrence of further cases. The isolating room, after a superficial formalin disinfection, was occupied by a sixteen-year-old girl for 133 days, when a child of nine was allowed to sleep in it for several nights. Twelve days later, this child came down with scarlatina, but no other children were affected. Inasmuch as the inmates of the institution did not come at all into contact with the outside world, the only conclusion possible is that the contagious principle had remained active in the room during the whole period since its former occupancy by the diseased child. The fact that the young girl who afterwards used it came into daily contact with the children without harm is a further proof of the slight risk of a third person's spreading the disease.

Quinic Acid and Gout.—De la Camp has conducted a series of investigations on the value of this agent as a remedy in gout with the result that it seems to offer much that is encouraging to further investigation. Whatever its value, however, the usual dietetic regulations must always be enforced, and the use of carbonated waters is an especially valuable adjunct. Quinic acid does not regularly affect appreciably the uric acid excretion of healthy and gouty individuals on normal diet, but a considerable increase in hippuric acid is always demonstrable. At present it seems that quinic acid is more efficient in decreasing uric acid excretion in those cases in which at the same time a considerable amount of uric-acid-forming food is being taken, or the organism is excreting large amounts of uric acid, as in leukæmia. While the interrelationships of uric and hippuric acids in the human being are very obscure, owing to the difficulty of drawing the proper conclusions from animal and test-tube experiments, the available clinical evidence indicates that quinic acid deserves a place in the therapeutics of gouty diseases.

The Origin and Treatment of Pharyngeal Abscesses.—L. Grünwald says that the commonest form of tonsillar suppuration is the supratonsillar abscess which takes its origin from an infection starting between the pillars of the fauces in the supratonsillar fossa. If opened, as is usually the case, at the site of perforation, the danger of relapse is considerable, while if the incision is made through the infectious region in the supratonsillar fossa, this risk is eliminated. True peritonsillar abscess is a great rarity, and usually emanates from dental trouble or foreign bodies. It may be diagnosticated from the foregoing by the fact that as the pterygoids are not implicated, there is no inability to open to the mouth, and the source of the infection may often be traced to a diseased molar. The tonsillar abscess is also rare, and may be opened by a downward puncture through the supratonsillar fossa, though it is better practice to split the tonsil from top to bottom. Acute retronasal suppuration also occurs, and is indicated by the nasal obstruction attending it. The author does not believe in the acute infectious type of pharyngeal abscess described by some authors, but considers that even the ordinary varieties can form toxins enough to cause great prostration, the typhoid state, or even death.

Deutsche med. Wochenschrift, July 11, 18, *and* 25, 1901.

The Nature of Schüller's Carcinoma Parasite.—F. Völcker's article is an account of his attempts to corroborate the findings of Schüller by repeating the experiments described in his book as sufficient to unmask the organism of malignant disease. All of his investigations were fruitless, in spite of the greatest care, till he used some bergamot oil as a clearing agent, that contained minute fragments of disintegrated cork from the stopper, when at once the various forms described by Schüller appeared in great profusion. Further study convinced the writer that most of Schüller's parasites were artefacts due to contamination in this way, though one form of small granule still remains unexplained.

The Treatment of Hay Fever.—A. Simon has found in sulphate of atropine a satisfactory remedy for the obstinate asthmatic attacks usually associated with hay fever.

His patient was a man of thirty-three, who for fifteen years had been subject to the disease, which began with rhinitis and subsequently developed also conjunctivitis and asthma, the symptoms usually lasting four weeks annually, and increasing in severity from year to year. The whole therapeutic gamut had been run with but slight relief, when it was found that small doses of atropine by the mouth, a short time before the expected asthmatic attacks, sufficed to prevent the occurrence of the paroxysms, and the patient was entirely relieved of this the most troublesome phase of his malady, though the nasal and ocular inflammations were not alleviated.

The Palpation of the Rectum from Without and Its Therapeutic Application.—W. Ebstein describes this method of examination, which consists in palpating the left side of the gluteal cleft between the tip of the coccyx and the anus. When the rectum is distended with fæces, it may be felt in this situation as a rounded, somewhat nodular mass having about the thickness of the thumb. The identity of this tumor may be established by gentle massage directed toward the anus, when fæces will be easily extruded, and the mass disappear. The manipulation lends itself to therapeutic use in two ways; first as a substitute for enemata in cases of chronic constipation, and secondly as massage for the purpose of giving tone to a relaxed rectum. Patients readily learn the technique, and can conveniently apply it when seated upon the closet without the trouble attending the use of the syringe, or any risk of soiling the hand.

A Cured Case of Tetanus.—E. v. Leyden reports the case of a groom who on the third day of his disease received a subdural infusion of 5 c.c. of tetanus antitoxin, which was repeated three days later. Ten c.c. of cerebrospinal fluid were first withdrawn and injected into mice, in order to confirm the diagnosis, with positive results. On the day of the first injection the temperature was 105⅘° but on the same day it dropped to 101⅘°, and the next was almost flat. This lowering of the temperature the author considers of the greatest importance, and he does not recall a single case in which, before the antitoxin days, the temperature reached 105⅘° and the patient lived. After the injections, the patient ran the usual course of the disease, with well-marked trismus, though fluids could be swallowed without difficulty. Chloral was found more useful than opium as a sedative, and the nutrition was carefully kept up. Now, in the fifth week, the patient is practically well, though some stiffness of the legs and a trace of the trismus still remain.

A New Bacillus of Syphilis.—J. de Lille and L. Jullien describe an organism they have obtained from the alexin-free plasma and blister fluid of syphilitics. It is a polymorphous bacillus growing well on ordinary media, and after ten days assuming a granular form which, resown, gives rise again to the original type, but after thirty days remains sterile. The organism is to be found in all patients in the florid stage of syphilis, and with their serum gives an agglutination-reaction which does not occur with the blood of non-luetics. Inoculation into animals produces symptoms comparable to those occurring in man, and the bacillus fixes the alexin of animals inoculated with syphilitic products. Syphilitic subjects do not react to infection with it, and in both animals and man it disappears after death, which perhaps accounts for the fact that no case of infection sustained in performing autopsies on luetic cadavers has ever been recorded.

Transitory Mental Aberrations of Hysterical Nature.—M. Sander reports four such cases that have come under his observation. Three of these were in women, all of the lower class, and the fourth in a military recruit. Each of the women had been subjected to prolonged mental strain concerning her love affairs, which culminated in sudden mental irresponsibility, delusions, and attempts at suicide. This condition lasted for from twelve hours to fourteen days, when it ceased as suddenly as it began. The soldier was a naturally weak individual, who was unable to perform his duties easily, and was therefore subjected to the ridicule of his comrades. This resulted in a degree of mental aberration sufficient, in the author's opinion, to account for the development of a state of acute stupor lasting six days, and then terminating suddenly with entire amnesia of the period of illness. Such conditions are much commoner than is usually thought, and especially suicidal attempts on the part of young women are often explicable on these grounds, *i.e.* as being the result of more or less prolonged mental stress, and having an underlying hysterical basis.

Berliner klinische Wochenschrift, July 8, 15, and 22, 1901.

Paroxysmal Tachycardia.—U. Rose reports an instance of this affection in a man of forty-eight who, from youth up, had been subject to cardiac "crises" lasting from hours or days to weeks at a time. Three such attacks were observed by the author, and consisted in a sudden rise of the heart beats to over 200 in the minute without change in the cardiac dulness or marked irregularities. No dyspnœa or pain, no physical signs of any organic lesion, urine negative. The attacks ceased as suddenly as they had come on, in the one case after a week, and in the other two after a single day. In addition, there were marked gastric disturbance and various nervous manifestations, such as herpes labialis and polyuria. The author considers the affection as a central neurosis though he is unable to explain the rationale of its development.

Zomotherapy.—C. Fränkel and G. Sobernheim publish some investigations made to determine the value of a form of treatment for tuberculosis called zomotherapy, advocated by Richet and Héricourt. These observers found that by feeding dogs with raw meat they were able to prevent the development of artificial tuberculosis in these animals. Dogs fed on ordinary diet succumbed thirty to forty-five days after inoculation with virulent bacilli, while others that had daily received one to three pounds of raw meat were still alive six months after the injections. The authors repeated these experiments on two sets of dogs (ten in all), and on a series of four rats. The animals were divided into pairs, and all the conditions of inoculation, etc., were kept as nearly as possible identical for the two, except that one was kept on mixed diet, while the other received only raw meat. The results were wholly at variance with those of the earlier investigators, for there was no difference in susceptibility of the animals to the disease, and possible sources of error were so carefully excluded that the authors believe the proposed plan of treatment offers but little encouragement.

Alterations in the Multinuclear Leucocytes in Some Infectious Diseases.—H. Hirschfeld describes a change in the staining properties of the granules in the multinuclear neutrophilic leucocytes. This was observed in pneumonia, scarlatina, and phthisis, with high temperatures, also in measles with bronchopneumonia, but not in typhoid fever or uncomplicated measles. In these affections the granules of the multinuclear leucocytes, which ordinarily are neutrophilic, become basophilic, and may be stained with methylene blue or methyl green. Usually most of the cells exhibit this change, but often only a larger or smaller portion take up the basic dye. Observations in the cells of bone marrow which exhibit similar changes under these conditions lead the author to believe that this characteristic is indicative of youth, though this is only a tentative hypothesis. Another morphological change was observed in all infectious diseases accompanied by high temperature, and consisted in the presence of an oval or circular body either at the periphery of the multinuclear neutrophiles or else situated between the edge of the cell and the nucleus. These were to be seen only when methylene blue or eosin-methylene blue was used, and then appeared stained faintly blue. The author was not able to determine whether these bodies were due to nuclear degeneration, or whether they were of the nature of centrosomes.

French Journals.

Contusion of the Abdominal Wall, with Only a Subcutaneous Rupture.—Legnen reports an interesting case of a man who received a severe blow on the abdomen. The aponeurotic layer only was ruptured, without any deeper lesion. There was a slight hernia in consequence, for which the writer performed a radical cure later on. The patient made an uneventful recovery.—*La Presse Médicale*, July 13, 1901.

Permanent Slow Pulse.—A. Halipré gives some interesting observations on this subject, concluding by the description of an old man who had been afflicted for eighteen months by crises in which he suffered from a slow pulse, syncope, and incontinence of urine. The alteration in the vascular system was evident from the state of the cardiac contractions, the hardness of the radials, and the traces of albumen in the urine. One suspects in this patient the existence of nodular arteritis, so frequently seen in advanced age, and the habitual cause of the vertigo of the old, and even of senile epilepsy. Whatever the causal lesion may be, the clinical diagnosis of this syndrome is not open to discussion.—*La Revue Médicale de Normandie*, June 25, 1901.

Intubation and Tracheotomy.—G. Carrière reviews several causes of laryngeal obstruction: Neoplasms, both malignant and benign, phlegmonous laryngitis, cicatricial or congenital malformation of the parts, loss of tonicity of the vocal cords, and muscular constriction. In order to overcome the asphyxia so caused, two operations present themselves tracheotomy and intubation. The ques-

tion of choice is complex. Intubation offers several advantages over tracheotomy. The laity accepts it with more ease; it does not leave a lasting scar; the following shock is less than that after tracheotomy; the air which reaches the lungs is purer than that through the tracheal cannula; convalescence is shorter; the mortality is less than that observed after tracheotomy. However, a physician who has never seen the operation, but who is familiar with tracheotomy, should never attempt the former; tracheotomy should be chosen if the physician lives far from the patient, and if there can be no trained attendant present; if the child is at the point of death, tracheotomy should be performed at once; it is also indicated in intense glottic œdema. In general, every laryngeal affection accompanied by ulceration ought to be tracheotomized, as well as all permanent laryngeal stenoses. Intubation is indicated in laryngeal paralyses; also in laryngeal phthisis or syphilis if there is no ulceration. In cancer, tracheotomy should be done. The technique of these operations should be acquired by careful practice on the cadaver.—*Le Nord Médical*, July 15, 1901.

Varicose Tuberculosis of the Anus.—G. Augier and J. Voituriez speak of this variety as a rather rare form of cutaneous tuberculosis. This affection is often mistaken for papillomatous epithelioma, and the two can sometimes be differentiated only by careful histological examination. The following case is cited: The patient was a man aged fifty-three years, ordinarily robust, though rather thin. He had no cough, nor any signs of pulmonary tuberculosis. He had no venereal history. He had, about five months previous to his appearance at the hospital, felt the presence of a small, painless mass, which at first he took for a hemorrhoid. Later he suffered pain on defecation, and crises of constipation occurred. Then came a discharge of pus from the anal region. On examination, there was seen a slightly elevated area at the margin of the anus, irregular, but clearly defined, and of a grayish pink color. It was made up of small elevations about 2 mm. in height, and separated by tiny grooves. About in the center was a deeper groove, pink, and of a cicatricial aspect—evidently the source of the pus. The right side of the sphincter was indurated. The consistence of the mass was rather hard, but it did not possess the characterisitc resistance of true epithelioma. The mass was excised and examined carefully. There were a great number of typical tuberculous nodules, with giant, epithelioid, and embryonic cells. The connective tissue was completely masked by the embryonic elements and the giant cells. This affection appears like tuberculosis of inoculation, and may be observed in individuals presenting no sign of pulmonary tuberculosis.—*Journal des Sciences Médicales de Lille*, July 13, 1901.

American Journal of the Medical Sciences, August, 1901.

Anæsthetics in Heart Disease.—John M. T. Finney quotes from MacLeod the three factors which contribute to the uncertainty of the result in the administration of an anæsthetic: "The special action of the agent employed. The peculiarities or idiosyncrasies of the patient as to susceptibility. The skill with which the agent is administered." From the study of 142 cases, he believes that in the myocardial affections only do anæsthetics exert any markedly bad effects. In valvular disease their influence is very slight, but yet they are appreciable; while in functional disturbances they are insignificant. He is convinced that in every operation the anæsthetist plays almost as important and sometimes a more important part than the operator. The hospitals should possess a thoroughly competent corps of anæsthetists, and the medical schools should offer a complete course of instruction in the proper methods of administration of these agents.

Cardiac Accidents After Anæsthetization.—Alfred Stengel concludes that it is always difficult to determine whether cardiac disturbance after operation is due to the anæsthetic or to the operation. In many cases of cardiac disease the use of ether is temporarily beneficial to the cardiac condition. There may, however, be secondary unfavorable effects. Such accidents as basal pneumonia, gastroduodenal disturbances, and especially embolism, are the results of a weakened condition of the heart, and may be due to anæsthetization or to the shock of the operation. The writer believes rather that the unfavorable results of anæsthetics are due to the disturbance of the nervous mechanism or to the muscular antomaticity, than to organic changes in the myocardium, endocardium, or pericardium.

Pre-existing Heart Disease in Reference to Surgical Operations.—William J. Mayo believes that the knowledge of cardiac insufficiency in a patient robs it of much of its danger. Valvular disease is generally well compensated between the ages of ten and forty years. The condition which the surgeon should fear is myocarditis. In the records of operations which he has studied, over one per cent. of the patients have had some form of heart lesion existing before the operation.

The Safest Anæsthetic to Use in Organic Diseases of the Heart and Vessels.—H. A. Hare declares that very few people even with grave cardiac and vascular disease die as a direct effect of the anæsthetic. Indeed, statistics show that very few people with cardiac disease die from this cause. A greater number of those afflicted with heart disease die at stool or on going upstairs, than from the effects of anæsthetics. Anæsthetics when skilfully given are attended rather by favorable than by unfavorable results. The shock of the operation is to blame for the majority of accidents occurring during the administration of an anæsthetic, rather than this agent itself.

Some Conditions other than Aortic Aneurism which Determine the Occurrence of the Tracheal Tug.—Henry Sewall, from his study of the tracheal tug, does not believe it to be pathognomonic of aortic aneurism. He concludes that a tracheal tug quite palpable in character is, in the majority of cases, associated with and dependent upon adhesions of the left pleura. Diminished extensibility of the lung tends to produce the same phenomenon, and the tug is most pronounced when the conditions are combined. Also, in the normal individual, descent of the heart with inspiratory movement of the diaphragm may so press the aortic arch upon the left bronchus as to impart to the trachea the aortic pulse, recognizable at the larynx as a palpable tug of greater or less distinctness.

Primary Sarcoma of the Thyroid Gland.—August Jerome Lartigau concludes that primary sarcoma of the thyroid gland is rare, but probably of more common occurrence than statistics show. It is less frequent than primary carcinoma of the thyroid gland. It is commonly associated with goitre. Cases developing in persons between forty and sixty years of age show a higher percentage of previous goitre than those in younger individuals. Goitre associated with sarcoma of the thyroid is more common in women than in men. Sarcoma of the thyroid occurs oftener in late than in early life, the greatest age frequency being between forty and sixty. Sex is probably an unimportant element. The primary tumor most frequently originates in the right lobe of the thyroid body. This seems to be more frequent in men than in women. The clinical course of the disease is usually relatively acute. Involvement by pressure or new growth of the trachea or larynx is common. Metastasis occurs through blood or lymph channels, or both. Round and spindle- or mixed-celled sarcomata are most common. Angiosarcomata are not rare.

The Edinburgh Medical Journal, August, 1901.

Some Notes on Alcohol in Its Medical and Scientific Aspect.—G. Sims Woodhead sums up his opinion of alcohol in the following words: It is a narcotic poison, of which the pernicious effects are to be seen at all times and on every hand. It is a drug, which under certain conditions may be valuable, but it is a dangerous medicament in the hands of any one but a physician, and even in the hands of the physician or surgeon its exhibition is attended with dangers that attach to the prescription of no other substance in the pharmacopœia; these dangers are not moral only, but physical dangers, resulting from the action of alcohol on the tissues generally, but especially on those of the nerve centres. Its food value under ordinary conditions is practically nil, and, put in the most advantageous light, can only be temporary, and then of an extraordinarily slight and wasteful character.

Reduplication of the Second Sound of the Heart.—C. C. Gibbes considers that reduplication of the second sound is present when the aortic and pulmonic portions of it are sufficiently asynchronous to permit of both being heard, the presence of an interval being an accident, not a necessity. Authorities, as a rule, agree that this reduplication is due to asynchronism of the aortic and pulmonary portions of the second sound, and the author holds that the side of the heart which has to cope with the greatest amount of abnormal intraarterial pressure takes the longest time in getting up steam to overcome the said pressure and open the semilunar valves; it therefore begins its contraction before the other ventricle. The following points have a special bearing on the relative position of the pulmonary and aortic second sounds: (1) The point of maximum intensity of the first portion is, as a rule, in the pulmonary area. (2) The intensity of the second portion is greater in the aortic than in the pulmonary area. (3) There was increased intensity of the second portion to the left of the apex in the cases referred to by the writer.

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Sixty-ninth Annual Meeting, Held at Cheltenham July 30, 31, August 1 and 2, 1901.

(Special Report to the MEDICAL RECORD.)

THE meeting opened according to programme on Tuesday, July 30, at Cheltenham, under the presidency of Dr. G. B. FERGUSON, Senior Surgeon to the Cheltenham Hospital. This was the second visit of the association to Cheltenham. The first was sixty-four years ago, when there were only about 1,000 members.

Following the custom of recent years, there was a church service on Tuesday morning. This was held at St. Matthew's Church, and the sermon was preached by Dean Spence, who dwelt on the changes effected in the works and ways of men by the religion of Jesus Christ, and particularly those changes with which medical men are most in contact. First of these is the new aspect of death as the result of life on earth—dissolution becoming no longer a terror or a speculation, but the gateway into life, into "the garden of the blessed." The glowing conviction of this truth, which made men enamoured of death and martyrdom, paled when the Roman world adopted Christianity *en masse*; but if anything is a foregleam of the kingdom of heaven, it is the brotherhood of charity of the modern Christian world. These results are more the fruit of Christ's teaching. In the long catalogue of these results the heading of one of the chapters of changes stood out in letters of gold. Its development was mainly due to the self-denying labors of the great profession represented in that gathering. Hospitals, unknown to the Pagan world, appeared in the first century of the Church's triumph—a Roman lady, Fabiola, having founded the first in Rome. Were he addressing any other congregation, he might dwell upon the services rendered by physicians and surgeons to this mighty outcome of Christian influence—the hospital and all the blessed services that surround it. Had he to live his own life again he would like to throw in his lot with them, who, in truth, mostly live the life we Christians say we love, who follow closest of all in the footsteps of Him known as God, Redeemer, Friend—the Great Physician, who loves us well, even unto death.

After the sermon an offertory was taken on behalf of the Royal Benevolent Medical College and the British Medical Benevolent Fund, the national anthem was sung, and the service ended with voluntaries from the Hallelujah Chorus and Hollins' overture in C minor.

For those members who arrived in time there was a pleasant prelude provided by an "at home" given in the Winter Garden on Monday night by the Museum Committee. There were assembled many of the local profession, the guarantors and subscribers of the reception fund, and the exhibition was formally opened by the Mayor. This exhibition contains no less than 112 stands, and 3,000 square feet of tables were covered with the display. It was said that this year's exhibition surpassed all previous ones. After the Mayor had declared it open, there were calls for Dr. G. A. Peake (the indefatigable Secretary of the Museum Committee), and on his appearance there was a buzz of expectancy, but he confined his oratory to the announcement that refreshments were waiting in the marquees to be consumed, a statement that elicited much laughter and applause, as most of the company filed out into the gardens, where justice was done to the waiting refreshments, and the time whiled away till towards midnight. There was a rumor during the time that a serious accident had occurred, and it proved afterwards that on a trial trip of the new electric train a car had been overturned and two workmen killed. Dr. Norman Walker, on returning from the "at home," met with a bicycle accident and suffered a dislocation of the clavicle.

GENERAL SESSIONS.

First Day—Tuesday, July 30.

This took place on Tuesday afternoon. The chair was taken by Dr. ELLISTON, the retiring President, who reviewed his term of office and remarked that the association had made satisfactory progress. He then made way for the President-elect, Dr. Ferguson, who, having been inducted into the chair, referred to the coincidence that this second visit to Cheltenham of the association was at the beginning of a new reign and that, on the first visit, an address of congratulation was voted to the young Queen, Victoria, who had just ascended the throne. As a natural corollary he proposed a similar address of congratulation to the King, which was seconded by Dr. Roberts Thomson and carried by the members rising. On the motion of Dr. Beverley, seconded by Mr. V. Horsley, a vote of thanks was heartily accorded to the retiring President.

The President then moved and Mr. Parkinson seconded a vote of thanks to the Rt. Hon. W. H. Long for his strenuous and persistent efforts to stamp out hydrophobia. This was carried.

The President of the Council then presented the annual report in which it was stated that the number of members last year was 18,382. During the year 1,010 members had been elected, 238 had died, and 752 resigned. The revenue last year was £43,419, the expenditure £38,943, including £500 written off for depreciation of plant and other losses. He moved the adoption of the report, which was seconded by Mr. A. Clarke.

Dr. HADDEN moved an amendment respecting the Scientific Grants Committee, but this was passed on to the report of that committee. Dr. Brierley criticised the vast amount spent on editorial work, which was above £5,500, while less than one thousand went for science. He asked for further information on this subject. Mr. Clarke offered some explanations of the expenditure on the *Journal* but this only elicited further criticisms and brought up the editor. He stated the principles on which he acted and mentioned among other expenses the valuable articles on surgical work in the South African war, and argued that such outlay maintained the reputation of their *Journal*. The report was adopted.

On the report of the Scientific Grants Committee, Dr. Hadden's amendment was taken as in order. He moved that the committee be requested to give prizes for original research in specified subjects—such *e. g.* as metabolism—and argued that this would be far more likely to promote scientific progress than the plan at present pursued and in which the money was squandered. He was seconded by Dr. Nelson Hardy.

Mr. BUTLIN deprecated tying the hands of the committee, who were sure to consider any suggestions made. He looked forward to a time when they should have laboratories of their own and have researches made under their own direction. The amendment was defeated by a large majority, and the report was adopted.

Dr. SARAT K. MULLICK took an opportunity of again ventilating his views respecting the Indian service. He protested against the report of the Indian Military Medical Services Sub-Committee, and held to his original statements against the services. The committee had given him three months to prepare his evidence, and he was ready with it within that time; but they had already issued their report. He moved that the report be referred back. Mr. George Brown seconded. Surgeon-General Harvey contended that there was not a shred of evidence for the allegations made by Dr. Mullick. He had had two years in which to substantiate his charges; but had not done so. The report was eventually adopted by a narrow majority (44 against 38); and the meeting, by a slightly larger majority, refused to expunge the implied

censure on Dr. S. K. Mullick, who expressed regret that bad feeling had been excited by his simple wish to have an inquiry into Indian grievances.

Presidential Address.—The adjourned general meeting was held in the evening, when a large audience assembled to hear the address by the President, Dr. George Bagot Ferguson. The orator took for the title of his address, "Scientific Research: the Indispensable Basis of all Medical and Material Progress." His first duty was, he said, to welcome his hearers to Cheltenham, which had not been visited by the association since 1837. In the year of the Queen's accession, when the fifth annual meeting was held, the association had only 940 members; now it was a great and powerful body numbering 19,000, and including thirty branches in the British Colonies and in India. Having described Cheltenham's many advantages as a health resort, and the virtues of its mineral springs, he expressed regret that they had lately been neglected by those who could afford to visit the Continent, and he assured gastric and hepatic sufferers that they would find the Cheltenham waters still as efficacious as the very best springs of Germany. Turning to the foundations of medicine, he said Terence's sentence, "Homo sum, humani nihil a me alienum puto," might well be taken as descriptive of the modern practitioner of medicine. There was much, no doubt, repulsive to them at first in their professional education, but the cheering thought of doing service to their common humanity removed the feeling of abhorrence that would otherwise have overcome them. Anatomy was the indispensable basis of medicine and surgery, and the younger members of the profession should be careful to dissect whenever they had the opportunity. Dividing diseases into anatomical, physiological, and parasitic, he traced the advances made by medical science in the last century. Speaking of treatment by bleeding, he said this was formerly overdone, but the pendulum had now swung too far in the opposite direction, and lives were lost for want of it. He had himself seen desperate cases of pulmonary obstruction in which he had advised it; but friends objected, and the patient died. On the other hand, there had been remarkable cases of the recovery from epilepsy, puerperal convulsions, and apparently hopeless pneumonia after free bleeding. Pondering over medicine as it stood today, the main fact that struck him about it was how much more it owed to the biologists and to the men of pure science than to the so-called practical men. The practical man was indispensable, but he was not, like the great biologists, a high priest of the Arcana of Nature. The cell theory, for example, lay at the very foundation of modern medicine, and this theory originated entirely with the biologists. Speaking of other great discoveries of scientific investigators, he touched on bacteriology, the Röntgen rays, antitoxins, animal extracts, the investigation of malaria, ophthalmology, and the work of the scientific chemists—Courtois, who gave us iodine in 1811; Balard, who gave us bromine in 1826; Serullas, who discovered iodoform in 1822; Soubeiran, who discovered chloroform in 1831; Liebig, who discovered chloral in 1832, and Neimann, who gave us cocaine in 1860. Not one of these was a practitioner, nor, he was sorry to say, a Briton. He was afraid that Great Britain and Ireland would not play a worthy part in the advance of pure science till some improvement was made in their educational system. On the Continent, he had been struck with the thoroughness and scientific spirit everywhere manifested; very different from the anti-scientific spirit in this country. This might be remedied by better education of the young. The cost of an adequate system would be as nothing in proportion to the gain; and a Faraday, a Koch, or a Pasteur would be a cheap purchase at a million. In conclusion, the President urged members to be jealous of the dignity of their profession, and to aspire for the very best in each department of practice.

Second Day—Wednesday, July 31.

This extremely important meeting was looked forward to with unusual expectation, as its chief business was the reorganization of the association. A committee had prepared a new constitution, which had been circulated and discussed in the *Journal* for months, and there were thus elicited many differences of opinion as to the proposals.

Mr. E. Owen, chairman of the Constitution Committee, moved the adoption of the report as conciliatory in form and opening the way for such further reforms as might be found desirable. He did not advise throwing the association into the melting pot in the hope of getting a Royal Charter. Mr. V. Horsley seconded, and the President put the resolution and pronounced it carried almost unanimously.

Mr. Whittaker, of Great Yarmouth, moved "That the principle of the report be adopted." He thought it would avoid the distinction of members attached and unattached to branches and remove local prejudices. It would also substitute a distinctly elective body for what is very much of a chance assembly. Mr. Verrall, of Brighton, seconded, and the resolution was carried on the understanding that the clauses of the report should be considered individually. Long discussions followed; various amendments were put forward; some were accepted, others negatived, widely varying opinions were expressed, and the discussions had at length to be adjourned. It was rather wearisome, and may not much interest persons who are not members.

The association accepted an invitation to Manchester for 1902, and appointed Mr. Walter Whitehead, President-elect.

In the afternoon following this meeting, a garden party was given by the Mayor and Mayoress of Cheltenham to the members of the association and their ladies.

Address in Medicine.—Dr. James F. Goodhart, at the evening session in Princess Hall, delivered this address, under the title "Friends in Council," in which he took up the relation of the patient to the practitioner in its widest signification. With all the accumulated knowledge of the medical profession, he said, there is much about the mechanism of the human economy and the relation of drugs to disease that is not only not known, but probably never will be known. The physician is hampered because the patient wants to know too much and is better satisfied to have his ailment named at once and wrongly so by an incompetent man than he is to trust himself to the care of a man who knows his own limitations, but who is capable of scientific investigation of a condition, of arriving at an accurate conclusion, and of finding a cure or at least an amelioration for the trouble. The people of the present time were morbidly sensitive, and sought the physician and the surgeon unnecessarily, and there was a tendency for the profession to be morbidly conscientious; there were many departures from normal in the human mechanism still consistent with longevity and a fair degree of health. The public had the dangerous "little knowledge" gleaned from advertisers and from the unguarded expression of opinions by physicians, too often incompetent ones, and often lost sight of the personal equation in their constant demand for a system of medication.

So far as doctors were concerned there was a morbid readiness on their part to detect disease, and there existed a risk that they too little appreciated how good a state of health was compatible with numberless slight and sometimes even considerable departures from normal. Doctors tended to make their standard too severe for practical purposes. He took for example the heart. Over and over again a heart was said to be strained, or weak, or dilated, or even diseased from a want of sound appreciation of what was to be considered health, not for the general case, but the particular. He hated the term "weak heart." It coffined or threw useless

upon society many an otherwise useful life. Hearts were either diseased or healthy. They were all the better for plenty of work. Many a one who coddled a weak heart died of disease which an indolent habit had produced. Respecting drugs, the doctor said they were given often as an experiment. The public were particularly sensitive and ill-informed on this matter. It was often said as a matter of prejudice against hospitals that the patients were made the subjects of experiment. So they were, but it happened not only in the hospital. Each new patient was more or less a case for experiment—the king sitting upon the throne as well as the poorest subject. It was by experiment that the value of drugs was established and new powers gained over disease. The cure of disease was always the fundamental object. He would not for a moment even seem to discountenance new remedies. What he would discountenance was giving drugs by rule of thumb. The open-air treatment of consumption of which we heard so much nowadays was bidding fair to come under the baneful influence of routine. The "new treatment," what did the consumptive and his friend see in this? He saw a residence for a few months in a home, and a cure at the end of it. Was this what he had any chance of obtaining? Certainly not, and in proportion to the exaggerated hope would come the bitterness of disappointment to him and the discredit to the doctors. The benefit to be obtained in these sanatoria was that there would be learned a habit of life, plenty of good food and plenty of fresh air, and, having learned his lesson, the tuberculous man would need to practise it all the rest of his life. There was no cure in this treatment, as the sick man understood cure. Although it was true that there was no disease more often arrested than phthisis, it was equally true there was no disease that had a more inveterate tendency to relapse, and he feared that in the balance relapse had the better of arrest. Therefore, if the open-air treatment was to take its real place, and be of any abiding value, the principles of the sanatorium must be introduced into the home. Antiseptics in lung disease had had a long day, tempered by a momentary lull when it was proposed we should be converted into gasometers for that storage of sulphureted hydrogen which was to cure consumption. He mentioned this only to show how much we needed to keep our imaginations in check in thinking of the cure of disease.

Third Day—Thursday, August 1.

This day began with the annual breakfast provided by the National Temperance League. The Rev. W. Flecker, head master of the Dean Close Memorial School, presided. He remarked that many clergymen were total abstainers, but people were apt to regard that as a matter of business, and so they had less influence against the consumption of alcohol than doctors who were abstainers.

Mr. Eccles observed that few doctors now advised the use of alcohol indiscriminately. They prescribed it, if at all, in regular medicinal doses like other dangerous drugs.

Dr. Ridge, Secretary of the Medical Temperance Association, said it numbered 500 members and nearly 500 student associates.

This day also the adjourned discussion on the constitution had to be continued. It was carried on in the same way, all opinions being freely expressed and amendments fully considered. Eventually the adoption of the report was carried with only minor alterations, and the association will enter on its new career.

Address in Surgery.—Sir William Thomson took for the subject of his address, "Some Surgical Lessons from the Campaign in South Africa." He said that the large proportion of wounded who recovered was totally unexpected, and was due partly to the character of the bullets employed and partly to early application of the first dressing; the high temperature and very dry atmosphere were also favorable. The high-velocity bullet striking a bone at short range made a much comminuted fracture; the destructive effects lessened as the range was increased, and the velocity of the bullet consequently diminished; therefore when a bone was broken by a bullet and there was no other lesion but the track through unimportant soft parts, the indication was to apply an antiseptic dressing, secure immobility, and keep the patient at rest till more deliberate attention could be secured. In no war had the number of amputations been so few, the number of limbs saved so many, or the operation-mortality so small. Excisions were rare, and amputations were done on the field only when vital parts were involved or when great destruction had been caused by a shell. The treatment of penetrating abdominal wounds was unsatisfactory whether operated on or not. The orator thought that a man with an abdominal perforation by a small-bore bullet had a better chance of life without operation, considering the circumstances under which laparotomy on the field must be performed. He did not think the practice of searching for and removing bullets under ordinary circumstances was justifiable.

The Stewart Prize was presented to Dr. Patrick Manson for his researches on tropical diseases, particularly tracing the life history of the malarial parasite.

Mr. George Brown brought forward a resolution against the Midwifery Bill or any legislation which will form a separate class of practitioners. He condemned the conduct of the Obstetrical Society in sending out women with three months' training. After some discussion the motion was withdrawn.

Dr. Doyen, of Paris, gave an exhibition of instruments and of operations illustrated by the cinematograph. At 7 P. M. the public dinner was held, followed by the ladies' reception.

Fourth Day—Friday, August 2.

The concluding general meeting was chiefly occupied with votes of thanks to various persons who had helped to make the meeting a success and some other rather formal business. Afterward there was the excursion to Gloucester for those who desired a little change from the more serious work of the sections, and to close up this serious work was a soirée and dancing.

SECTION OF SURGERY.

First Day—Wednesday, July 31.

Renal Tension.—The President, Mr. Reginald Harrison, opened the proceedings of the section with a paper on "Renal Tension, and its Treatment by Surgical Means." Mr. Harrison's attention was first directed to the subject by the good results following operations undertaken for the relief of symptoms pointing to calculus or other removable cause where no such condition was discovered. The descriptions given by medical writers of the post-mortem appearances of kidneys which had been the subjects of nephritis were highly suggestive of the probable value of mechanical assistance toward recovery. High tension in an inflamed kidney leads, in addition to hemorrhage and exudation, to a slow extravasation of urine into the tissue, which is highly destructive. Analogies may be found in the evil effects of high tension in the eye and in the testicle. Six cases were narrated, one operated on for supposed pyonephrosis, two for supposed stone, two for hæmaturia and other symptoms following injury, and one for cystic disease. In all of them nephrotomy was followed by recovery; in the case of cystic disease, drainage was continued for thirteen months. Mr. Harrison did not advocate nephrotomy for the ordinary cases of acute nephritis, but for those which are passing on to the subacute and chronic stages and for what he termed the malignant type. The operation consists of a limited incision through the renal capsule along the con-

vex border. Drainage is carried out for a variable period thereafter.

Mr. W. D. SPANTON could quite appreciate how impossible it is for a congested kidney to relieve itself in any other way than by leading to hemorrhage or some destruction of its delicate tissues by compression. He narrated two cases, showing a good result following simple nephrectomy; one a case of chronic nephritis with hæmaturia, the other a case of injury during gymnastics and aggravated by a kick. In neither was any definite lesion found on operation; in both the hæmaturia and other symptoms disappeared.

Dr. WARD COUSINS expressed the opinion that those cases in which the procedure was likely to be of most benefit were the cases in which the kidney had been healthy up to the commencement of the attack. He had had the same experience as Mr. Harrison in regard to operating for supposed stone with good result where no stone was found. In cases of renal disease associated with bladder trouble he did not think the proceeding likely to be of value.

Mr. BARLING believed in the efficacy of wet cupping in the loins. He considered that cases of injury to one kidney were those most likely to be benefited by incision as recommended.

Mr. R. C. CHICKEN did not think a premeditated nephrotomy simply for the relief of tension was justifiable. Incision into the kidney did not permit of clearing out of clots.

Sir WILLIAM MCCORMACK congratulated Mr. Harrison on his paper.

Renal Calculus.—Mr. JONATHAN HUTCHINSON, Jr., then read a paper with this title. He advocated that method of removing calculi which caused least disturbance to the kidney and its surroundings. Skiagraphy he had found of great value as an aid in the certainty of removing all stones, of exactly localizing the stones, and of demonstrating small stone. The radiograph defines the position of the stone with great accuracy. It is not uncommon to find pain referred to the side opposite to that on which the stone is; in such cases skiagraphy will prevent mistakes.

The PRESIDENT enquired as to the possibility of coloring calculi with methylene blue in order to increase the density of the shadow.

Mr. RUTHERFORD MORRISON thought that skiagraphy had not yet reached the point of perfection where one could say with certainty that no stone was present. He advocated incision through the renal pelvis for the removal of stones.

Dilatation of the Stomach.—Dr. HERBERT BRAMWELL read notes of a case of extreme gastric dilatation. This was secondary to peritoneal bands arising in connection with a movable right kidney, which caused duodenal constriction and pyloric stenosis. The case was illustrated by a card specimen.

Operative Treatment of Femoral Hernia.—Mr. R. H. PARRY read a paper on this subject. He described and demonstrated by a model a method of closing the ring from above, which he had devised. He had operated on fifteen cases by this method with good results. Details of the method were discussed by Mr. JORDAN LLOYD and Mr. MCADAM ECCLES.

Prevention of Shock.—Mr. W. H. BROWN read a note on the prevention of shock during prolonged operation. He drew attention to the advantages of continuous transfusion during the course of the operation in cases in which much hemorrhage was anticipated.

Mr. JESSOP supported the views of the writer as to the great value of transfusion in shock. He was in the habit of using large quantities of fluid, as much as five pints, and he also relied on strychnine.

Second Day—Thursday, August 1.

Ulcer of the Stomach and Duodenum.—Mr. GILBERT BARLING opened the discussion on this subject. He said he would exclude perforation of gastric ulcer and cancer of the stomach; he proceeded to consider the mortality of gastric and duodenal ulcer and the conditions calling for operation. These were (*a*) hemorrhage, whether acute or recurrent; (*b*) long-continued pain, vomiting, loss of weight, and repeated disability for work; (*c*) pyloric stenosis with dilatation and gastric stasis; (*d*) adhesions causing stenosis or pain. The methods by which surgery offers relief or cure were next considered, viz., pylorodiosis, pyloroplasty, gastrolysis, gastrojejunostomy, either anterior or posterior, by suture or apparatus, or by simple or special approximation.

In acute fulminating hemorrhage not much success could be expected; in recurrent hemorrhage either gastrojejunostomy or direct treatment of the ulcer could be tried. The cases due to adhesions and stenosis were difficult. He did not favor Loreta's operation on account of the danger of rupturing the coats. Pyloroplasty was perhaps the best plan except when there was great thickening of the pylorus and numerous adhesions. But it was not applicable for the relief of hemorrhage or of pain. As to the simple separation of adhesions, it was at best an incomplete procedure. Mr. Barling had only done anterior gastrojejunostomy once. He used Murphy's button, but has returned to suture. The mortality he estimated at about twenty per cent., its chief cause being delay in operating.

Mr. HEATON estimated the mortality at less than half Mr. Barling's figure. He favored the button. The most favorable cases were those operated on for pain and vomiting.

Mr. BIDWELL recommended Loreta's operation when pyloric stenosis depended mostly on hypertrophy of the muscular coat. He reported last year four cases of pyloroplasty; three of these had since remained well, the fourth had been operated on again for adhesions. In gastrojejunostomy he preferred suture to the anterior operation.

Mr. SINCLAIR WHITE thought pyloroplasty applicable in a few cases, but gastrojejunostomy was much more frequently of service.

Mr. C. A. MORTON related a successful case of gastrojejunostomy for gastric ulcer of seven years' duration.

Mr. RUTHERFORD MORRISON had performed pyloroplasty twenty-two times without a death. Adhesions he held to be always secondary, and he opened the stomach when they were present. Gastrojejunostomy had given him unsatisfactory results, regurgitation being the chief difficulty.

Mr. PAUL BUSH had found the posterior operation much more difficult than the anterior.

Mr. PARRY related two successful cases of pyloroplasty in which he had removed a considerable amount of cicatricial and hypertrophied tissue.

Dr. FERGUSON related a successful case. He operated three hours after perforation of a gastric ulcer which he sutured, then sponged the peritoneal cavity and closed the abdomen.

Mr. MURPHY advocated early operation and Mr. D'ARCY POWER thought that the number of such cases was on the increase.

Mr. J. RUTHERFOD MORRISON then read a paper giving the after-history of a series of cases of gastric ulcer and pyloric stenosis treated by pyloroplasty. The first eleven were fully reported (*Lancet*, February 26, 1898). One he had been unable to trace. The sex, age, date of operation, and results follow after the number of the case in the table: Case 1. Female, 48, October, 1894; is perfectly well, has no symptoms, can take ordinary food, has gained 76 pounds. 2. F., 37, October, 1895; is very well, has no symptoms, takes ordinary food, gained 6 pounds. 3. M., 31, January, 1896; is perfectly well, has no symptoms, takes ordinary food, gained 42 pounds. 4. F., 59, April, 1896; died six months after from malignant tumor of the pylorus; the symptoms improved for a time. 5. M., 32, August, 1896; his father reports "he is very well and is out in Africa with the army." 6. M.,

25, October, 1896; is very well, has no symptoms, takes ordinary food, and has gained 41 pounds. 7. M., 56, December, 1896; died of phthisis April, 1899; his physician reports that "up to his death he had no trouble with his stomach, he took ordinary food, he gained weight up till the time the lung condition appeared." 8. M., 42, March, 1897; is in good health, at times has some return of his old symptoms, gained 12 pounds. At operation no lesion of the pylorus was found (spasmodic stricture?). 9. M., 38, March, 1897; very well, takes ordinary food, is working as a miner, gained 38 pounds. 10. F., 56, September, 1897; very well, takes ordinary food, gained 22 pounds. 11. F., 39, September, 1897; cannot be found. 12. F., 46, November, 1897; very well, no symptoms, takes ordinary food, gained 27 pounds. 13. M., 23, June, 1898; very well, no symptoms, takes ordinary food, gained 20 pounds. 14. M., 41, July, 1898; is very well, no symptoms, takes ordinary food, gained 42 pounds. 15. F., 36, July, 1898; good health, can take ordinary food, occasionally has a little indigestion, gained 33 pounds. 16. F., 39, November, 1898; health much improved, takes ordinary food with care, gained 13 pounds. 17. M., 46, November, 1898; very well, no symptoms, takes ordinary food, gained 34 pounds. 18. F., 21, January, 1899; very well, takes ordinary food, gained 35 pounds. 19. F., 45, March, 1899; in poor health, takes food sparingly, mostly slops, often has indigestion (insufficient notes). 20. F., 36, May, 1899; very well, no symptoms, can take ordinary food, has gained 28 pounds.

The Treatment of Cancer of the Breast by Oöphorectomy and Thyroid Extract.—Dr. George Thos. Beatson read a paper with this title, giving a short outline of a case operated on within the last year, in which the beneficial effects of the oöphorectomy, combined with the administration of thyroid extract, were well shown. Within a period of six months a large cancerous mamma in a patient aged forty-four had entirely atrophied, and the extensive glandular enlargement which was also present had completely disappeared. After showing that other surgeons have furnished corroborative evidence of what Mr. Watson Cheyne has called the "striking" control exercised over the course of carcinoma of the female breast by oöphorectomy and the administration of thyroid extract, consideration was given to the possible explanation of the results observed. As bearing on this point, reference was made to that interesting group of cases in which what may be termed a spontaneous disappearance or quiescence of mammary carcinoma has been observed. No very satisfactory explanation of these cases has been furnished so far, but it was just possible that some ovarian influence had come into play as the factor in the occurrence. Apart altogether from the therapeutic value of oöphorectomy and thyroid extract in cancer of the breast, the speaker said, the results obtained by it must be regarded as valuable in connection with the etiology of carcinoma, at any rate of carcinoma of the female mammary gland if not generally. They would seem to furnish strong evidence against the parasitic theory of the disease. Dr. Beatson dealt with the cases suitable for the operation and discussed the advisability of combining it with the administration of thyroid extract in moderate doses, experiments having shown that large doses have no specially beneficial effect. Lastly, he raised the very important point as to whether sufficient evidence has been furnished to justify the adoption of oöphorectomy as a primary method of treatment in the early stages of mammary carcinoma, either by itself or combined with the present recognized operation.

Mr. Barling thought such time had not arrived. It had not been shown that the ovaries had any specific effect on cancer.

Mr. Chicken combined this procedure with as complete removal as possible. Mr. Eccles regretted the uncertainty of results. Mr. H Styles supported Dr. Beatson's view.

Mr. Morrison mentioned two cases of simple removal, in which there was no recurrence for twenty-five years in the one, and six in the other. These results scarcely favored Dr. Beatson's view.

Section of Obstetrics and Gynecology.

First Day—Wednesday, July 31.

President's Address.—Dr. J. W. Byers, Professor of Midwifery in Queens College, Belfast, opened the Section with an address in which he reviewed the progress of obstetrics and gynecology during the last century.

The Causation, Prevention, and Treatment of Miscarriage.—Dr. Peter Horrocks of Guys Hospital, London, in opening the discussion on this subject, said that he used abortion and miscarriage as synonymous words to signify the expulsion of the fœtus from the uterus before the period of viability, but for the purpose of this paper he preferred the word miscarriage, as abortion was the term always used in the law, and in the mind of the public it was associated with criminal proceedings.

The proportion of abortions to labors at term had been very variously estimated; he would place it at about 1 to 5. Primiparæ were less liable to abortion than multiparous women. In all probability fertilization occurred sometimes in the tube and sometimes in the uterine cavity. In some cases, owing to a diseased condition of the endometrium, the villi of the fertilized ovum could not secure an attachment to the uterine wall, and the ovum was carried away in the stream of the next menstrual flow; in these cases there was no arrest of menstruation and he would call them cases of "menstrual abortion," though the occurrence of this had not been absolutely proved. When a period had been missed the occurrence of abortion was attended by more bleeding, and a very large proportion of abortions occurring after the missing of only one period were of criminal origin. All abortions depended on a premature separation of chorionic attachment to uterine wall.

The causes of abortion were: (1) Criminal, by curette, sound, etc. (2) Accidental, by strain, coughing, operations on the pelvic organs, vaginal walls, rectum, perineum, etc., or the shock incidental to the extraction of teeth. (3) Diseases of neighboring parts, such as fibroid tumors (he thought this was a frequent cause of repeated abortions, generally coming on about the third or fourth month), para- or peri-metritis, diseases of the Fallopian tubes, hæmatocele, or diseases of the rectum. (4) Artificially induced abortion for legitimate purposes. (5) Fœtal causes were syphilis (this was nearly always of paternal origin; a man who was the subject of syphilis should not marry for two years after he had been free from symptoms; syphilis caused abortion at any period of pregnancy usually in later months of non-viability), vesicular mole, scanty liquor amnii, deficient vitality from the father, or cord too short, containing knots, etc. (6) General conditions of the mother such as puerperal eclampsia, zymotic fevers, etc. Voluntary starvation sometimes practised with the intention of bringing on abortion cannot do so.

Treatment.—In the prevention of abortion he urged the avoidance of violent exertion, excessive coitus, shocks, frights; he thought dogs were very dangerous in this respect owing to their suddenly jumping on the woman.

Pessaries were not to be worn after the fourth month, and no vaginal syringing should be permitted.

Ovarian tumors could be removed, and retroflexion of the uterus could be put right by the knee-elbow position and a temporary pessary. Tight lacing must be avoided, also strong purgatives, particularly those containing aloes. Excessive constipation was also dangerous. Enemata must be used cautiously, when neces-

sary—oil was the best, and turpentine must be avoided. Quinine must be avoided. If syphilis was the suspected cause both man and woman should be treated beforehand and the woman should take mercury in small doses throughout pregnancy. Over-suckling must be avoided and a child should be weaned at ten months. Extraction of teeth should be avoided, but if that was necessary an anæsthetic should be given.

In the treatment of threatened abortion, if any bleeding occurs the woman should be examined. If the os was not patent, and the pains were not violent, the patient shall be kept strictly in bed—not even allowed to get up for micturition. Opium should be given, and viburnum prunifolium was useful. When the hemorrhage was severe and repeated the right plan was to empty the uterus. When the os was dilated the membranes shall be ruptured and the uterus cleaned out, under an anæsthetic if necessary, the fœtus being extracted piecemeal. If the abortion had partly taken place it was better as a rule to give an anæsthetic and complete the operation.

Dr. A. Lawrence of Bristol said that when one was single-handed the best plan was to plug cervix and vagina with iodoform gauze; he thought that one should always explore with the finger before introducing the curette.

Dr. Alfred Smith of Dublin would divide cases into (1) those in which it was necessary to interfere; (2) those in which it was not necessary to interfere; in the first he would not give ergot, but gave cannabis indica. In the second he separated the ovum by the finger, and then expressed it by bimanual compression of the uterus. If the ovum was still in utero we should find the internal os contracted, external os dilated; if the ovum had left the uterus the opposite would be the case.

Dr. Hawkins Ambler of Liverpool said the most important preventive treatment was to treat endometritis by the curette. Where women were kept in bed for a long time the most obstinate constipation was apt to arise, which in itself was liable to induce abortion. He favored the curette in preference to the finger, and after curetting packed the uterus with iodoform gauze.

Dr. William Duncan of Middlesex Hospital, London, said syphilis might produce abortion years after the father had been infected; he knew one case in which it was fifteen years after. He thought that heart disease was an important cause of miscarriage. In the treatment of threatened miscarriage, if there was no pain, he gave ergot in five to ten minim doses every hour. In the treatment of inevitable abortion he used an anæsthetic, placed the woman in the lithotomy position, and dilated, and cleared out with the finger, afterwards using 1 in 2000 perchloride solution with a curette.

Dr. Inglis Parsons of Chelsea Hospital for Women, London, said that we were frequently asked what exercise, etc., the patients might take with safety; he thought that, if they were fairly healthy, they might do almost anything; under such circumstances, bicycling, voyages, extraction of teeth under gas, were all safe. As an antiseptic he preferred chinosol and as a sedative viburnum prunifolium.

Mrs. Stanley Boyd of New Hospital for Women, London, thought that plugging the vagina alone was sufficient; it was impossible to plug the cervix without fixing it with vulsella and thus causing a lesion which would be better avoided. As regards traveling, in cases where miscarriage had threatened, she had often been surprised by the safety with which women who had suffered from hemorrhage had borne a journey after the symptoms of threatened miscarriage had passed away.

Dr. Haultain, of Edinburgh, insisted on the importance of obtaining a good dilatation before extraction; for fœtuses of five months the os should be the size of a crown piece (or a silver dollar).

The President said that, in his opinion, early recurrent abortion was generally due to syphilis and, when in doubt, mercury should be given to both parents. The flushing curette was better than the finger.

Dr. Horrocks, in reply, said that he regarded the finger as the best instrument. In his opinion, heart disease was generally associated with scanty menstruation and was not an important cause of miscarriage. It was better to remove the fœtus piecemeal than to waste time in trying to obtain further dilatation of the os when the hemorrhage was severe.

Deciduoma Malignum.—Dr. Horrocks showed a specimen of this affection which occurred in a patient who was supposed to have had a miscarriage two years before. Under the microscope the specimen showed syncytium and decidual cells, and the growth invaded the vascular spaces; there were no blood vessels in the growth. The uterus was removed per vaginam, but the woman died in six weeks from secondary growth and hemorrhage.

Cæsarean Section.—Dr. Munro Kerr of Glasgow read a paper on this subject, reporting three successful cases. In each case the operation was performed for contracted pelvis, the uterine wound was sutured, and the Fallopian tubes were ligated and divided. The speaker insisted on the great importance of a thorough cleansing of the vagina before operation. He discussed the question of sterilization and arrived at the conclusion that at the present time one would be perfectly justified in performing cæsarean section repeatedly on the same patient.

Dr. Purslow, of Birmingham, in a recent case of cæsarean section had turned the uterus out through the abdominal wound before opening it, and after extracting the child had performed hysterectomy.

Dr. Horrocks said that the mortality of craniotomy at the present time was almost nil and it was unfair to compare modern statistics of cæsarean section with old ones of craniotomy.

Shock in Abdominal Operations.—Dr. Hawkins Ambler of Liverpool read a paper with this title. The time element, he said, was a main factor in the production of shock. In the preparatory treatment of patients for abdominal operation they were starved too much. He advised injecting one or two ounces of brandy high up into the rectum at the commencement of the operation. General anæsthesia was an element in its production, and he looked forward to a large future for local anæsthesia. In the treatment, flushing the abdominal cavity with a hot saline solution was an important element, and the patient should not be rigidly deprived of liquids after operation, but should be given water in sips and hot saline injections by rectum.

Dr. William Duncan had found that shock most frequently occurred in cases of hysterectomy, and in these cases he was in the habit of giving three minims of liq. strychniæ hypodermically twice a day for a week before and a week after operation.

The Bacteria of Biliary Calculus Cultivated in the Bile.—F. E. Italia concludes from the results of experimentation that the bacterium coli commune and Eberth's bacillus are the specific organisms of cholesterin calculi. The streptococcus pyogenes and the staphylococcus aureus may rarely cause a biliary calculus, which will, however, be composed only of lime salts, these microorganisms not having the power to precipitate cholesterin. If the bacterium coli commune is associated with the streptococcus and the staphylococcus, its action in the bile will be increased in rapidity, and the resulting calculus will be a mixed one, composed of cholesterin, lime salts, and bile pigments.—*La Riforma Medica.*

BRITISH CONGRESS ON TUBERCULOSIS.

Held in London July 22-26, 1901.

(Special Report to the MEDICAL RECORD.)

(Continued from page 239.)

GENERAL SESSIONS.

Fifth Day—Friday, July 26.

The final meeting of the Congress was held on July 26th, with the Earl of Derby in the chair. The following resolutions were unanimously adopted:

1. Tuberculous sputum is the main agent for the conveyance of the virus of tuberculosis from man to man. Indiscriminate spitting should therefore be suppressed.

2. All hospitals and dispensaries should present every out-patient with a leaflet on the prevention of consumption, and insist on the use of a pocket spittoon.

3. Notification of tuberculosis should be established, when possible. If compulsory notification is impracticable, voluntary should be encouraged.

4. The provision of sanatoria is an indispensable part of measures for the diminution of tuberculosis.

5. Medical officers of health should use all their powers and relax no effort to prevent the spread of tuberculosis by milk and meat.

6. In view of the doubts thrown on the identity of human and bovine tuberculosis, the government is requested to institute an inquiry into the subject.

7. The educational efforts of the great national societies for the prevention of tuberculosis are deserving of support.

8. A permanent international committee should be appointed to report on the measures for the prevention of tuberculosis in different countries.

9. Overcrowding and defective ventilation, damp and insanitary dwellings of the working classes diminish the chances of curing consumption, and are predisposing causes of the disease.

10. The attention of governments and charitable persons should be called to the necessity for establishing anti-tuberculous dispensaries.

The following subject was proposed for the consideration of the next Congress: The constitutional conditions of the individual which predispose to tuberculosis, and the means by which they may be combated.

These resolutions were in due form moved and seconded by different members of congress who made speeches in support of the proposals. There was in fact as one remarked, a good deal said, if but little beyond what had been previously asserted in the several sections.

SECTION II.—MEDICAL, INCLUDING CLIMATOLOGY AND SANATORIA.

Third Day—Thursday, July 25.

Sanatoria for Consumptives.—Professor CLIFFORD ALLBUTT opened the discussion on this subject. He had prepared a paper for the occasion, but owing to the shortness of time, instead of reading it *in extenso*, decided to give only the salient points and suggest certain queries for subsequent discussion—presenting the original paper to the Congress. A generation ago climate was considered paramount in the treatment of tuberculosis. But later it has been shown that excellent results, largely independent of climate, can be obtained by treatment in special institutions commonly called "sanatoria." The method itself, as he had shown in the full paper, was by no means new; but its testing, carrying out, and perfection were new. As to the question whether sanatorium treatment could not be equally well carried out in the patients' own homes, he had little confidence in such attempts. And it was in the congregations at sanatoria that not only the best routine, but the best individual treatment for each case was to be learned.

To speak of the best climate, best diet, etc., for consumption was vain, different cases requiring different management. To speak generally, the coldest air the individual could tolerate was the best for him, since it stimulated his appetite, powers of assimilation, etc. But a climate which a patient thirty-five years of age might bear with advantage would be quite inappropriate to an older person. Feeding should not be forced—overfeeding, especially at low altitudes, often started gastric troubles.

Every sanatorium worthy of the name should have a laboratory. Less time should be wasted in counting bacilli—which did not mean everything—and more given to the study of blood conditions, mixed infections, attenuation of virus, the varying virulence of bacilli, examinations of the secretions of the stomach, testing the urine for toxins, the effects of fever on metabolism, and such like problems.

The tendency of tubercle to become cured was considerable—if it were taken early enough. He would suggest that at least one-third of his hearers, at some time or other in their lives, had been infected with tubercle, and with little ill result. Every report which came to hand—the last he had seen being from the Hanse towns—emphasized the need of early treatment. If such were general he maintained that a great number of advanced cases would cease to occur. Whenever a patient was run down, or even off-color, one should suspect phthisis, cough or no cough. The absence of bacilli must not be taken as a sign of safety.

The duration of residence at a sanatorium must vary according as one expected an arrest of the process, obsolescence of the disease, or a *restitutio ad integrum*. As to the mean duration required for the first he would leave that to discussion. For obsolescence he suggested at least one summer and two winter seasons. For the last an indefinite period was required. The speaker had been latterly much impressed by the wise differentiation of cures by his German colleagues into two classes: economical or *wirtschaftliche* cures, and pathological or *wissenschaftliche*. How long a time must be devoted to an economical cure—that is, before a patient may return to his own home imbued with sanatorium methods? He suggested about six months.

If fever continued more than ten to fourteen days after admission we should be justified in giving a longer period for prognosis. If fever was prolonged four to six months, no good result could be looked for. Old patients and alcoholic ones did badly. In his opinion, a tuberculous pedigree did not count in the prognosis. Pregnancy was certainly very bad, while gout was a favorable factor. Cases of crepitation at one apex must dry up in from four to six weeks if the patient is to come out in three months. As to bacilli, he would attach more importance to the progressive diminution of the sputum, rather than to the presence or absence of bacilli. In cases of phthisis complicated by tubercle elsewhere—*e. g.* lung and testicle—the outlook was bad.

The patient needed fresh cool air day and night, a good diet, but it must be borne in mind that man is at bottom a carnivorous animal and carbohydrates must be administered with care, especially to weak consumptives. He described cases he had seen of emaciated patients with their stomachs painfully distended. Milk, too, must be used with care at first. In addition to digestive difficulties it often, by adding to the bulk of the blood, overtaxed an already feeble heart. A good appetite came with fresh air, as cool as the patient could bear. Rest was necessary at first in all cases, febrile or not; rest in bed was needed, and very often rest for the stomach as well at first. Patients should rest also before and after meals, and if subject to vomiting should be fed in bed. Alcohol, even given medicinally, was always liable to abuse, and was rarely needed. Hydrotherapy was not now used as much as formerly, at Davos at all events. Pulmonary gymnastics were quite inappropriate to the softening forms or in cases of recent hemorrhage. High altitudes seemed to promote the same changes as respiratory gymnastics, but in a more gradual and less risky manner. He had little faith in the internal administration of drugs in phthisis; that is, courses of drugs. In laryngeal tubercle drugs often acted well, but it was then local application.

Lastly the vapid hours and aimless days might be avoided by suitable games for the more vigorous, and quiet occupation for others. The points he would submit to the meeting were: (1) Can mixed infection be inferred from the fever curves? (2) Can we discern between economical or *wirtschaftliche*, and complete or *wissenschaftliche* healing? (3) How long in active cases is a febrile patient to be kept in bed with reasonable hope of recovery? (4) What estimate of improvement can be based on physical signs alone? (5) Is multiple tuberculosis too hopeless for a public sanatorium? (6) Is massage of any use? (7) Is hydrotherapy? (8) Are pulmonary gymnastics appropriate at any stage? (9) Need we repair the body at the expense of the intellectual life of the individual?

Dr. J. Kingston Fowler outlined the development of modern sanatorium treatment. All were now agreed as to its value. The methods adopted could be carried out only in special institutions, at all events far easier and better there than at home. It was so much easier to do as every one else was doing. The aim was to render the lesions obsolete and send the patient out able to stand the stress and strain of ordinary life. This was often to be obtained without the complete disappearance of the bacilli. Besides the cure of the patients, sanatoria afforded an education for them and facilities for research on the part of the staff. As to feeding, the gain in weight depended largely on the amount of food ingested. But weight might be gained without the disease becoming arrested.

In making 1,943 post-mortem examinations he had seen nine per cent. of arrested tuberculosis. Sydney Martin had came to about the same conclusion. One hundred and thirty-four had become arrested at an early stage, while in forty-three excavation was present. One thus learnt from nature the curability of early tubercle.

Hospitals in towns are centers to which patients come. Much might be done in them to educate patients in the management of the sputum, etc. The practice of in-patient tickets should be given up and only out-patient tickets given to subscribers, selection of in-patients being left to the staff, as many valuable lives were lost through cases which might have been arrested having to wait months for a vacancy. He found that it took only two or three days for patients to become accustomed to fresh air, and had even found London fog (fires being kept going in the wards) no bar to treatment.

The speaker thought that among the working class, only the unmarried with no one dependent on them would be able to give the time requisite for the treatment. In the working class, also, relapse was very frequent after arrest of the disease in sanatoria; and opportunities for complete recovery, by engaging in self-supporting horticultural or other work in the country, before returning to the ordinary avocations of town life, were greatly needed.

Dr. R. W. Philip of Edinburgh spoke after ten years' experience with about 700 cases of sanatorium treatment. As to the systematic treatment there must be no hard and fast rule, each case being treated *per se*. Open air or hyper-aeration was the main agent, all were agreed. Exposure should be uninterrupted, and in his opinion there could not be too much of it. He used to have the temperature of the wards regulated by the thermometer. Now that had been quite given up. Free access of air day and night in all seasons was the rule, and the best results were obtained when the atmosphere indoors approximated to that outside. Their winter results under this régime were better than those of summer. He had had some patients sleeping out under an awning, and many of these literally ran ahead. The immediate indication on commencing treatment was rest—in some cases this must be long maintained. The pulse and temperature must be the guide. Patients often came in with a soft, quick pulse of 90 and a temperature of 100.5°. This altered with rest. Exercise would often temporarily send both up again.

Exercise was to be permitted as improvement proceeded and the need for rest lessened, the pulse and temperature being carefully watched; in some cases simple respiratory exercises were given. As to diet, it did no good whatever merely to cram material into the alimentary canal—the patient should be got to eat of his own accord, resting both before and after meals.

The skin being of such importance as a heat regulator, the hygiene thereof should be cared for. The rapid cold bath often did good. Clothing should be of Shetland wool materials. Chest protectors were wrong in theory and practice. The patient should be taught that consumption did not ensue from exposure but from bad ventilation. The only point of medication touched on by the speaker was to mention favorably the diagnostic therapeutic value of tuberculin.

As to sites for sanatoria—they should not be too far from town and not too far from patients' homes and friends. It was better to cure patients under their normal climatic conditions and to educate their friends at the same time. Both of the speaker's sanatoria were within three miles of the center of Edinburgh, and the results were uniformly good if the cases were taken early and the opportunity for lengthy treatment was given. The changes to be noticed in the patients were: Alteration of aspect to that of ruddy health. A gain of weight, sometimes as much as two to four pounds a week, or even eight. This gain meant good solid flesh, muscle as well as fat, and *pari passu* there was a disappearance of myotatic irritability. The temperature gradually modified—not necessarily because the lung condition was satisfactory, for the temperature might become normal with vomicæ present. The pulse from being soft and rapid became slow and resistant. Night sweats disappeared in a few days or weeks. Six months might be regarded as a suitable minimum for treatment and we might expect fifty to sixty per cent. recoveries.

Professor von Schrötter of Vienna agreed that the main principles of sanatorium treatment were settled. But more scientific observations were needed as to the desirability of the sites for sanatoria, mountain or otherwise. What was needed was to have a central sanatorium say at 400 metres elevation, to have the patients there for, say, three months, so that they could be observed and conclusions drawn. Then a batch should be sent to the hills, another south, and so on, and the results should be collated. As to treatment, the proper place for the study of every new remedy was the sanatorium. Tuberculin he at first had opposed, but was now thankful to Koch for the many new views and lights that the introduction of tuberculin had thrown on phthisis. As to its therapeutic value it was not easy to decide. The good results of sanatorium treatment were about seventy per cent. Goetsch's results with tuberculin (acknowledged to be the best) were about the same. In view of the importance of having a full trial of the remedy he would once more ask Koch for a plain pronouncement as to how tuberculin was prepared.

Professor Dvorak of Prague spoke as to the need of isolation of tuberculous cases.

Dr. Janeway of New York, while admitting the value of sanatorium treatment, said it would be a very long time before we could hope to get sanatoria enough to accommodate the cases. Meanwhile what were we to do to prevent tuberculous individuals being a source of danger to the community? He would suggest sending them to cottages in the neighborhood of sanatoria, and having them treated by the sanatorium physicians. This system was to a certain extent being adopted by the well-to-do who had cottages in the neighborhood of a sanatorium at Saranac and were treated by the physicians of the institution. In this connection he would ask, where did the nine per cent. spoken of by Dr. Fowler get well? Sanatoria

he believed in, but it was necessary to get a sufficient supply for the poor first. The rich could be looked after in the way described above. It was highly necessary that the medical profession should detect cases earlier. Also it was well to remember that every lesion of the lungs in a tuberculous patient was not necessarily tuberculous. Many persons who described themselves as living "with one lung" were cases of slight phthisis in which a bad prognosis had been given because the physician examined them during an attack of intercurrent bronchitis or pneumonia. One should be chary of passing a sentence of death on a patient without waiting to see how much the signs would clear up under treatment.

Sir HERMANN WEBER, in answer to Prof. Allbutt's query as to how long fever may continue and yet the patient recover, said he had known a patient to have a temperature fluctuating between 98.5° and 103° for three years and ultimately recover. As to gout being favorable—in twenty-five of his cases of recovery eighteen had since developed distinct gout. He believed transitional sanatoria were much needed, where patients could be still under observation. And one must not overlook the individual peculiarities of the patient. He read a paper on a plea for sea-side sanatoria and pointed out how England, the pioneer in this matter, with its sea-bathing infirmary at Margate over a century old—now partly closed for want of funds—was outstripped first by Italy and latterly altogether by France.

Dr. S. A. KNOPF of New York pointed out that the early recognition of cases must depend on the family physician. As to sites for sanatoria, the climate where the poor lived and labored was the one to get cured in; and in the case of the rich also the institution should be as near home as possible, so as not to add nostalgia to their other troubles. He considered general opinion to be too pessimistic regarding pregnant tuberculous women. Sanatoria must also be worked in connection with district dispensaries where the convalescent and ambulatory cases could be cared for.

Dr. SNOW did not believe in forced feeding, but encouragement. Many of Prof. Allbutt's conundrums he would not attempt to answer. At Bournemouth sixty-three per cent. of their early cases left with the disease arrested. He would consider two years clear of symptoms indicative of a cure. Of the cases of softening forty per cent. were cured, and of more advanced cases eleven per cent. The results he considered were also more permanent under the new method. Consumption should be classed among the notifiable diseases. In practice it was found that the safest place against consumption was a sanatorium. He knew of no single case of an attendant contracting the disease. The well-to-do need sanatoria as well as the poor, in order to learn discipline. There was great virtue in change of air—after six months at a sanatorium a change often did great good. If a case showed no sign of improvement in two months, it was to be considered incurable and sent out. He firmly believed that consumption was a decreasing disease and bound to disappear.

Dr. ROSENTHAL of Copenhagen pointed out that in Germany, at a rough estimate 100,000 beds would be needed for the sanatorium treatment of all the tuberculous—a quite impossible number. It was therefore needful to attempt systematic treatment which might be carried out at a very small expense in existing institutions. He advised using bedrooms abutting on hospital gardens with a tent in the garden as a resting place in the daytime.

Sanatorium Treatment in England.—Dr BURTON FANNING presented a report which had been drawn up at the request of the Congress on the experience of sanatorium treatment in England. He did not attach much importance to climate or weather. In England very good results were obtainable both in winter and summer, and in town hospitals too. A preliminary rest was a most important factor. Fever might persist a long time, but as long as a gradual slight lowering of temperature was noted one should be encouraged to persist. As to diet, one should feel the way, beginning with ordinary diet. In practice, weight was often increased when the diet was reduced. Massage and hydrotherapeutics had been little used in England. His own results from massage were poor.

Dr. WOLFF described a novel kind of sanatorium adopted to save expense. It consisted essentially of lightly constructed barrack buildings, near a town in a suitable locality, to which patients might go during the day and return to their own homes at night.

Dr. B. HARTNELL advised taking the temperature in the rectum, and said that when the temperature was fairly low rectal charting showed the oral readings to be inaccurate. In cases of high temperature, 103° and over, there was not the same discrepancy.

Dr. PARSONS of Dublin pointed out the very high mortality from phthisis in Ireland. He showed that the mean gain of weight from sanatorium treatment averaged only four ounces a week in March against about sixteen ounces in September to December. In his opinion sanatoria were necessary for the rich, but we could not expect much until medical men practised what they preached, and showed personally that they approved of fresh air in their own dwellings. His experience of sanatoria for the poor coincided with that of Dr. Walters of Nordrach, namely, that the patients very speedily relapsed. He therefore thought that the proper housing of the poor was at the root of the whole question.

Fourth Day—Friday, July 26.

Diagnostic Uses of Radiography.—The early portion of the morning was devoted to the consideration of the use of the Röntgen rays in the diagnosis of pulmonary consumption.

Dr. HUGH WALSHAM exhibited by lantern illustrations many radiographs of patients which showed the various deposits in the different lobes, infiltration of the bronchial glands, cavities at both apices and bases, and displacement of the viscera corresponding to the lung changes, as of the heart in fibroid phthisis.

Dr. BÉCLÈRE of Paris spoke about the technique of the method.

Dr. BONNET-LÉON of Paris directed attention to the information to be obtained by a practised observer in very early cases, before any obvious tuberculous infection was present, by being able actually to see how limited the action of the diaphragm was. That is, given a case in which the observer noted that the diaphragm was not contracting normally, and there was no sign of disease present to account for it, very early phthisis was probable.

Dr. ESPINA Y CAPO of Madrid also read a paper on the same subject.

Sanatorium Treatment.—Dr. SYMES THOMPSON of London read extracts from a paper, the chief points of which were that there was no special virtue in sanatorium treatment which did not obtain elsewhere, provided the leading principles were kept in view. Patients could be perfectly well treated in ordinary nursing homes, providing the medical attendant had sufficient strength of character to enforce the needful rules. In a sanatorium there was always danger that the individual might be overlooked, whereas in a nursing home his idiosyncrasies could be carefully watched. In touching upon diagnosis and observations on the progress of individual cases, the speaker said that variations of temperature in the mouth were unreliable, and that rectal temperatures should be the guide. As to Dr. Gordon's observations about phthisis and wind prevalence, he considered such fear groundless. Wind was the best ventilator, and continually changed the atmosphere around the patient. Possibly the fact that in windy districts people kept their windows shut,

more than in sheltered localities, might be the true explanation of the prejudice against such places.

Dr. Squire of London said that after preaching and practising the sanatorium or, as he preferred to call it, the hygienic cure of consumption for ten years, he was opposed to Dr. Thompson's views about nursing homes. The essential point about hygienic treatment was the necessity for discipline, the inducing the patient to submit to rule. Thus, one could not but be struck by the differenoe in different sanatoria as to rules, except in the matter of fresh air. But the mere fact of having rules, of not permitting exceptions, of teaching the patient to obey, was the essence of the treatment. In nursing homes, when patients were not very ill the nurses were apt to drift into the intermediate position of nurse and friend, and thus the requisite authority was lost.

Another point was the difficulty of keeping up the temperature by fires when the windows had been taken out. As a matter of fact nurses and patients had in the North London Consumption Hospital given up fires as useless and troublesome. The patients were kept well warm in bed of course. Children of ten to twelve years did well in sanatoria, but patients about the time of puberty did very badly.

Dr. F. Morins of the Mont Blanc Sanatorium was of the opinion that the question of the site of a sanatorium was important. As a general rule he believed sanatoria should be in elevated positions. If individual patients showed indications for the selecting of any particular climate, they should of course be sent there, but in his experience such individual peculiarities on the part of the patient were rare.

Dividing his cases into the usual three classes, first, second, and third stages—96 per cent. of the first, 66 per cent. of the second, 51 per cent. of the third, had been benefited by treatment.

As to what cases were suitable for admission, it was well-known that the prognosis of tuberculosis was difficult and uncertain. He would hospitalize all the patients, and so give all a chance. They were in this way isolated, a source of danger to the community was removed, and an education was afforded to those who had to go out again, improved or not. As to the length of residence, he said, in the case of the rich, it should be until they were cured or as long as might be deemed wise; in the case of the working class (his institution was for them), he considered the oft-stated three months minimum as quite insufficient.

Dr. Losalle of Bordeaux regarded seaside sanatoria as preventive in the case of weak, debilitated and scrofulous children; and as prevention is better than cure. he advocated their extension rather than that of sanatoria for established tuberculosis. But the greatest need of all was popular education in this matter.

SECTION III.—PATHOLOGY, INCLUDING BACTERIOLOGY.

First Day—Tuesday, July 23.

The meetings of this Section were held in the Saloon in the Queen's Hall, situated immediately under and within easy access to the Museum. This afforded facilities for studying in the Museum exhibits forming the basis of communications made in the Section.

At the opening of the Section, the President, Dr. G. Sims Woodhead, made a few introductory remarks, but said that, in view of the important subjects for discussion, and the short time available, he would not detain his hearers by delivering a long address, and expressed the hope that the several speakers would confine themselves to the all-important scientific facts of the matters under discussion, and not go off into generalities.

The Tubercle Bacillus.—The first subject for discussion was: "The Morphological and Physiological Variations of the Bacillus Tuberculosis, and its Relations to (*a*) other Acid-proof Bacilli and (*b*) the Ray Fungus and other Streptothrices."

Dr. Alfred Moeller of the Belzig Sanatorium, Berlin, said the discovery in recent years of "acid-fast" bacteria, other than that of tuberculosis, had rendered the diagnosis of the tubercle bacillus by the microscope alone impossible. There had been a considerable amount of discussion as to the cause of this "acid-fast" property. Klein and Marmorek had recently shown that quite young tubercle bacilli do not exhibit it, probably from the absence of the waxy and fatty envelope present in the full-grown bacillus. Borrel, by the prolonged action of warm xylol, had removed this waxy envelope, and the bacilli were then found to be no longer "acid-fast," though still capable of producing tuberculosis. The bacilli, which closely resemble that of tuberculosis, and which have been known for some years, are the bacillus of leprosy, the smegma bacillus, and the bacillus of avian tuberculosis.

The characters of these, and the points in which they differ from the bacillus of tuberculosis were briefly described. Dr. Moeller then passed on to consider a series of organisms whose presence in our environment had been recently demonstrated, and which closely resembled the tubercle bacillus. Some of these, such as the Petri-Rabinowitsch and the Korn bacillus, occur in butter and in milk. The butter bacillus is not so resistant to acids as that of tubercle, and though, when it is injected into guinea pigs along with butter, appearances closely re-rembling those of tuberculosis are produced, yet an indurative peritonitis usually results as well. All the milk bacilli present such a close resemblance to the grass bacilli that Dr. Moeller considered we were justified in regarding them as modifications of the latter. The grass bacilli (timothy bacillus and grass bacillus ii.) resembled in staining reactions and morphology the tubercle bacillus, but grew more slowly and the temperature relations were different. Like all "acid-fast" bacilli, they produced on inoculation a pseudo-tuberculosis; they did not, however, appear to play any part in the etiology of genuine tuberculosis, and we still know the tubercle bacillus as a saprophyte only in artificial cultures. Babes has recently described actinomycotic formations after the subdural inoculation of tubercle bacilli in rabbits, and others have got similar results by other methods. It would appear, however, that the tubercle-actinomyces differs from actinomyces bovis, in that the direct relation of a bacillus to a club formation can only rarely be shown. Lubarsch has shown that other "acid-fast" organisms can also produce actinomycotic formations. Although the tubercle bacillus is thus shown to be one of the highly organized myces, it has not as yet been kept constant in that form. Perhaps, in course of time, the speaker said, the necessary conditions will be discovered, but in the meantime the tubercle bacillus is of most importance in the stage in which we know it best, *i.e.* as a parasite in the form of little rods.

Dr. William Bulloch of London said that under certain conditions at present imperfectly understood, the tubercle bacillus may show filaments, true dichotomous branching, and club formation, and in the tissues, especially in experimental tuberculosis, it may assume a radiate arrangement—characters which from a taxonomic point of view bring it into close relation with a large group of microorganisms variously designated Streptothriceæ, Oospora, Nocardiaceæ, and more recently Actinomycetes (Lachner-Sandoval). With ordinary hydro-alcoholic solutions of basic anilin colors, the tubercle bacillus is stained with extreme difficulty and imperfectly. If certain substances (anilin, para-toluidin, meta-toluidin, benzaldehyde, carbolic acid—in practice the latter is chiefly used) are added to the basic dyes, the penetrating power of the latter for the tubercle bacillus is increased in high degree, and on subsequent treatment with mineral acids (thirty-three per cent. nitric acid, twenty-five per cent. sulphuric acid) the color remains in the bacilli, so that they stand out prominently from other objects in whose association they may be. This "fastness" towards acids,

discovered by Ehrlich, has had a great influence on the development of the study of tuberculosis, and at the present day the microscopical diagnosis is made with this method alone. This acid-fastness is, however, not specific to the tubercle bacillus, but is also possessed by a considerable number of other bacilli, and the microscopical diagnosis alone is not sufficient to differentiate the true tubercle parasite from other "acid-fast" organisms. There is every reason to believe that the bacillus of human and that of bovine tuberculosis are identical. The bacillus of avian tuberculosis presents points of difference, but these are not differences of species. There exists a group of "acid-fast," tubercle-like bacilli widely distributed in Nature, the identity or non-identity of which with Koch's bacillus is not proven. Contrary to former beliefs, the acid-fastness is not due to the presence of fat in the bacillus, as after complete removal of this substance the bacilli are still acid- and alcohol-fast. The acid-fastness is due to a body of the nature of a wax (Aronson) which can be extracted by acid-alcohol-ether, boiling chloroform, and boiling benzene. This wax in itself is powerfully "acid-fast," but is unstainable by fat stains (Sudan III. and Ponceau R.). Besides wax and fat, which are present in relatively large amounts, the tubercle bacillus is composed of proteids (important among which is a variety of nucleic acid, described as tuberculinic acid—Ruppel) and salts (with phosphates predominating). After the removal of all proteids, wax, and fat, a substance remains which contains a considerable quantity of nitrogen, and from its reactions is probably chitin or some allied body.

After these papers had been read, the Section adjourned to the Museum and inspected the cultures and preparations exhibited in illustration of the remarks that had been made. Upon resuming the sitting, the following discussion took place:

Professor Adami of Montreal considered that it would be premature to lay down definite laws as to the identity or otherwise of the "acid-fast" bacteria. He laid stress upon the necessity of following the recommendation of the American Committee that all bacteriologists should work with standard media; by so doing, progress would be made in arriving at a solution of the problems they had under consideration. He referred to an exhibit of cultures in the Museum by Mr. Swithinbank, full details of which, and of the media used, were given in the descriptive catalogue.

Professor McWeeney of Dublin referred to the valuable work that had been done by Coppen Jones showing the relationship between the tubercle bacillus and the group of streptothrices.

Professor Marmorek of the Pasteur Institute, Paris, considered that it was difficult to draw distinctions between the "acid-fast" bacteria by culture and by staining. The whole matter could be simplified only by means of animal experiment.

Professor Rosel of Berlin also drew attention to the importance of arriving at a solution of the difficulty by means of animal experiment.

Dr. William Bulloch, in his reply, agreed that "acid-fast" bacteria injected into animals did not excite tuberculous lesions unless they were tubercle bacilli.

Tuberculous Milk.—A paper was then read by Dr. Lydia Rabinowitsch of the Institut für Infektionskrankheiten, Berlin, on "The Infectiousness of the Milk of Tuberculous Cows, the Bacteriological Diagnosis, and the Practical Value of Tuberculin for the Extermination of Tuberculosis among Cattle."

The occurrence of tubercle bacilli in the milk of cattle suffering from general tuberculosis, or from tuberculosis of the udder, was established, she said, by numerous researches many years ago. It had been demonstrated experimentally that the milk of cattle suffering from incipient tuberculosis may also be infectious, even if the udder is not affected by the disease. In the year 1899, Dr. Kempner and the speaker had demonstrated that tubercle bacilli could also occur in the milk of animals suffering from latent tuberculosis when the disease could be detected only by means of tuberculin. This fact was confirmed in the same year by Ostertag's observations conducted on mixed milk, and by the examination by Adami and Martin of milk samples of individual cows. The animals in all these cases presented no clinical symptoms of tuburculosis, but reacted to tuberculin. A further proof was furnished by the author's more recent observations on the milk supplied to infants in Berlin. No tubercle bacilli were found in the milk taken from cows which did not react to systematically repeated tuberculin tests. On the other hand, the milk from the animals which were not submitted to the tuberculin test contained tubercle bacilli, though these animals showed no clinical symptoms of tuberculosis. From bacteriological studies on the milk of animals with suspected tuberculosis of the udder, Dr. Rabinowitsch had arrived at the conclusion that the microscopical examination of specimens of centrifugalized milk sediment is not reliable, as certain bacteria in milk, which are, in the character of their growth, as well as in effect on the animal organs, similar to the bacilli found by Koch in butter, are very difficult to distinguish from the real tubercle bacilli. The only reliable test is the animal experiment, but this may be tedious and sometimes fallacious.

The frequency of tuberculosis among calves, as well as the great increase of tuberculosis among swine in recent years (the latter is, in 90 per cent. of the cases, to be ascribed to the tuberculous food), offer the best evidence of the assertion that the use of milk of tuberculous animals is the chief cause of the dissemination of tuberculosis among animals. The test with tuberculin, aided by clinical and bacteriological examination, furnishes the surest means of obtaining milk free from tubercle bacilli, as well as of rearing cattle free from tuberculosis.

Dr. McWeeney of Dublin believed that tubercle bacilli could not be demonstrated in the milk unless the udder was tuberculous, and thought that in a good many cases the tubercle bacillus gained access to the milk through want of cleanliness in dairy processes.

Professor Nocard of Alfort showed some trocars used by him in the diagnosis of tuberculous mammitis. He pointed out the danger of spreading tuberculosis, more especially amongst pigs, by giving them the residues of butter and cheese making.

Professor Woodhead of Cambridge maintained, notwithstanding what had been said to the contrary, that if a cow suffered from mammitis and gave the tuberculous reaction, the milk from that cow was capable of spreading tuberculosis. He was also of the opinion that a good many cases of tuberculous disease of lymphatic glands of the neck in children were occasioned though the ingestion of tuberculous milk and tonsillar infection.

Dr. McWeeney was asked to reply and said that, after hearing the opinions expressed, he was inclined to modify his views.

Treatment of Epithelioma.—Hipólito Guiu y Gutiérrez describes the treatment of uterine and other epitheliomata by means of arsenic. He holds that the use of arsenious acid after the method of Cerny and Trunecek gives better results than any other remedy yet employed, that many superficial epitheliomata can be cured by this without operation, and that it is also a useful palliative in cases of inoperable cancer. In uterine cancer he says that he has obtained most gratifying results in all cases in which he has employed the arsenical solution. Wherever the cancerous growth may be seated, arsenious acid always manifests an elective action upon it, different from that of any other remedies which he has tried.—*Revista Ibero-Americana de Ciencias Médicas.*

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, held May 27, 1901.

GEORGE B. FOWLER M. D., PRESIDENT.

Some Observations on the Relations of the Alkalescence of the Blood to the Urinary Reaction.—Dr. HEINRICH STERN read this paper. He said that the night urine has a greater acidity than that excreted at any other time in the twenty-four hours. The retention of carbon dioxide is greater during the hours of sleep than during the waking hours. Researches conducted by him had demonstrated that although nutritive material affects the reaction of the urine somewhat, it does so incidentally, and that the diurnal variations in the reaction of the urine were inherent, and dependent upon vital processes. The reaction depends upon the reciprocal relation between the absorption of oxygen and carbon dioxide. His own experimental observations had demonstrated that there is no definite and fixed ratio between the alkalescence of the blood and the acidity of the urine. Observations on the relationship of the ingesta to the alkalescence of the blood showed that in the healthy organism the alkalescence of the blood is not affected by the quantity of food ingested. Other experiments undertaken by the author to determine the effect of taking by the mouth various alkalies, such as potassium bitartrate, showed that while the ingestion of these substances produced a pronounced alkalinization of the urine it produced no corresponding increase in the alkalescence of the blood.

Dr. LOUIS FAUGÈRES BISHOP said that the author had published an interesting paper on this subject about three years ago, and had been the first, he believed, to call attention to the fact that the daily fluctuations in reaction were independent of the ingestion of food. The experiments just presented certainly have a decided negative value. Personally, he was disposed to attribute the diminished acidity of the urine after the ingestion of food to the fact that, for stomach digestion, hydrochloric acid is required, and as this must be withdrawn from the blood there is less acid to be excreted by the kidneys.

Pregnancy Following Myomectomy.—Dr. JAMES N. WEST presented this paper (see page 249.)

Dr. BACHE EMMET said that a most accurate diagnosis must be made in these cases before any intelligent treatment could be properly adopted. For this reason he regretted to see the tendency at the present time to neglect a very useful means of arriving at the diagnosis, *i. e.*, dilatation of the uterus and digital exploration of its cavity. The dangers of operating on these fibroids had not been emphasized in the paper, nevertheless they were still great, and until recently had been considered much greater in the operation of myomectomy than in that of hysterectomy. As a means of curing sterility myomectomy would often prove disappointing.

Dr. W. GILL WYLIE said that unfortunately the cases coming to the gynæcologist were often complicated ones, because these growths would go on for years without giving rise to symptoms. In a large consulting practice one would usually be struck with the comparatively small number of cases suitable for myomectomy, and in which permission to do this operation could be obtained. One must have an extensive experience with fibroids before being qualified to select the cases that are suitable for myomectomy. It was his belief that fibroids in young women may grow to a considerable size without doing any harm. In women over forty fibroids were apt to become degenerated, and if the woman of this age was to be exposed to the danger of an abdominal section, he thought it better to do the radical operation. Fibroids developing near the menopause were much more dangerous than in earlier life. Fibroids of the uterine wall, associated with endometritis, should be treated by hysterectomy. A woman after the age of forty with fibroids was more liable to have cancer than one who has no fibroids.

Dr. A. PALMER DUDLEY considered myomectomy to be a far more dangerous operation than hysterectomy, unless done under perfect asepsis. He would not think of doing a myomectomy in a person approaching the menopause, nor would he wish to do this operation on a woman having a history of gonorrhœa or syphilis. He would prefer myomectomy to hysterectomy in a woman so situated that she could be well taken care of, but would select hysterectomy in preference to myomectomy for a working woman. He believed in myomectomy if properly done for *selected* cases. In many cases he would prefer to remove fibroids through a small incision by morcellement. If one object of the myomectomy were to cure sterility, the surgeon should not neglect, after having bisected the uterus, to inspect the tubes and make sure that they were patent. If the tubes were patent and the ovaries not diseased one had no right to sacrifice these organs in a young woman. It was different in a case of a woman approaching the menopause. He considered the paper under discussion as by no means enthusiastic; it was to be heartily commended, even though it did seem to bury certain treasured traditions. Because of the tendency to oozing of blood after myomectomy, it was his custom to drain the uterus—in his opinion, an exceedingly important point in the technique.

Dr. West, in closing, said that he was perfectly willing to plead guilty to the charge of being enthusiastic, and he thought there was good reason to be so over the possibility of checking the now too frequent mutilation and unsexing of women. It was the uniform opinion of pathologists all over the world that myamata do not undergo carcinomatous degeneration.

Some Further Remarks on Hospital and Dispensary Mismanagement.—Dr. THOMAS J. HILLIS presented only a portion of this paper for lack of time. He declared it to be an outrage to dump an assassin and a burglar in a hospital ward on either side of an honest and respected citizen who has gone to the hospital for treatment, and had paid his board in good faith. He was especially severe against the hospital managers who require those who pay their board to eat at the same table with those who pay nothing. The speaker was appalled at the amount of lying done at the dispensary desk, and averred that if the world-renowned expert in lying, Ananias, were in that crowd, he would, by comparison, dwindle into insignificance. Regarding the custom of compelling medical men to do their work in the hospitals without compensation, he said that while it is the province of the city to take care of its sick poor, as well as provide police protection and schools for the education of the children, the city officials never think of requiring the police and the school teachers to work for nothing. Even admitting the truth of the excuse offered, that the city does not give pay to hospital physicians because the latter are so eager to work for nothing, this simply showed a most unfortunate state of affairs, but afforded no justification for the ctiy's taking advantage of the situation and demanding that skilled labor be given without pay. If it were argued that this were the result of the overcrowded state of the medical profession, what was to be said of the lawyers, who are five times more numerous in this city than physicians, and yet who always receive adequate compensation from the city for their services. The poor physician neglects his own business while working for the city for nothing, and in return the city shows its gratitude by seizing his home if perchance he has not been able to pay his taxes promptly.

Improved Home Bath for Typhoid Patients—Dr. RUSSELL BELLAMY exhibited an apparatus for the modern treatment of typhoid patients at home by bathing. He said that during his work at Bellevue Hospital he had been so impressed with the fatigue experienced by the

patient in the ordinary method of bathing, and the probable part played by such traumatism in the production of intestinal hemorrhage, that he had devised in 1894 an apparatus to remedy these defects. The present device was a perfected apparatus. The first bath should be at about 85° F., and this temperature should be gradually reduced in subsequent baths to 75° F. The bath should be given with frictions for about ten minutes. The bath tub exhibited was so constructed that by means of a windlass it would be easy to raise or lower the patient without the latter experiencing any jar or strain. A movable and adjustable rest for the head and shoulders was provided, and also a powerful pump for emptying the tub in houses where hose connections with a regular water service were not at hand.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 10, 1901.

	Cases.	Deaths
Measles	99	13
Diphtheria } Laryngeal diphtheria (croup) }	133	22
Scarlet fever	108	11
Smallpox	36	13
Chickenpox	4	1
Tuberculosis	239	144
Typhoid fever	67	15
Cerebro-spinal meningitis		3

Distinction Between Tubercle Bacilli and Other Objects.—W. D. Severn (*Medical Times and Hospital Gazette*) says that there are certain bodies which retain carbol fuchsin more or less obstinately in the presence of mineral acids, and some of these are occasionally liable to be mistaken for tubercle bacilli. Among these are minute fibres, needle-shaped crystals, smegma bacilli, the shrunken edges of some epithelial cells, and certain other bacilli when these have been in contact with fatty matter or chylous urine. These risks are much diminished by thorough staining and complete decolorization. By these means and a thorough knowledge of the morphology of the tubercle bacillus, the error due to the smegma bacillus is entirely eliminated. The color of the latter organism after staining, its shape, and grouping, are entirely different from those of the tubercle bacillus. And in the case of the other objects specified, it is practically impossible that more than one would be noted so exactly simulating the tubercle bacillus as to cause a wrong conclusion to be drawn, and surely no one would decide on the evidence of a single bacillus. The bacilli derived from a lesion in the urinary tract are a little smaller and somewhat more pointed at the ends than the larger sputum forms. Their protoplasm is generally homogeneous and stains brilliantly. When grouped, they may be simply matted together, or arranged more or less parallel to the long axis of a pre-existing "S-shaped" colony. One or two isolated, badly stained, highly "beaded" bacilli in a preparation may mean an accidental access of bacilli to the urinary tract in a case of miliary tuberculosis, and not an actual lesion in the kidney, bladder, prostate, etc.

Ulcer of the Stomach.—A. B. Mitchell (*Medical Press and Circular*) concludes (1) Surgeons have not yet devoted sufficient attention to ulcer of the stomach. Ulcer is more commonly anterior than is generally acknowledged. (2) Those ulcers which do not resolve under medical treatment give rise to grave complications in direct proportion to their duration; these complications include pyloric obstruction, hourglass contraction, involvement of neighboring organs, and attacks of peritonitis resulting in troublesome adhesions. (3) There is no more serious surgical complication than extensive adhesions, owing to their tendency to involve large vessels, nerve-plexuses, and vital organs. (4) When there are extensive adhesions it is probably better to leave them alone and provide for rapid emptying of the stomach by gastro-enterostomy. (5) When the ulcer is on the anterior wall it may be possible to infold or excise it, which is the ideal method of treatment; but when posterior, this will generally be omitted in favor of gastro-enterostomy. (6) Posterior gastro-enterostomy is the operation of choice, it is quite as easy to perform as the anterior operation, sacrifices less of the jejunum, and establishes the new opening at the most favorable point for stomach drainage. (7) The simple and continuous suture is to be preferred for this and similar operations, without any artificial support. The abdomen should never be opened without a Murphy's button at hand, though the necessity for its use will not be frequent. (8) In patients past middle life early explorations must be more frequently undertaken if the gastric surgery of this period is to attain the triumphs to which it is entitled.

Differential Diagnosis of Appendicitis.—A. J. Ochsner (*Medical Standard*) says that acute appendicitis is most commonly mistaken for the following conditions in the order named: (1) Gastritis or gastric ulcer; (2) enteritis, (3) gall-stone colic; (4) peritonitis, due to infection through the Fallopian tubes in women; (5.) extra-uterine pregnancy; (6) renal colic; (7) perforative intestinal ulcer, due to typhoid fever, tuberculosis, actinomycosis, or carcinoma; (9) intussusception; (10) strangulated hernia; (11) intestinal obstruction due to bands of adhesion.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 10, 1901:

		CASES	DEATHS
SMALLPOX—UNITED STATES AND INSULAR.			
Alaska, Kluckwan	July 26th, Present.		
California, San Francisco	July 21st to 28th	2	
New Jersey, Newark	July 27th to Aug. 3	1	1
New York, Buffalo	July 22d to 29th	1	
Elmira	July 27th to Aug 3d	2	
Gowanda	July 28th	7	
New York	July 27th to Aug. 3d.	41	14
North Dakota, Bismarck	July 13th to 20th	1	
Fargo	July 6th to 13th	1	
Fisher	July 6th to 13th	1	
Kensal	July 6th to 13th	1	
Mayville	July 13th to 20th	1	
Ohio Cincinnati	July 26th to Aug. 2d.	2	
Pennsylvania, Philadelphia	July 27th to Aug. 3d.	4	
Tennessee, Memphis	July 27th to Aug. 3d.	2	
Washington, Tacoma	July 21st to 28th	1	
Philippines, Manila	June 15th to 22d	1	
SMALLPOX—FOREIGN.			
Austria, Prague	July 13th to 20th	1	
Belgium, Antwerp	July 13th to 20th	4	2
Brazil, Rio de Janeiro	June 30th to July 14th	88	52
Colombia, Panama	July 19th to 26th	6	1
France, Paris	July 13th to 20th		5
Great Britain, Dundee	July 13th to 20th	5	
Glasgow	July 19th to 26th	3	
Liverpool	July 6th to 13th		1
London	July 6th to 20th	26	
India, Bombay	July 2d to 9th		5
Calcutta	June 29th to July 2th.		8
Madras	June 22d to July 5th.		1
Italy, Messina	July 13th to 20th	9	3
Netherlands, Rotterdam	July 20th to 27th	2	
Russia, Moscow	July 6th to 13th	3	3
Odessa	July 13th to 20th	1	
St. Petersburg	July 6th to 13th	3	1
Warsaw	July 6th to 13th	1	
Uruguay, Montevideo	June 8th to 15th	35	1
YELLOW FEVER.			
Brazil, Rio de Janeiro	June 30th to July 14th		6
Cuba, Havana	July 20th to 27th	3	
Mexico, Vera Cruz	July 28th to Aug 3d.		1
CHOLERA.			
India, Bombay	July 2d to 9th		2
Calcutta	June 30th to July 6th		17
Madras	June 22d to July 6th.		4
Java, Batavia	June 22d to 29th	30	20
PLAGUE—INSULAR.			
Philippines, Manila	June 15th to 22d	9	13
PLAGUE—FOREIGN			
India, Bombay	July 2d to 9th		68
Calcutta	June 30th to July 6th		15
Karachi	June 30th to July 7th	1	1

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Original Articles.

THE PROGNOSIS OF TRAUMATIC HYSTERIA, BASED UPON THE SUBSEQUENT HISTORIES OF A NUMBER OF LITIGATED CASES.*

BY PEARCE BAILEY, M.D.,

NEW YORK.

IT is safe to say that some day or other every physician and surgeon will be confronted with a case of traumatic hysteria. The disease may be easy of recognition, but it may also present diagnostic difficulties for the most expert. In only a few places are adequate descriptions of it available, and even the most comprehensive treatises are incomplete in the details which are important for prognosis. The reason that our knowledge is particularly defective concerning the patient's prospects for a return to health is closely bound up with legal questions. By far the larger number of the cases of traumatic hysteria are made the bases of personal injury claims, and many of them are litigated. When the case is settled, or the trial is over, the plaintiff, who is the patient, disappears from view and what becomes of him is very hard to find out. It is astonishing how few of such cases are on record in which the patient's subsequent career is mentioned. During the past few years, a number of opportunities of obtaining such information have come to me, thus enabling me to arrive at certain conclusions which possess more than a theoretical value. Upon these cases and upon other non-litigated cases of personal experience the present paper is chiefly founded.

It is easy to understand why hysteria is often misunderstood and the sufferer from it misjudged. The disease, though essentially mental, finds its most conspicuous expression in physical symptoms. These physical symptoms are perplexingly similar to those caused by diseases of known material basis, and consequently the patient is, in general appearance, not a person suffering from a mental disorder, but one afflicted with some severe bodily infirmity. The most important material manifestations which hysteria causes are paralysis, and defects in the special sense apparatus of sight, taste, smell, hearing, and common sensibility, so that the patient may seem, and believe himself to be, paralyzed, or blind, or deaf, or deprived of the use of the other special senses.

These symptoms differ in mode of origin, in association with each other and with others, and in character, from those due to recognizable injury of the nervous system, and the trouble would be sought for in vain, either in the sense organs themselves, or in the direct central connections of the sense organs, or in the specialized brain regions which have to do with the registration of sensorial impressions. These comparatively simple structures remain normal in their function. The defects must be allocated to far higher spheres; to the neurone systems which have to do with the collection and elaboration of the products of sensorial impressions; to the domain of higher consciousness and personality; to regions concerning which psychology may speculate, but about which pathological anatomy is dumb.

In hysteria, the normally transmitted and normally registered sensory stimuli in some subtle way fail to be transferred to association systems. Hence they do not enter into the practical life of the individual, and do not attain an intellectual value. The patient consequently is in the anomalous condition of feeling, seeing, hearing, tasting, or smelling, as the case may be, without being aware that he does so; or, from similar or more complex causes, he may lose the power of originating voluntary motor impulses, and be, for all practical purposes, paralyzed. Yet the belief of the patient as to his own incapacity is absolute and often so persistent as to deprive him of his usefulness for considerable periods of time. Since the belief is false, and since false beliefs which dominate and disorganize the life of an individual are insane delusions, hysteria deserves to be classed with the delusional insanities.

Without lingering further on generalities, a number of cases from personal experience will now be narrated, which have been observed during the past few years, either in the office or in the court-room. Were the full details of the examination of each of these cases to be given, this paper would be much more tedious than I intend it shall be. I must ask that my assurance be accepted that each case was studied with great care, and that in each case the diagnosis of traumatic hysteria was made only after considerable reflection and with full appreciation of the opportunities of error. No case is presented here in which there is the slightest doubt in my mind as to the correctness of the diagnosis.

CASE I.—Up to November 10, 1896, A. B. was, according to his own story and that of his wife, a healthy, happy, and prosperous farmer, fifty-six years of age. On the evening of that day he was in an accident, in which he was neither cut nor bruised, and though somewhat dazed he was able to walk home, a distance of several miles. He did not sleep well that night, and had some pain in his head and back. On the following day began a train of symptoms which still existed at the time I examined him, about a year after the accident. The symptoms consisted in the first place of a variety of emotional disturbances. He was depressed, he was tearful, and the most trifling contradiction broke him down, as he said. He was very apathetic and inattentive, and during my examination did not seem to be in the slightest degree interested. He gave up his farm work almost altogether, his wife said, and would sit for hours doing nothing, and interested in nothing. Physically he looked perfectly well, but he had a total loss of sensibility on the left side of the body, he dragged his left leg and staggered in walking. His wife said she would see him in the field when no one was watching him, and he then would stagger, always to the right. The dynamometer registered right hand 105, left hand 65. Thus the man presented the emotional state characteristic of traumatic hysteria, with a left hemiplegia and left hemianæsthesia.

Although it is now four and a half years since the accident, this man's claim against the person he alleges

*Read at the twenty-seventh annual meeting of the American Neurological Association, at Boston, June 20, 1901.

to be responsible for the injury is still unsettled. For that reason, fuller details of the case are not given here. The symptoms to-day are about the same as they were three years ago.

Case II.—Mrs. R., who was an actress, thirty-nine years of age, was in a railway collision on Sunday, the 31st of May, 1897. She was sitting asleep on a seat with her feet up on the seat in front of her, when the car she was in was struck by a car from behind. She does not remember anything until she found herself standing up between the two seats. She was very much frightened and jarred, though she sustained no cuts or bruises. She continued on the journey, arriving at her destination at 4 o'clock Sunday afternoon. She stayed in bed until Monday night, and then went to the theatre and played, and was still playing every night when she was examined by me on the 28th of February, 1898. For the first six weeks after the accident the following symptoms were prominent: Pain in the back, sleeplessness, easily excited and irritated, difficulty in fixing the attention, poor memory, although her failure of memory was noticed only by herself; and difficulty in walking. After six weeks her symptoms improved, but she still had difficulty in walking, with a tendency to stagger to the right. My examination showed her condition to be similar to that of A. B., though much less serious. There was a slight left hemiplegia, and left hemianæsthesia with disordered mental state. She was liberally compensated by the railway company against which she entered a claim. I have heard from the railway company that they had good reason to suppose that before the accident she was an extremely nervous woman, and more or less of an invalid. This contradicts Mrs. R.'s own statement. Whatever may be the truth in regard to this she certainly has been in no way incapacitated from working. The last news I have heard from her she was billed to play in Kansas City in a stock company, for the season of 1900 and 1901.

Case III.—The case of S. *vs.* B. occupied three days of the time of a Supreme Court justice, of twelve jurymen, many witnesses, numerous lawyers, and a large company of doctors. The suit was for $25,000, and what I know about it was gained from my presence in the court-room, as the plaintiff's attorneys would not allow me to examine her. The plaintiff was a young girl, unmarried, twenty-two years of age, and without occupation. There was conflicting testimony as to her health before the accident, but there seemed some reason to suppose that she had had hysterical attacks, and St. Vitus's dance. The accident from which this young lady reaped a rich reward took place on October 25, 1897. An elevator in a store got caught between two floors, and the passengers were imprisoned there for about fifteen minutes. Then the elevator fell thirty feet on to the rubber cushions below. The speed of the fall was estimated at three hundred and fifty feet a minute. Of the fifteen people in the elevator, none had bones broken, and none was badly bruised. All walked out of the elevator. The plaintiff was taken home in a carriage, and walked up two flights of stairs. She then had a nervous outbreak of great violence. She went to bed screaming and howling, and was so violent that she had to be held. For two days she lay without having her clothes taken off, and for seven days she lay with her eyes shut. She then developed the characteristic picture of left hemiplegia and left hemianæsthesia. The testimony of the plaintiff's experts reflected little credit upon their professional ability. They all said that she had sustained an injury to the spinal cord and that she was hopelessly and irremediably crippled for life. The plaintiff was in the court throughout, walking in on crutches. She had a violent hysterical attack in the witness-chair, so that her testimony had to be temporarily discontinued. The jury found in her favor a verdict of $11,500. About six months after the trial she was married. I have been unable to get any definite information since then. A person who saw her a year ago said she still walked with a cane.

Case IV.—F. H., when I examined him on June 1, 1899, presented all the appearances of a badly crippled man. The left arm, forearm, and hand were held motionless, the muscles of this extremity being contracted in flexion. Any attempt to overcome this contraction caused the patient to give expressions of great pain. The left leg the patient said he could not move at all, but that power was really retained in it was shown by the fact that when I lifted it up, the patient held it out horizontally. It took a great deal of persuasion to get him to try to walk, and he dragged the left leg after him. He said he would fall if not supported, yet when I, standing behind him, withdrew all support, he did not fall. The left hemiplegia was complicated by a left hemianæsthesia. The visual fields were markedly contracted. These symptoms had existed for about one year before my examination. They first appeared after an accident on the railway in which the patient had been badly shaken up and frightened, but not injured surgically. Since the accident, the man had been entirely incapacitated from work. Shortly after my examination, the case was settled for $4,000. Six months later, the man returned to work, and has been working ever since. His family physician, Dr. E. D. Woodhull, of Monroe, N. Y., writes me under date of May 1, 1901, "He still has considerable pain in the left side of his head and in the calf of left leg. Is able to do a fair day's work, and work does not make the pains complained of worse. He is gradually improving, and will, no doubt, make a complete recovery in time. His back also gives him some trouble, but is much less painful than the head and limb. Eye-sight regained completely."

When electric power for purposes of lighting and transportation was first introduced into cities, there was a considerable increase in traumatic hysteria. Since wires now, in New York at least, run chiefly underground, electricity as a cause of the disorder is less prominent with us. When it acted as a cause, it almost always happened that it was not the electricity itself that did the injury, but the fright which persons underwent in touching electric wires. More frequently than not, in such cases, there were no burns whatsoever, and in some cases it was shown that the wire was dead at the time it was supposed to have inflicted the injury.

Case V.—H. B., aged twenty-two, was a gay and imaginative young man from one of our southern states. He was a Hebrew, and consequently somewhat predisposed to the development of nervous disorders by reason of his race. In November, 1899, he touched an electric trolley wire with the left hand. He said he received a severe shock, but he was not rendered unconscious. His hand was not burned at all, nor was it incapacitated immediately. He was made very nervous by the shock, and went home and went to bed. He required no help in going to bed. The next morning he awoke and found he could not use his left arm. That member was still paralyzed when he came up from the South to see me the following December.

My examination showed a flaccid paralysis of the whole left upper extremity. He could do nothing with this arm whatsoever. With the exception of that arm he felt very well, and had no emotional disturbances. This young man was settled with for a small sum a few months after the injury. He rapidly

recovered and has been perfectly well ever since.

Case VI.—Another case very similar to the preceding was that of a Hebrew, a dry-goods clerk, twenty-three years of age, who in August, 1898, touched an electric wire with an umbrella which he was holding in his left hand. He fell down, suffering great pain in the arm, and was taken to the hospital. There was no burn. The examination showed the left arm to be held flexed at the elbow and wrist joint, and any attempt to move it caused expressions of great pain. The hand was mottled and cold.

This man brought a suit against the company. Before the case came to trial, he was etherized by his family physician, who then told him he thought he was a fraud. From that time on the arm improved greatly. A short time afterward he was awarded a verdict of $500, and since then he has been able to work, and is apparently well.

Case VII.—The following case was tried in Virginia during the first four days of May, 1900. During that time I was present in the court-room in behalf of the defendant, but I was not permitted to examine the plaintiff. One of the physicians associated with me in the case had, however, examined the plaintiff, and the following statements are the results of his examination and the testimony which appeared in the course of the trial.

W. P., a previously healthy farmer, with the exception of shortening of the right leg, due to an old fracture of the thigh, and of good habits, on the 8th of September, 1899, was in a cart which was run into by a trolley car. P. remembers nothing about the accident. It is doubtful whether he jumped out, or was thrown out of his cart; however that may be, he picked himself up and walked to the sidewalk, where he apparently became unconscious. He was carried to a neighboring house, where he had a violent convulsion. He struggled with a number of men who were standing around him, arched himself so that only head and heels touched the floor, and altogether gave a theatrical display. He then apparently became unconscious, and was carried to the hospital, where he remained in a stupid condition for twelve hours.

Examination at this time by the company's surgeon failed to show any contusion, wound, or other evidences of organic injury. The following day the patient complained of great pain down the right side. There were also twitchings of the muscles of the face and of the left arm. In a day or two the pain switched to the left side, being complained of over the scalp and in the arm. He began to improve until the 21st of September, when a fire broke out in the hospital. There was great confusion and fright at the time, and the nurse came to P. telling him to get up and get out, or he would be burned up. P. told the nurse to save herself, as he would rather be burned up than get up. She half pushed and half pulled him up, and then he was carried out of the hospital. He declared that he was not frightened by this conflagration. He was taken to his brother's house, and for a week or two afterward showed no ill effects from the fire. Early in October, however, he became deaf and dumb. He said that ever since the accident it had hurt him to speak, and there seems to have been some difficulty in speaking before he altogether stopped talking. A week or two after becoming deaf and dumb, the pain changed from the left side to the right, the patient stopped using the right hand almost altogether, and also the right leg, and from that time on he has held communication with others altogether by writing. He never lost the power of reading, and learned to write with the left hand very quickly. The above-described condition remained about the same at the time of the trial. P. was brought to the court sitting in a chair. He looked well, had no paralysis about the face, but had an almost constant twitching of the muscles of the lips, neck, and left arm. The right arm was not moved at all; the right hand was supported in the left much of the time, the fingers of the right hand being held straight and slightly flexed on the metacarpus. When he first came into the court-room, he had an attendant put his right leg over the left, and he held it in that position without moving it for the two hours and a half he was on the stand. The questions which were asked him in direct and cross examination were written on pieces of paper, and P. would write his replies beneath them. He grasped the meaning of the questions at once, and wrote as quickly as can be expected of a man who has only written with the left hand a short time. His answers were intelligent and pertinent. He gave no special evidences of fatigue, and was not emotional. On one or two occasions it seemed as though he had heard what was being said, although I can't be positive about this. Altogether he conducted himself very well. All the medical testimony was to the effect that P. was suffering from traumatic hysteria. My testimony differed from that of the other experts of the other side in the following points: They held that the fire had no effects on this man. This point had been brought up by the defence, in order to show that the fire and not the accident caused the deaf mutism. I held that such a supposition would be entirely contrary to the accepted theories regarding hysteria. They held that complete recovery from hysteria which had lasted so long, and which had presented such grave symptoms, was impossible. I held that recovery from hysteria was never impossible, and that when litigation was ended the plaintiff would probably recover in time, provided he could have proper treatment. I held that physical injury was relatively unimportant in the causation of hysteria, as the disease was essentially one of fright. I maintained that P. could perfectly well have had the same symptoms without having undergone any physical injury whatsoever.

This suit was the second one in this case. It was for $20,000. In a previous suit, in March, 1900, the jury disagreed, probably on the ground that recovery of damages is not possible for personal injuries, unless some physical injury can be proved.

In this suit, also, the jury failed to reach a decision. To avoid the expense attendant upon a third trial, the case was finally settled. Proper treatment was not instituted. In May, 1901, one year after the trial, this man had improved but very little. He is still deaf and dumb; he has severe headaches, and he falls down and hurts himself. The twitching in the face continues. He can get around on his feet, but drags the right leg in walking.

In the following case the mental state was the most important element, and without careful physical examination, the diagnosis of traumatic hysteria would have been difficult.

Case VIII.—J. K. was brought to me last September, on account of injuries alleged to have been received in an accident on March 20, 1900. He was a Bohemian, twenty-four years of age, a baker, with a negative family history, and always well up to the time of the accident. On March 20, 1900, he was run into by a trolley car while driving a cart, and was thrown out on the street on his head. He was unconscious for a few minutes. He sustained a scalp wound, but no fracture. He was somewhat dazed, but not very much excited. He could talk and walk, but from that time until the time I saw him he complained of great pain in the back of the head, and in the neck; he was sleepless; he was dizzy, and he was extremely apathetic. Altogether he presented the picture of a man laboring under extreme mental inhibition, and I doubt not that he

was seriously incapacitated for his work. Although the mental state was characteristic of severe grades of traumatic hysteria, it would have been impossible to be certain as to the diagnosis had it not been for the presence of a loss of sensibility on the whole left side of the body, and a contraction of the left visual field.

This man received a verdict of $1,400 in January, 1901. Soon afterward he left the town in which he had lived. In May, 1901, he was seen and questioned by one of my nurses. He was looking well, and working at full wages. He still complained of some dizziness and pain in the back.

The question of simulation naturally arises in all these cases. It is one which is sometimes difficult to decide. If the patient has well-marked and typical stigmata of hysteria, such as characteristic anæsthetic areas, and characteristic palsies, and especially limitations of the visual field, there is little chance of simulation, and there is little doubt that the patient believes in the reality of his symptoms. In the absence of all these signs, however, and when the patient's symptoms are entirely subjective, it is oftentimes impossible to decide as to simulation. In most of such cases the patient has some slight disturbances which he exaggerates.

Case IX.—J. N., while excavating a trench on the 8th of November, 1898, was struck in the back by a wheel of a wagon. He was taken to the hospital, and discharged in a few days. A year and a half afterward his case was tried in the Supreme Court in New York. A few days before the trial, I examined him in the presence of his attorney and of his physician.

The patient walked into the room leaning on a cane, and apparently suffering great agony at every step. There were no indications of motor paralysis in the gait. The examination showed all eye movements normal, pupils equal, responding promptly to light. No palsy of cranial nerves. Patient sat with his eyes half shut, saying that he had lost the power of opening his eyes, yet when I snapped my fingers loudly over his head, and told him sharply to look up he opened his eyes perfectly. There seemed to be some blunting of sensation all over body. His statements as to sensibility were very contradictory. He would say one minute that he felt the testing object, and at another that he did not. The muscles of the leg were well developed, responded perfectly to electricity, and the knee-jerks were normal. There was never any bladder trouble; the urine contained no albumin. The man complained of great pain in the sacral region. As he sat in the chair, he said it was impossible for him to straighten his legs out, on account of the pain in his back, yet he was perfectly able to get up from the chair, and walk on his legs. Before the examination was fairly begun, I ran my hand down his back. He did not notice the object of this, and did not complain of pain, yet when any movement toward moving his back was made with his knowledge he made exaggerated complaints. There was no prominence on the back, no depressions. He said he could not lie on the sofa for further examination, as it was too painful, yet he said he went to bed every night.

The plaintiff's case in this action was materially aided by the testimony of several physicians whose conceptions of nervous diseases were decidedly hazy, and who testified that this man's nervous system had been terribly lacerated and shattered. The jury awarded a verdict of $9,500. Before the case was finished the defendant's counsel, at my suggestion, said that in view of the absolute contradiction in the medical testimony, he would like to submit the plaintiff to an examination by any qualified experts that the court would decide upon, or else let the physicians of the two sides examine the patient in open court to determine which were correct as to the existence of symptoms which one side denied and the other confirmed. All these propositions were denied.

From the cases which have now been cited, it is evident that the same uncertainty regarding prognosis which characterizes all mental affections is to be found in traumatic hysteria. The patient may recover, having suffered but little, or he may carry the burden of his infirmity for years.

It seems to me that this latter point requires special emphasis even to-day. For in spite of the advances of our knowledge of psychological medicine since the time when traumatic hysteria was first written about, physicians generally believe that there is nothing the matter with hysterics, that they are posers and gallery-players, and that once they are paid for their fancied injuries, they will be as well as they ever were. In such opinions, the fact seems to be lost sight of that a fixed idea may disorganize the life of an individual as much as a surgical injury, and that it may at any time take root so deep that it can never be gotten rid of. Such possibilities are present in every case of traumatic hysteria. There are certain indications which enable us to predict them, or which make it doubtful that they will occur.

The first of these in natural order is heredity. In traumatic hysteria, as in all nervous and mental diseases, bad heredity throws an ominous shadow on prognosis. Instability of nervous function is the natural birthright of the children of the insane, the epileptic, the alcoholic, or the degenerate from any cause. We assume that such tainted individuals are particularly prone to develope mental anomalies from slight causes. And we know that once the neuropathic seed is sown on such soil the resulting growth is rapid and hard to check, and apt to be permanent.

But the teaching of Charcot, that hysteria never develops except in persons who are hereditarily or acquiredly degenerate, is very difficult to substantiate. My experience with traumatic hysteria has been that in a very large proportion of cases no predisposition to nervous or mental disease is to be discovered. It is true that litigation tactics often render inquiry as to such factors unsatisfactory, if not misleading. But when due allowance is made for unavoidable imperfections in investigation the fact remains that the larger majority of the vicitims of traumatic hysteria have as good family records as most people, and were quiet, orderly, healthy citizens up to the occurrence of the accident.

From cases presenting a fairly clean record should be carefully differentiated the ones in which undoubted hysteria existed before the accident, and in which the mental shock or the physical commotion did nothing more than intensify or vary pre-existing symptoms.

Bremer (*Jour. Nervous and Mental Dis.*, 1893, p. 13) has recorded a case illustrating this. The patient brought suit for $20,000 for astasia abasia which developed in direct sequence to an accident in an elevator. Bremer was able to show that the plaintiff had had previous hysterical accidents and that the astasia abasia was not a new disease, but only a new symptom of a disease from which she had been suffering for years. By virtue of his testimony a verdict favorable to the defence was rendered. I take it that in the case of S. *vs.* B., already cited in this article, a similar condition of affairs existed.

Age is one of the most important considerations in the prognosis of hysteria, whether traumatic or non-traumatic. The older the patient, the greater is the danger that the symptoms will be permanent. In young children the physical symptoms of hysteria almost invariably pass away in the course of a few weeks. In a little girl of five years, whom I saw a year ago in consultation, there developed in consequence of a fall on the face, a complete right-sided

hemiplegia. Recovery was perfect within four weeks, and the child has been well ever since. Contrasted to the almost universally favorable prognosis in extreme youth is the regularly grave one in old age. Hysteria is infrequent in old people, but that it occurs is well attested. In them it is always a rebellious and persistent affection, oftentimes showing no amelioration whatever.

Between the two extremes of childhood and old age, the prognosis is better or worse as it inclines to the one end or the other of the scale. With patients under thirty-five years of age, if they are not seriously handicapped by heredity, and if the treatment is begun within a reasonable length of time, recovery can be confidently looked for in the vast majority of cases. But after the thirty-five-year limit has been reached or passed, the mind seems less able to throw off the impressions made by severe shocks and frights. In the middle-aged and elderly, consequently, traumatic hysteria is always a serious matter, and while restoration to health, if the conditions are favorable, is to be expected, it is not by any means the rule.

The previous condition of health of the victim of the accident has important bearings upon the severity and duration of the hysteria. In the healthy and well-nourished, there is naturally more hope that the psychosis will be temporary.

Pre-existing chronic diseases, on the other hand, make it more difficult to throw off hysteria.

Alcoholism and arterio-sclerosis seem particularly unfavorable to the recovery from functional nervous diseases. In this latter condition is doubtless to be found the persistence of hysteria in the aged. The question of sex is generally supposed to be an important one in traumatic hysteria. Most authorities agree that men recover less frequently than women. In my experience with litigated cases, men are much more frequently attacked. But there is hardly sufficient data to decide that in them recovery is less probable. It seems to me that the question of sex is very subsidiary to other factors.

The fundamental cause of hysteria is to be found in the mental state, and it is consequently to the mental state we must look for the most reliable guiding lines to prognosis. The physical manifestations offer a certain degree of help in determining how far-reaching the effect of the accident has been upon the mind. Thus a monoplegia indicates less serious psychic disturbance than hemiplegia, and monoplegias usually recover rapidly. Paraplegia, as a result of traumatism, is distinctly rare. I cannot recall having seen more than one or two cases. But if it resembles in its course the non-traumatic hysterical paraplegia, it will be found a most rebellious affection. Morbid movements, such as twitchings, choreiform spasms, hiccough, cough, and the like, are usually insignificant, and yield readily to suggestion. Anæsthesia and limitation of the visual fields are such important symptoms that without them the diagnosis of traumatic hysteria is open to doubt. They give a clue to the mental state by their intensity, and by the extent of their distribution. Shifting, inconstant, and partial anæsthesia is of much more favorable omen than the anæsthesia which is profound, and which settles itself in one place and stays there.

Of the affections of the other special senses our information is too meager to justify any broad generalizations as to prognosis. In my experience disturbances of taste, except when complicating hemianæsthesia, have occurred exclusively in the mildest cases. Hysterical blindness and deafness may be very serious affections. Aphonia is usually of a few days' duration only. From one of the cases described in this paper, it will be observed that hysterical deafmutism may persist without improvement for a year after all legal questions are at an end.

The physical symptoms just enumerated are without doubt useful indices as to the severity of hysteria. But they are indices only, and may very well have taken their particular form from some trivial causative factor or some chance environmental circumstance. They may change completely in character or in distribution, and still leave the patient as badly off as before. It seems to me that it is a great mistake to be guided too much by the physical symptoms in attempting to reach a prognosis in this peculiar malady.

The mental state is the fundamental cause, and the patient's purely psychological characteristics of attention, of memory, of mood, emotion, and temperament, of will, and of conduct, are the most important prognostic considerations.

In every case of traumatic hysteria these mental attributes undergo change. And in the extent of the change, and its permanence, is the key to prognosis. In other words, the prognosis of hysteria demands a psychological study of the individual rather than a simple enumeration of the physical manifestations he may present.

In conclusion, it may be said that the chances for recovery from traumatic hysteria in a previously healthy person not over thirty-five or forty years of age are generally very good, but are not absolutely certain. With increasing age the prognosis becomes rapidly worse. The exact definition of the word "recovery" in this sense is hard to give.

It is diametrically opposed to the teachings of psychology to suppose that a fixed idea, which has persisted for several months or years, can vanish immediately without leaving trace.

The paralysis, or blindness, or anæsthesia, may disappear like magic. But I cannot believe but that there is left an unstable mental state which will persist for at least as long as the more serious symptoms persisted, and which will show itself by abnormal suggestibility, by pains, by nervous attacks, and similar functional disturbances. Such symptoms naturally need not interfere with working capacity, but they must interfere with the comfort of the patient to a considerable degree.

If immediately after an accident a patient could be isolated, and could be cared for by a physician who understood the significance of the symptoms and the best way of treating them, I think we would hear very little of persisting traumatic hysteria. Such ideal conditions, however, are rarely possible. In most cases the patient gets too much sympathy, his complaints are received as though they represented real organic troubles, and instead of being put on a rigid disciplinary routine, he is allowed to follow all the fancies and vagaries of the confirmed nervous invalid. He is thus fed on indulgence and suggestion, which is the food on which hysteria waxes fat. Litigation is often quoted as being the real cause of hysteria. It has never been so in any case that I have seen. Without any exception symptoms of hysteria have appeared before any question of litigation could arise. The question of damages naturally precludes proper treatment, as isolation is not possible when court questions are pending; and, by rehearsing to lawyers and to himself his symptoms, the patient's own miserable condition is kept constantly before his mind, and forms the most potent of all suggesting influences. I believe that it is practically impossible for any one to get well from this disease as long as money questions are at stake, and that the longer such questions are undecided the more the symptoms tend to permanency, and the less probable it becomes that they will ever disappear. But this is a very different thing from

maintaining that the money question is the primary cause, or that the symptoms will immediately disappear on the receipt of damages. That they do not disappear on such receipt is proved by some of the cases quoted. Theoretically the prognosis is better according as to whether after settlement the indications of rational treatment can be carried out or not. These indications are isolation, withdrawal of injurious suggesting influences, and counter suggestion. Hypnotism is sometimes useful.

Indirect suggestion in the treatment of hysteria consists in various devices which shall have the object of proving to the patient that he is not as badly off as he thinks he is. Thus walking machines and massage and passive movements, forcing the patient to stand and to take steps by himself, repeated day after day, eventually prove to the patient that he is not paralyzed. Electricity from constant application to anæsthetic areas brings about a return of sensibility. By similar procedures, defects in other special sense functions, and fixed ideas, can gradually be removed. It is needless to say that in many cases treatment is tedious and exasperating.

It was said that with proper treatment the prognosis was better theoretically, because as a matter of fact such treatment is rarely undertaken. I have never heard of a litigated case of traumatic hysteria being treated by isolation and suggestion, which is the only rational treatment. But treatment by a physician is not, in my opinion, essential to recovery. I am very much inclined to believe that a man, especially if he be poor and a workingman, may get the suggestions requisite for his recovery at his own fireside. His family or his wife, when the suit is over, see themselves not only minus a breadwinner, but also burdened with an invalid. Then they begin to inquire if the patient is really as ill as they thought he had been. The natural vagaries of hysteria feed their growing suspicions. They observe on many occasions the patient doing unconsciously what he would maintain he could not do if asked to do. He might be seen to walk when no one is looking, or help himself with an arm in which every movement was supposed to cause excruciating pain. So that finally the wife comes to believe that there is more or less shamming going on. If she is a woman of vigor and daring, the patient's recovery is not far off. For she would supply to him, either by anger or by appeals to his better nature, the very suggestions which would soon work a recovery.

From all points of view hysteria is a very troublesome affection to deal with. One has to handle the families of hysterical patients with gloves. They are very loath to acknowledge that a relative of theirs can walk but won't, can see, although he thinks himself blind, or has no organic basis for the exaggerated symptoms he presents. They want medicines to be administered, they rebel at the suggestion of isolation, and they soon tire of a doctor who fails to cure. On the witness stand also, hysteria offers many perplexities to the expert. With a full desire to be fair, the medical witness if he is for the plaintiff, has difficulty in presenting his statement in a way to convince the jury that the plaintiff, although he really has nothing the matter with him, is a sick man and not an impostor. When, on the other hand, the medical witness is retained by the defendant, the jury is prone to discredit testimony which maintains that physical deformities can depend merely on idea; for the plaintiff is generally brought to court and is almost sure to present the acme of all the symptoms he has ever had. The hopes for fair settlement are almost none, when, as often happens, the medical experts have failed to recognize the nature of the disease, and testify to all manner of impossible organic conditions.

4 West Fiftieth Street

INFANTILE TYPHOID FEVER.*

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The reasons for submitting the following critical study of cases of "Infantile Typhoid Fever" are their comparative novelty and interest and their alleged infrequency of occurrence. In one case the diagnosis was corroborated by bacteriological investigation; in the other, although the Widal test was negative the first time, the clinical manifestations of the disease were beyond dispute, and personally I have no doubt that one week later another specimen would have produced the typical Widal reaction.

Case I.—Elsie M., æt. nineteen months. I had been called to the patient at various times before to treat her for short attacks of subacute bronchitis which seemed to yield readily to the usual remedies. On September 3, 1898, I was called again and found the child very fretful, with a rapid and bounding pulse, a rectal temperature of 103° F., and an anxious facial expression due to dyspnœa. Thick mucous râles could be heard over the back and front of the chest, especially over the bifurcation of the bronchi; bronchial breathing was present over the left lung. There was constipation. The child was put to bed, the bowels were opened with calomel in broken doses, an ice-bag was put to the head, a slight counter-irritant and a cotton jacket were applied to the chest, and an expectorant was given. These seemed to relieve her immediate symptoms, for she was very much better the next day, but to judge from what appeared later, this must have been the period of invasion of the disease.

The following day the fever rose to 105° F. The patient was a little brighter, but far from well in her actions. She was now given an antipyretic and stimulants, and these seemed to ease her still more. The bowels had moved freely after the calomel, but were again constipated after the third day.

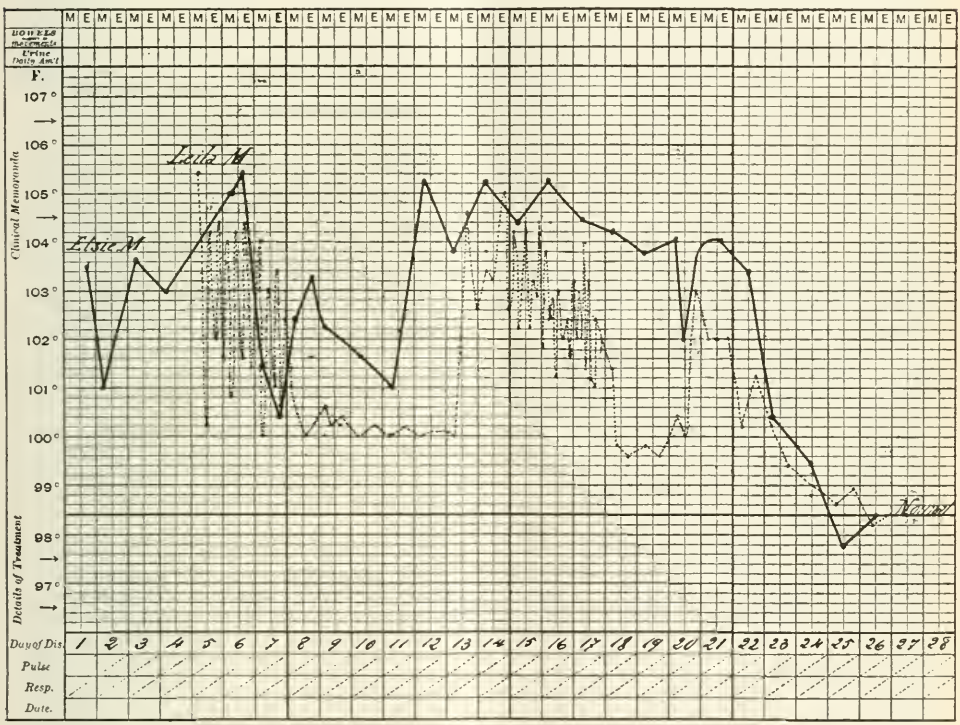
On the morning of the sixth day she was very much worse; temperature, 105°; pulse, 140; respiration, 60. The lung symptoms continued to predominate; there were coarse râles and dulness on percussion over the left lung. She had a slight convulsion from the high temperature, and accordingly I set myself to bring this down. I used a coal-tar antipyretic with brandy ʒ ss. and creosote (♏. ¼) every hour. After the first hour the temperature fell to 104°, the pulse became easier, and the breathing seemed fuller and freer. In the evening there was little change. The temperature was 105° again, and the respirations were short and seemed only inspiratory. I then started in upon cold baths, much to the parents' alarm; but even after the first one the good effects became apparent, so that under my instructions, and following the guidance of a clinical thermometer, they gave two more during the night.

Early the next morning the temperature was 101.2°; the cough and lung symptoms were unchanged, but the extremities were cold. That was an indication for stimulation; the use of strychnine and nitroglycerin, the interdiction of the cold baths, and the application of hot-water bottles to the feet brought her over this critical point. I had seen no change in her condition and physical signs for a week now, and I was at a loss how to account for a pneumonia of that character. There was no sign of resolution anywhere in the lungs. She now had a fairly constant temperature, hovering around 102° to 103°; the bowels moved regularly once a day. I kept on with stimulation and looked well after careful and

* Read at a meeting of the District Medical Society of Hudson Co., N. J.

systematic feeding. Up to the end of the second week there was not another symptom manifest to the most careful scrutiny, and my notes state distinctly that there was everything to rule out typhoid—no abdominal tenderness, no ileo-cæcal gurgle, no rose rash, no ugly tongue, no diarrhœa, no obstinate constipation; just the cough, the fever, and the emaciation. On the fourteenth day of the disease, I asked a colleague to see the patient with me, and he unhesitatingly pronounced the disease pneumonia. At last, on the eighteenth day, there appeared a most beautiful crop of rose spots. The picture was clear now. Intestinal antisepsis was my first endeavor, and the progress of the disease after that had nothing eventful or atypical in it. A Widal test on the eighteenth day gave a positive reaction.

uranalysis revealed no kidney lesion. A few days later the chest symptoms assumed a pneumonic character; there was rapid, shallow breathing, crepitant râles were audible over the upper lobe of the left lung, there were also friction sounds, but no change in the percussion note. The spleen was decidedly enlarged. The temperature took an erratic course; at first it was very high and accompanied by nervous phenomena, threatening eclampsia momentarily, and could be controlled only by immersion and friction in cool baths; each one of these had the salutary effect of depressing the temperature, quieting the heart, and sending the child to sleep. Here, too, the visible improvement after each bath made converts of her attendants. As the baths were too wearing upon her nurse, I substituted with equally good results the use of the cold trunk pack. Of course,



Case II.—Leila Math, æt. sixteen months. The diagnosis in this case was not corroborated by bacteriological tests, but I think you will agree with me that the course and clinical picture is that of enteric fever. I was called to see the child, who was suffering from a subacute bronchitis; she also had vomiting, anorexia, and fretfulness. The temperature was 103°, and there was a slight cough together with some roughened respiration. The child seemed to improve with the medication given her for a few days, except that the temperature rose every evening, very little, but appreciably. She was given quinine in two-grain doses every three hours in addition to an expectorant.

Now, however, although the chest symptoms had not changed, there were tenderness of the abdomen and tympanites, and constipation, not relieved by calomel or castor oil, so that daily enemata had to be given. She vomited occasionally; stimulation by means of whiskey, digitalis, a m monium carbonate, and strychnine was not spared. Food, liquid and predigested, when necessary, was given her freely. The bronchopneumonia still overshadowed every other symptom for five days, during which period the temperature never rose above 100.5°. This covers the second week of the disease. On the thirteenth day, there was a sudden change in the phenomena. I found a violent stomatitis, diarrhœa with ochre-colored, vilely smelling fæces, iliac tenderness, sordes on the lips and teeth, but no rose spots. There was little delirium, but a steady movement of the temperature downward in irregular step-like drops. With a slight but well defined relapse on the twentieth day, the disease ran henceforth the usual course of typhoid fever, and even the violent hunger of convalescence that follows typhoid fever in adults so often was seen in this case. Aside from quinine and salol she had

no other medication. The lung symptoms cleared up before the seventeenth day and did not show the slightest recurrence.

It is interesting to compare this case with Bryant's.[1] His patient, twenty-one months old, died after a febrile attack of three to four weeks' duration. During the time the child was in the hospital there was no eruption, but an enlarged spleen and a bronchopneumonia. Shortly before death, the blood gave a smart Widal reaction in five-per-cent. solution. At the autopsy no lesion of any kind was found in the intestine. There was a septic bronchopneumonia with enlargement of the mesenteric glands. Cultures from these glands yielded almost pure cultures of bacillus typhosus. A brother and a sister of this patient were admitted to the hospital at the same time suffering from typhoid fever.

These are the cases as I saw them, and now let us go into them a little more critically.

The history of typhoid fever in childhood is far from a threadbare subject. Prior to 1840 it was universally held that this disease never attacked children. Abercrombie, it is true, found typhoid lesions in the intestines of six and seven months' old children (in 1817), Earle[2] and Characlay in 1840 published a case in an eight days old child. Stowell,[3] in his fine article, states that Gerhardt goes farther back in reporting an eight months' fœtus born on the seventh day of its mother's fever. This infant had vomiting, roseola, diarrhœa, and large spleen, but recovered in thirty-eight days. Eberth demonstrated typical bacillus typhosus in organs of four fœtuses aborted by mothers having typhoid fever; eight fœtuses from mothers not ill with typhoid did not show the bacilli.

Of later years the more careful study and classification of malarias and forms of enteritis tended to increase the numbers of typhoids, in differentiating them from the so-called and misnamed typho-malarial troubles; or, as Hare[4] says, "At first sight it would appear that it is more common, but this is only because it was not recognized and recorded. Typhoid fever is by no means as rare as has been supposed. . . . Such a thing as 'simple catarrhal fever' does not exist as an entity, but this term covers a multitude of diagnostic sins." He also points out the fact that Henoch saw nearly four hundred cases, and Ashbey and Wright say that "children and young people are more susceptible to typhoid than adults," but they also say that "it is not common in children under three years of age." On the contrary, Northrup[5] claims that typhoid is extremely rare in children; that the records of children's hospitals show that not a single case had been seen in years; not a case in twenty years in the New York Foundling Hospital; he found in four hundred cases of typhoid in the Stamford epidemic only four cases in infants ranging from thirteen to twenty-two months. And writing about the same epidemic Pierson[6] states that "statistics show that sporadic typhoid is almost unheard of in children under three years of age." To the contrary notwithstanding, Forchheimer[7] reported seventy cases in an epidemic in 1888.

Concerning the etiology of the disease it is scarcely necessary to enlarge upon the subject. *Nihil a nihilo* is still the rule; and given the germ, however introduced, and a favorable nidus, and the disease is established. Both of the cases I detailed above were traceable; the first to infection from ground water in the Bronx Borough section of New York; the other by infection from a common drinking cup in a Newark department store at the time when there was a small epidemic in that city.

As to symptomatology: One must have a great deal of patience with a physician attending a case of typhoid fever. The disease manifests itself in such Protean forms, masquerades so often in other's shapes, that we must be charitable if he refuses to commit himself until one of the symptoms fills out the line of his reasoning. In children especially we must be warned that chest, nerve, and brain symptoms constantly hide the real underlying disease and may remain intense enough to befog the most alert man. As Hare[8] says truly, "At the present time the diagnosis of typhoid fever in children must rest largely upon the chance development of the characteristic rash and enlarged spleen, and more than all upon the Widal test; for the moderation in all symptoms so characteristic of the affection in childhood and the fact that a swollen spleen and liver and a coated tongue with fever are so commonly met with in various children's ailments make an absolute diagnosis in many instances, without this test, almost impossible." In my own cases and in one case under my immediate care in hospital service, the symptoms were very atypical until the end of second week; this is also the conclusion of Wilson and Unger. (Earle.[9]) But Earle says that he has found very little difference between symptoms in children and adults.

The symptoms run about as follows: there are very few prodromata; incubation is not noticeable by any changes in action; in infants headache is not noticed, but in older children it may be intense; both are liable to initial convulsions. The fever is usually the cause for anxiety and the call for the doctor; it runs a wide range and usually is more or less erratic, although somewhat conforming to a fairly typical typhoid curve. The state of the bowels is also of no diagnostic value. Diarrhœa and obstipation are about as frequent here for the first two weeks as they would be in any fever or chest disease. "Bronchitis is common, but seems to remain long in the congestive stage, free expectoration being rare." (Stowell.[10]) In the case detailed above there was at no time real epistaxis, although in the hospital case I mentioned it was quite a feature; and Pierson[11] states that "Epistaxis is more frequent in children than in adults."

The tongue is not characteristic; rose spots are good signs, but appear about in the same proportion as in adult cases. There may be some suppression of urine, for which liberal use of boiled water or lemonade are the best remedies. Concerning the splenic enlargement, while Stowell says it is not common, Earle finds it in seventy per cent. of cases in children.

Hemorrhages and perforations are rare, and this I can emphasize inasmuch as this same hospital case had a relapse because he ate bananas surreptitously smuggled to him, but no evil effects in the shape of hemorrhages or perforations followed.

The main symptom at first (and this is very often true of the adult as well) is the subacute bronchial inflammation due to the excretion of the Eberth bacillus from the bronchi (Noyes[12]), and in children this amounts to the main disease for the first few weeks.

As for differentiation, typhoid may be mistaken for malaria, gastroenteritis, bronchopneumonia, tuberculosis or meningitis (Noyes,[13] Bond[14]), and we must agree with C. L. Greene[15] that its differentiation "is not always easy and is never to be made with certainty before the end of the first five to ten days after the onset of the fever," and he claims that this conservatism is "due to the chastening effect of frequent autopsies and the growth of caution in diagnosis which results from a large clinical experience."

From the prognostic standpoint it is difficult to add anything to a subject when Jacobi[16] hath spoken.

According to him, the dangers of typhoid in children arise "(1) from the originally feeble condition of children; especially if there is any anæmia from chronic intestinal disorders or respiratory ailments (chronic bronchitis or emphysema) or cardiac disabilities; (2) from the amount of toxæmia; (3) possible cardiac failure; (4) hyperpyrexia; (5) the consecutive conditions such as diarrhœa, hemorrhage, perforations and peritonitis or ulcerative endocarditis; and (6) the sequelæ, nephritis and meningitis," to which idiocy can be traced at times. Yet in spite of these rocks in the channel, Noyes concludes that in children convalescence is more rapid than in adults; the mortality is less, and abortive cases are frequent; a view with which I am in entire accord.

As to treatment, it would be presumption to claim to teach you anything; all I can do to fill out this paper is to give you a résumé of my own armamentarium and to mention a few of the latest observations of others.

There can be no quarreling with the statement that the use of a combination of a modified Brandt method and a modified Woodbridge or Thistle method is the ideal form of treatment. No one who has had any experience with the use of the cold bath, cold packs, or alcohol sponge baths will deny that the effect of them is unique. The temperature can be lowered almost at will; nervous symptoms disappear; lungs and heart act freely and are braced, for it is a tonic, and I have seen adults and youths anxiously begging for another bath when they began to feel uncomfortable. In children the terrors of a full bath can be much mitigated by the use of the cold trunk pack frequently and rapidly changed. And likewise a glance at the pathology shows us that in a modified method of intestinal antisepsis we have another means of combating other symptoms; we can control the toxæmia, guard against perforations, aid the stomatitis and to a slight extent provide a prophylactic for the attendants. In fact, I agree with Yeo[17] when he says "the practitioner who, in the face of the evidence that has recently accumulated, neglects to take measures to promote intestinal antisepsis in typhoid incurs a very grave responsibility."

Acting upon these principles, this is one method of treating typhoid fever. The prime requisite, of course, is an intelligent nurse, and though I am well aware that typhoid is a self-limited disease, I am also equally certain that if an early diagnosis can be made so much more chance is there of aborting it or at least so modifying it that, instead of running the usual four to six weeks' course, it can be cured in two to two and one-half weeks, and true Eberth's bacillus typhoid too.

So then, with an intelligent nurse and a clinical thermometer, when the temperature reaches 102.5° or 103°; when there is great nervous irritability threatening convulsions; when there is severe headache, then is the time for the cold bath or pack. For the latter do not use wool or flannel; use muslin or linen lightly wrung out of water at 60° to 50° and quickly slung around the trunk from armpits to thighs and then wrap child up in a blanket; and doing this every five minutes, according to the height of the temperature, carefully watching the heart and giving whiskey and applying heat if the extremities are cold or there is the slightest sign of collapse, these measures will and must bring the temperature down. Repeat in three hours if necessary.

After my good results with baths and the poor results often reported with antipyretics, I look upon them askance. If for any reason, however, baths or packs cannot be used, be it because of the objections of some parents or fear that a nurse will do more harm than good by a careless method, there can be no objection to the careful use of antipyretics. Burney Yeo's method, the use of quinine and chlorine-water mixture, is very efficient; creosote and carbolic acid also act both as antipyretics and antiseptics.

As to other medication individual preference will guide you. Salol is trustworthy and efficient; in the diarrhœas, the various bismuth preparations are best—eudoxine, β-naphthol, subgallate, and subnitrate (best when there is no vomiting). If constipation is the feature, calomel, which not only unloads the liver of nature's antiseptic, the bile, but, when broken up, is an antiseptic itself of the best. When there is perforation or even slight show of hemorrhage in the stool, turpentine is the sheet anchor internally, and for the sometimes very distressing meteorism in the form of stupes or in enemata it is very comforting. For this last condition, Jacobi recommends ice-water enemata to make the paralyzed bowels react, and even sanctions puncture of the distended intestinal wall by a hypodermic needle; but he also warns against its dangers, reporting the occurrence of fatal peritonitis therefrom.

Toward the end of the second week, the so-called Woodbridge formula No. 3 is very efficient, but must be carefully and freshly made up; for I have seen in an adult a full dozen capsules, shaped as made, with only the gelatin covering gone, pass from the anus of a patient who had had no solid food for three weeks for fear of perforation!

Of course, rest in bed, the use of fluid food varied as much as possible, milk, malted milk, peptonized milk, whey, kumyss, soups, strained gruels, clam or oyster broth, ice cream, if made by careful hands, are all needlessly mentioned. Contrary to Earle, I do not think it good policy to give a tonic during the course of the disease. The digestive apparatus has all it can do to absorb food to change into antitoxins, and my opinion is that, when these have at last won the upper hand, then is the time to help nature reconstruct—that is the time for tonics.

Horton Smith[18] points out the necessity of as much care in handling the urine as the fæces of typhoid fever cases. He found that, in twenty-five per cent. of cases, the urine contained the bacilli; in five per cent. in such numbers as to render the urine turbid. They are nearly always in pure culture. Urotropin 10-grain doses act as a prophylactic for the attendants as well as for the patient. The urine must be carefully removed and the vessel antiseptic-ized thoroughly after its use.

It is hardly in the province of a general practitioner to speak of operative methods in intestinal hemorrhages or perforations, yet it is good to know that the former let-alone policy must no longer be followed, and the surgeon can still try to save the patient from the resultant violent peritonitis. At this point a warning word must also be spoken against the use of the ordinary ergot preparations for hypodermic injections; the bleb goes into ulceration sooner after this than any other medication, and pyemia may follow, and Jacobi says he has seen such many times. I have only seen the severely painful and swollen arm following such an injection. The arm healed after cicatrization, but was a lesson in possibilities.

Convalescence once established must not be retarded, and solid or semi-solid food not withheld too long. This is a hard task when one has to combat the ravenous appetites most convalescents exhibit. But "make haste slowly" is the best watchword. This is the best time for tonics; not necessarily iron, but good stimulants to metabolism. Nux vomica, quinine, gentian, pepsin, hydrochloric acid, are very useful; I usually use with good results a bone-

marrow extract and some good port or burgundy wines. This usually brings back all that was lost by the disease and tends to strengthen the patient materially.

I cannot say I have added anything new to the clinical aspect or the treatment of the disease, still as a résumé it may have been of interest, and I hope will evoke discussion and elucidation of other methods and an expression as to the frequency of occurrence of similar cases in the practice of others. If differentiation can be simplified I should like to learn how, and I hope to learn whether others encountered similar difficulties and how they mastered them.

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A SERIES OF MASTOID OPERATIONS.

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THE following are the histories, with comments, of a series of mastoid operations, performed during a short service in the spring of 1900, and comprising both ward and private patients. They illustrate well what Schwartze and others have pointed out that in a great many cases one cannot be certain of the exact findings, even when the indications for opening the mastoid are pronounced.

Chronic Purulent Inflammation of the Middle Ear; Chronic Mastoiditis; Cerebral Abscess (Temporo-Sphenoidal Lobe).—M. B., female, thirty-eight years old, admitted January 10, 1900.

History.—Two years ago had earache and discharge from left ear. One year ago, discharge ceased, and the patient was well until two weeks ago, when there was a return of earache, but no discharge, though (according to the family physician's statement) there was a perforation of the drum membrane; no vomiting, chills, fever, constipation, polyuria, or incontinence of urine or fæces. Yesterday, after a period of excitement, during which the patient screamed and moaned, she became stupid.

Examination on Admission.—Pulse 60, respiration 20, temperature 99.2°. Patient in semi-comatose condition. There is marked tenderness upon pressure over the left mastoid region, but no swelling or redness; also otitis externa and chronic purulent inflammation of the middle ear of the left side. Ophthalmoscopic examination reveals bilateral optic neuritis, more marked on the left side. Pupils are contracted, but react to light. The patient was prepared for immediate operation.

Operation.—Chloroform anæsthesia, changed to ether. The usual post-auricular incision was made over the mastoid. No change in periosteum; the latter was incised and pushed back. The bone was chiseled into; beyond being very hard, it showed no pathological changes. The antrum, situated at a depth of three-quarters of an inch, presented nothing abnormal. The sinus was not exposed; the surrounding bone appeared normal. The tip of the mastoid was exposed and opened, but was found normal.

The upper angle of the incision over the mastoid was continued upward about one and a half inches, and the bone laid bare. A piece of bone about one and a quarter inches in diameter was removed in the situation of the temporo-sphenoidal lobe. The dura was congested, but otherwise normal. An aspirating needle was thrust in a direction forward and inward, at an angle of about forty-five degrees; after passing to a depth of about one and a quarter inches, very foul-smelling pus was withdrawn. The dura and brain were opened in this direction, and about a drachm of pus of the same character escaped, making about two drachms in all. The brain tissue surrounding the abscess cavity was necrotic, and particles escaped with the pus. Light probing showed the cavity to extend inward about two inches. Some of the necrotic brain tissue was cut away with scissors, and then a drainage-tube and gauze packing were inserted into the abscess cavity. The scalp wound was partly closed by sutures, and the mastoid wound packed with gauze and left open; dry dressing and bandage.

There was no change whatever in the patient's condition during the operation. After the operation, the patient became very restless; morphine was administered hypodermically. Pulse became slow and more irregular. The muscles of the left lower extremity were contracted and rigid; divergent strabismus. Strychnine hypodermically. At 2.30 A.M., pulse 80, respiration 36, temperature 102°, breathing stertorous. Died at 3.45 A.M.

Post-mortem Examination (Through Wound).—Wound enlarged; an abscess cavity size of large walnut was found in left temporo-sphenoidal lobe. This contained some thick, greenish, foul-smelling pus. The wall was lined by purulent fibrin. The abscess was encapsulated by a wall about one-third cm. thick. No perforation into ventricle; no signs of meningitis. The left hemisphere was removed and examined, but the right was merely aspirated (permission to perform an autopsy having been refused); no abscess found on right side. The dura was not adherent in the situation of the tegmen tympani; on removing the latter, the attic was found full of light-colored pus and cholesteatomatous masses.

In this case, the brain abscess was correctly located and promptly evacuated; but the opportunity for operation came too late. In the absence of complicating cerebral conditions, it is highly probable that the operation, if it had been performed at an earlier period, would have been successful in saving the life of the patient.

Chronic Purulent Inflammation of the Middle Ear; Acute Purulent Mastoiditis.—S. K., male, eighteen months old, admitted January 15, 1900.

History.—Four months ago, swelling, redness, and tenderness appeared over the right mastoid region. Paracentesis of right drum-membrane was performed; this was followed by a discharge of pus, which continued eight days; during this period the ear was irrigated with solution of boric acid. At the end of the week there was a cessation of discharge. For about two weeks the child was well, having no otorrhœa, nor tenderness over the mastoid. A week ago, there appeared again a purulent discharge from the ear; this was accompanied by redness and swelling around the ear and over the mastoid, and extreme tenderness over the latter

area; accompanying these symptoms there was fever; no vomiting or convulsions.

Examination on Admission.—Pulse 134, respiration 30, temperature 101.6°. A very red œdematous and fluctuating swelling occupies the right mastoid and post-auricular regions; there is swelling and œdema of the right auricle. The external auditory canal is swollen and reddened; the right drum-membrane presents a perforation, and the canal is partly filled with purulent discharge.

Operation.—Chloroform anæsthesia. Upon making the usual incision behind and parallel with the attachment of the auricle, there was an escape of a large quantity of pus which had been retained beneath the periosteum. The bone of this region was very soft and necrotic, and the mastoid filled with pus. All diseased bone having been removed with the sharp curette, the upper and lower angles of the incision were closed with silk sutures, the wound packed, and a dry dressing applied.

February 10th, the day after the operation, the temperature was normal; it remained so throughout an uneventful recovery; very slight discharge from external ear; wound healed. Discharged cured.

This case proved to be, as was expected from the first, one of ordinary mastoid empyema, in which both operation and after-treatment were simple.

Chronic Purulent Inflammation of the Middle Ear; Subperiosteal Abscess.—H. J., female, four and a half months old; admitted January 15, 1900.

History.—A purulent discharge from both ears was noticed about four weeks after birth. As a result of treatment, the discharge ceased temporarily, but reappeared shortly after. Discharge had been profuse, particularly from right ear. Three days ago, the patient presented tenderness, redness, and swelling over the right mastoid area. Since this morning there has been no discharge from the right ear; for the past two days none from the left ear.

Examination on Admission.—Pulse 110, respiration 30, temperature 100.2°. Right auricle stands out prominently, and there is diffuse post-auricular swelling, with redness and fluctuation, There is great tenderness over this area. Right ear presents a perforation of the drum membrane and a slight purulent discharge. No bulging or swelling of the walls of the external auditory canal.

Operation.—Chloroform anæsthesia. Usual post-auricular incision. Skin and tissues beneath very œdematous. After incision, there was an escape of a large quantity of pus. Periosteum thickened. Examination of the bone of mastoid region showed this to be healthy. The muscular attachments at the tip were pushed back so as to expose the latter, which was also found to be healthy. The mastoid was not opened. The day following the operation there was facial paralysis of the right side.

January 24th. Otorrhœa continues. The post-auricular wound has healed completely. Facial paralysis slightly improved.

In the preceding instance, the post-auricular abscess was apparently an independent lesion; there was no evidence of any connection with a lesion of the mastoid, nor any signs of extension along the posterior wall of the external canal, nor relationship to the purulent process in the middle ear. In an older and more robust individual, the indication for the performance of the radical operation or the Stacke-Schwartze procedure would have been evident; but the child's general condition was such that only the urgent indication could be considered. The facial paralysis was due to caries in the middle ear, and could not have been caused by the operation. The child was seen several months later; at that time there was still slight facial paralysis.

Chronic Purulent Inflammation of the Middle Ear; Caries of the Ossicles; Chronic Mastoiditis.—S. S., male; four years old; admitted January 23, 1900.

History.—The disease of the right ear dates back thirteen months. At that time it began with pain accompanied by fever. Shortly after, there was a discharge of pus which continued until a week before admission; then it became less in amount, while pain in the ear and neighboring region increased, and marked tenderness over the mastoid region was complained of.

Examination on Admission.—Tenderness and œdema pain over the tip of the right mastoid. Deep-seated in right ear but none in the mastoid region. Stiffness of neck. Enlarged glands at tip of mastoid and in neck. The walls of the right auditory canal are swollen so that the drum-membrane cannot be seen. Discharge from ear purulent, but not offensive. Pulse 90, respiration 20, temperature 101.4°. Ordered irrigations of canal, and hot-water bag to ear.

January 25th. Pulse, respiration, and temperature normal. Prepared for operation.

Operation.—Ether anæsthesia. Usual post-auricular incision over the mastoid, about one and one-half inches in length. Periosteum exposed, found normal, incised, and pushed back. The bone appeared normal. An opening was made with gouge; superficially the bone was healthy, but more deeply, in the region of the antrum, it was found carious and was removed. The antrum was exposed. The bony posterior wall of the canal was next removed with bone forceps and chisel. The malleus and incus were found carious, and were excised. The attachment of the auricle was incised and the flaps thus formed united to the edges of the skin of the mastoid incision. The edges of the mastoid wound were then drawn together with silk sutures, the lower angle being left open and packed for drainage. The cavity made in the mastoid was packed through external canal. Dry dressing and bandage.

February 14th. General condition has been very good since operation. Mastoid healed by primary union. There is now no discharge from the ear. Cured.

This case was one in which the indications for the Stacke operation were pronounced, and in which this procedure effected a cure not only of the mastoiditis, but of the purulent inflammation of the middle ear. The healing process was very rapid, and within three weeks the boy was discharged from the hospital as cured, and required no further attention. Hearing on this side, on date of discharge from the hospital, was 18-24. There was no tenderness over the antrum, in which situation carious bone was found. On the other hand, the tip of the mastoid, which was exceedingly tender upon pressure before operation, was found perfectly healthy.

Chronic Purulent Inflammation of the Middle Ear; Chronic Mastoiditis; Acute General Miliary Tuberculosis; Tubercular Meningitis.—L. K., male, six years old; admitted February 3, 1900.

History.—Six months ago had pain in right ear, accompanied by some fever, and followed by purulent foul-smelling discharge. Ear has been under treatment (irrigations). Eight days ago began to have severe and constant pain in and about the right ear, also fever and vomiting. These symptoms have persisted and have become more marked. The discharge from the ear continues. There have been no muscular twitchings nor convulsions.

Examination on Admission.—Right ear: Canal normal, filled with purulent, offensive discharge. There is a large perforation in the drum-membrane. No tenderness over the region of the mastoid, nor over any part of the cranium; no rigidity of neck.

Left ear: Negative. Eyes: Pupils and muscles normal; the fundus of both sides much pigmented and discs are pale and waxy (atypical pigment degeneration of the retina). Pulse 118, respiration 28, temperature 102.8°. Examination of viscera negative. No œdema of legs. Reflexes normal. Pulse irregular and intermittent.

February 4th. Patient unable to urinate; hot-water enema was given and was effectual. Ears were irrigated with warm boracic acid solution; slept all night. Mental condition good, and child does not complain of headache or pain. Considerable foul, purulent discharge from the right ear. During the evening the patient became restless and vomited. Pulse 90 to 122, respiration 22 to 26, temperature 103°. Profuse perspiration.

February 5th. General condition less favorable: severe headache. Patient seems stupid. Discharge from ear continues profuse. During the night the patient became very restless. Pulse weak, irregular, and intermittent. In the morning, the temperature fell from 101.4° to 97.6°, and then rose to 98.8°. Examination of the blood showed leucocytosis (16,400 white); no plasmodia malariæ.

Operation.—Chloroform anæsthesia, then ether. Usual post-auricular incision. No œdema of skin or deep tissues. Periosteum normal. Bone was exposed and chiseled into; the outer portion was hard and healthy, but in the region of the antrum there was considerable granulation tissue, which was removed with the sharp curette. The posterior wall of the bony auditory canal was removed, exposing the middle ear; malleus and incus absent. No pus was encountered. The incision was extended over the tip of the mastoid, and this portion, though normal, was removed with chisel. Next the sinus was exposed; it appeared healthy; it was opened and bled profusely; then packed. The bone around the sinus was normal. The operation was completed in the usual Stacke-Schwartze manner, the sinus packed through the lower angle of the wound, and the cavity in the mastoid through the external ear. Dry dressing.

February 6th. General condition improved; mental condition good; child does not complain. Reflexes normal. Vomited twice. Eight A.M., temperature 97.8°, pulse 112, respiration 26; at 5 P.M., temperature 103°, pulse 120, respiration 24. No chill or convulsions; profuse sweating. Urine turbid, acid, sp. gr. 1.030, contains albumin; microscopically, pus and epithelial cells, occasional hyalo-granular and finely granular casts.

February 7th.—General condition unchanged; no convulsions. Evening rise of temperature to 103.8°. Reflexes unchanged. Mental condition good. Patient has no pain or tenderness anywhere except at site of wound. Strong percussion of skull elicits no tenderness. No rigidity of muscles of neck. Takes very little nourishment.

February 8th. Patient appears emaciated. Tongue moist and slightly coated. Bowels moved by cathartics and enemata. Physical examination of chest, abdomen, and extremities negative. No convulsions. Wound dressed—looks well; packings changed.

February 10th. Patient takes very little nourishment. Wound dressed; some of the stitches removed. Mental condition continues clear. Patient complains of occasional pain in the region of the wound.

February 12th. General condition the same. Mental condition clear. Reflexes normal. Wound dressed, slight discharge. Continues to have evening rises of temperature (103°). Blood examination and culture negative except existence of considerable leucocytosis (22,490 white blood cells).

February 15th. A.M., mental condition clear. Reflexes unchanged. Child somewhat irritable. Wound dressed and found in good condition. At 5 P.M. child began to cry out; right hand contracted; athetoid movements; some loss of power in right upper extremity. There is ankle clonus of both sides, particularly marked on right side. Abdominal and cremasteric reflexes present. Knee-jerk marked on right side. Spasmodic contractures of groups of muscles of right thigh (spasms not marked). In the evening, a lumbar puncture was made between second and third lumbar vertebræ, and about 40 c.c. of slightly turbid fluid removed; this was not followed by any change in the symptoms. The pupils have been equal throughout the disease, and react well to light; no photophobia. There is now marked rigidity of the muscles of the neck.

February 16th. General condition unfavorable. These is dulness of sensation and partial paralysis of right side of face; also partial anæsthesia of right conjunctiva and cornea. Pupils are equal and react to light. Abdominal reflex on right side absent. Pin pricks not promptly perceived in right leg. Ankle clonus and reflexes of lower extremities still present, but not so marked as yesterday. During the night the child uttered shrill cries in sleep. Highest temperature 101.4°. Wound dressed.

February 18th. Both hands contracted; athetoid movements; twitchings of the muscles of the left upper extremity. Later, general tonic contraction, with opisthotonus. Eyes rotated upward and to the right; pupils of equal size and moderately dilated. Convulsion lasting about half a minute, repeated several times during the day. At the end of these attacks there was marked ankle clonus, particularly of right side, and heightened knee-jerks of both sides. Anæsthesia as before. Abdominal reflexes absent on right side. Cremasteric reflexes well marked. Plantar reflex present, more marked on left side. Patient has involuntary micturition.

February 19th. Condition much worse; marked stupor; twitchings on both sides of the body; no pupillary changes. Reflexes are difficult to obtain. Tache cerebrale well marked. There is intermittent rigidity of neck.

February 20th. Stupor persists; occasional contractions of groups of muscles. Reflexes cannot be obtained. There is some pulmonary congestion of both bases. In the evening the child developed stertorous breathing, and the pulmonary congestion became more marked. Marked rigidity. Lumbar puncture not followed by any change in symptoms. Examination of the puncture fluid showed tubercle bacilli.

February 21st. Child continued in comatose condition, and died early in the morning.

The symptoms which this patient presented upon admission to the hospital were obscure as far as they pointed to his systemic affection. The only positive symptoms were those relating to his ear; hence he was placed in the aural service. The finding of tubercle bacilli in the cerebrospinal fluid, as well as other "unofficial" post-mortem evidences (no autopsy was permitted), rendered the diagnosis of acute general miliary tuberculosis positive. It is therefore proper to regard the middle ear and mastoid affections either as incidental lesions or as complications of his general disease; the surgical treatment of these had no effect, of course, upon the progress and termination of the tubercular affection.

Subacute Purulent Inflammation of the Middle Ear; Caries of the Mastoid.—Miss E. M. D., twenty-two years; admitted February 14, 1900.

History.—This patient was discharged from the hospital on February 10th, with the diagnosis of sub-

acute purulent inflammation of the middle ear with mastoiditis, condition improved. There has been slight but persistent tenderness over the mastoid antrum, and a slight elevation of temperature every evening (100°).

Examination on Readmission.—Right ear: Large perforation of drum-membrane and slight otorrhœa. No redness or swelling of the walls of the auditory canal. Tenderness on deep pressure over mastoid antrum. No œdema or redness over mastoid. No headache. No general malaise. Temperature normal A. M., 100° P. M.

Operation.—February 15th. Chloroform then ether anæsthesia. An incision about one and one-half inches long, made in usual post-auricular situation No œdema of tissues. Periosteum incised and pushed back; found in normal condition. The bone appeared healthy. After removing the superficial layers with gouge, the mastoid was found carious, soft, congested, and filled with much granulation tissue and pus. The necrotic and granulation tissue was found to extend some distance inward toward the antrum and middle ear, to below the tip of the mastoid, and posteriorly toward the occipital region. The diseased bone was removed with bone forceps and sharp curette until healthy walls were encountered, leaving a cavity about one inch in diameter and three-quarters inch in depth. The removal of diseased bone exposed the lateral sinus surrounded by necrosed tissue; the latter was scraped away. The wound was irrigated and packed. The upper angle of the wound was closed with sutures, the lower angle left open.

March 5th. Patient has improved uninterruptedly; there is still, however, a slight discharge from the ear.

April 1st. The wound has closed entirely. There is no discharge from the middle ear, and the perforation of the drum-membrane has closed. Hearing normal.

This case proved extremely interesting and illustrated how much destruction of tissue could take place with but slight symptoms, and how rapidly such changes could occur. This patient was first seen by the writer, at her home, during the latter part of December, 1899. At that time she had had grippe, and following this, an acute suppurative inflammation of the middle ear, with spontaneous perforation of the drum-membrane. After a few days of pain, headache, moderate rise of temperature, and general malaise, these symptoms subsided, and the patient was apparently recovering, when there occurred some swelling, redness, and tenderness over the mastoid (acute mastoiditis). The writer was prepared to open the mastoid early in January, 1900, but during the morning of the day set for the operation there was a sudden improvement. The discharge from the middle ear became profuse, the temperature dropped to normal, there was a marked diminution of redness, swelling, and tenderness over the mastoid, and in every way there was less indication for operative intervention. Accordingly, the operation was postponed. During the next few days there seemed to be steady improvement, and the patient was up and about, with no other symptoms except otorrhœa, and a very slight tenderness over the mastoid antrum; which symptom was absent at times. Early in February the mastoid tenderness, though slight, was persistent; the patient complained of headache, and there were slight rises of temperature (100°) in the evening. The perforation in the drum-membrane seeming insufficient, this was enlarged (under nitrous oxide), and a small teat of mucous membrane which projected throught the opening was cauterized, so as to remove the obstruction. But these procedures failed to cause any material improvement. Finally, on February 15th, the mastoid was opened, with the result given above.

Chronic Purulent Inflammation of the Middle Ear; Chronic Condensing Mastoiditis; Caries of the Posterior Wall of the Auditory Canal.—Miss C. O., twenty-eight years; admitted February 19, 1900.

History.—Two years ago, the patient was operated upon by the writer for mastoid disease on the same (right) side. At that time she had chronic purulent inflammation of the middle ear, with pain and tenderness over the mastoid. The mastoid was exposed and opened; there was marked eburnation, but no other change in the bone. The pain and tenderness over the mastoid disappeared, but the purulent inflammation of the middle ear has persisted, with rather foul-smelling discharge. For one week she has complained of very severe, shooting pains over the site of the mastoid scar, and there is considerable tenderness over this area. The patient is of a very neurotic temperament. The right auditory canal appears normal. The membrana tympani presents a large perforation through which there is an escape of offensive pus. Just behind this perforation, at the junction of the drum membrane and canal, there are minute granulations. Pulse, respiration, and temperature normal.

Operation.—February 22d. Ether anæsthesia. Incision made just in front of old scar, behind auricle. Soft tissues, including periosteum, perfectly normal. The bone was attacked with gouge and chisel; it was eburnated and very hard, so that it was removed with difficulty. The region of the antrum was opened, but there was an absence of all cells, and no space corresponding to the antrum could be found. The region of the sinus and that of the tip was explored; the bone was found hard, but otherwise normal. An emissary to the lateral sinus was accidentally opened and bled profusely. Twitching of the right side of the face was thought to have been observed during the operation, but there was no subsequent paralysis of the facial. The posterior wall of the auditory canal was found carious over a small area, and this diseased part was removed, so that a large cavity comprising mastoid opening and middle ear resulted. The wound was packed both from the mastoid wound and the auditory canal.

March 13th. The patient recovered rapidly, the wound healed promptly, and there was no further pain. The otorrhœa has diminished, and the discharge is free from odor.

April 1st. Completely cured. There is no discharge from the middle ear. The cavity in the mastoid is lined with epithelium continued from the auditory canal. A small post-auricular opening has persisted.

This patient presented an example of so-called "nervous" mastoiditis. It is a question whether her severe pain was due to the sclerosing process, or to the caries of the posterior wall of the auditory canal; the latter was exceedingly limited in extent. However, the removal of bone from the mastoid, as well as the excision of the posterior wall of the canal, gave complete relief from pain, as it had done two years previously. The second operation also cured the purulent inflammation of the middle ear.

Acute Suppurative Mastoiditis (Bilateral) Occurring in the Course of Diphtheria.—H. T., four years old; admitted March 11, 1900.

History.—Four weeks previously, the patient had diphtheria, and developed a purulent inflammation of the middle ear of the right side, with acute mastoiditis. Though his general condition was precarious, the indication for opening the mastoid was urgent. He was operated upon by the writer, and an immense quantity of pus and carious bone removed. He made a good recovery. A week ago,

he developed acute inflammation of the middle ear and acute mastoiditis on the left side. On admission, pulse 144, respiration 32, temperature 101.4°.

Operation.—March 12th. Ether anæsthesia. The usual incision was made behind the left auricle, over the mastoid, the periosteum incised and separated. The bone was apparently normal; but after the gouge had removed the outer layers, the entire mastoid process was found to be carious and its cells filled with pus and granulation tissue. The diseased area involved the entire mastoid including the tip. All the diseased bone was removed with bone forceps and sharp curette and the antrum well exposed. There was free communication with the middle ear. The sinus was not exposed. The wound was packed with gauze; no sutures.

March 25th. A complicating severe enterocolitis gave rise to elevation of temperature (103°) for several days. With this exception, the progress has been favorable and the temperature normal. There is considerable discharge from the mastoid opening, and also from the middle ear.

April 15th. There is no discharge from the middle ear of the right side, and but little on the left. On both sides, the mastoid wound is filling up slowly.

The first operation was performed at the home of the patient. At the time of the operation, he had considerable diphtheritic membrane in the throat and nose, and his condition was serious. The indications for the operation were urgent, and it was performed as soon as possible—at midnight. This operation was remarkable on account of the immense amount of diseased and broken-down bone which had to be removed. There was no diphtheritic infection of the mastoid wound, and rapid improvement set in soon after the operation. In the second operation also (left ear) the amount of destruction was much greater than was indicated by the external evidences of disease previous to operation.

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THE ZOOLOGICAL DISTRIBUTION OF TUBERCULOSIS.

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The object of this brief paper is to make a slight contribution to the study of the problem of the factors which determine susceptibility to tuberculous infection. This consists of a preliminary report of my observations in the post-mortem room of the London Zoological Gardens during the winter and spring of 1898–1899. I am deeply indebted to the courtesy of the officers of the Zoological Society and especially to the Vice-Secretary and Prosector, Mr. F. E. Beddard, both for the superb opportunities for pathological study afforded me and for valuable assistance in my work. The report is avowedly preliminary and incomplete, and any conclusions drawn from such a limited number of cases can obviously be only tentative or suggestive, but as the results obtained agree quite closely with the experience of veterinarians among the domestic animals, I thought that a brief statement of them might not be without interest.

I propose to briefly discuss the relative value of three great predisposing factors—race, food, and housing—in animals, in the light of the death records of the Gardens for the past five years, and the results of my own observations in the Prosector's rooms during the past winter and spring.

Taking up, first, the distribution of the malady among the different orders of birds and mammals, then its incidence upon the carnivora and birds of prey, on the one hand, and the ungulates and gallinæ on the other, and finally the difference in its death-rate in animals and birds of the same orders, kept in open cages or unwarmed houses and those kept in houses artificially heated during the greater part of the year.

One word as to the methods of diagnosis of the cases reported upon. The disease in animals is so well marked and so characteristic that not every case has been submitted to a bacteriological examination; type cases both characteristic and doubtful have been selected from time to time, and these have been kindly examined for bacilli by Dr. A. G. Foulerton and Dr. George Newman, and the naked-eye diagnosis checked by the results. "Tubercles" are produced in other diseases, but most of them can be readily distinguished from the "genuine" form upon careful inspection, and comparative pathologists are agreed that at least ninety per cent. of all conditions presenting well-marked "tubercles" in the organs are produced by Koch's bacillus. As illustrating the possibility of separating the pseudo-tuberculoses, I may say that I have found in the present series eleven cases of various forms of these in addition to the forty-seven genuine cases, some of which were quite puzzling at first but most of them clearly recognizable.

The period covered by my report is from October 20, 1898, to May 20, 1899, with the exception of three weeks in March and a week at Christmas time, making six months net. In this time, 213 autopsies were made and recorded, or about sixty per cent. of all the deaths occurring during the time, many of the animals, especially among the reptiles, being either unfit or unavailable for examination, or dead of obvious external causes, which made their remains of no pathologic interest. Of these 213 autopsies recorded, six were upon animals dying by accident and sixteen upon reptiles and fishes which, for the purposes of this paper, are of no value, leaving 191 cases of death in birds and mammals. I may say, however, that a fourth variety of the tubercle bacillus, the reptilian, has been announced by several observers, and that no less than four of the sixteen reptiles presented changes which were suggestive of tuberculosis, two of which were found to contain bacilli resembling the avian form in shape.

Out of these 191 deaths, no less than 47 were caused by a well-marked form of tuberculosis or 24.6 per cent., double the ordinary human rate.

Of the deaths, sixty per cent. were in mammals and forty per cent. in birds, while the proportion of tubercle was almost exactly the same in both. It would of course be absurd to attempt to accurately distribute the percentage of such a small number of deaths among all the different orders of mammals, so I have simply taken five great groups in each and worked out the distribution of the disease in these. These groups have also been chosen with a view to giving a basis for the study of the effects of food upon susceptibility. The results can, I think, best be presented in tabular form.

Family or Race.—It is, I think, fairly clear from the Tables I and II that race or family, as such, or rank of development, has but little direct connection with susceptibility to tuberculosis.

In mammals the highest order, the primates, is by far the most liable per 100 living (Table II), while next to it comes the lowest division, the marsupials. Ungulates and carnivora, which are usually ranked as on about the same level of specialization, are widely separated, the former having six times the death-rate of

the latter. Within the order of the ungulates itself, the most striking contrasts occur, the perissodactyles (odd-toed) being almost completely exempt—even

TABLE I.

	Total Deaths.	Deaths from Tuberculosis.	Per cent. of Tuberculosis.
Mammals—			
Primates	45	17	38.
Ungulates	9	3	33.3
Carnivora	21	1	4.8
Rodents	6	1	16.6
Marsupials	22	2	9.1
Birds—			
Raptores	12	2	16.6
Gallinæ	16	9	56.2
Parrots and toucans	9	2	22.2
Water-fowl and waders	27	5	18.5

horses and asses under domestication, while the artiodactyles (even-toed) are extremely liable. But there are marked differences even among the families of this last sub-order, the pigs being nearly immune while the ruminants are very susceptible; though of these latter the cervidæ are almost exempt, not a single death from tubercle having occured among the forty-one deer in the Gardens during the period covered by this report, while among the thirty-nine antelopes there were three.

Among the birds we find the same confusion of ranks, but in an entirely different order. The highest order listed, the psittaci (Table II) (the passeres were

TABLE II.

	No. Living.	Death-Rate per Annum, acc. to 6 Mos.' Aver'ge.	Death-Rate, acc. to 5 Years' Aver'ge.	Percentage Death-Rate Due to Tubercle.	Deaths by Tub'rcle per 100 Living.
Mammals—					
Primates	155	58%	60%	37.0%	22
Ungulates (Ruminants)	118	15%	23%	26.0%	6
Carnivora	185	23%	35%	2.0%	1
Rodents	75	16%	85%	3.0%	3
Marsupials	58	76%	45%	15.5%	7
Birds—					
Psittaci	300	6%	14%	7.1%	1
Gallinæ	160	20%	33%	33.3%	11
Raptores	108	24%	54%	11.1%	6
Water-fowls	330	17%	13%	23.%	3
Struthiones	19	32%	35%	28.5%	10

omitted for reasons of convenience, but their death-rate is extremely low), have the lowest death-rate (1%). The lowest order has next to the highest (10%). The gallinæ and the raptores, which may be compared in relative level with the ungulates and carnivora, have the highest and the third highest death-rates respectively, the difference between them being less than two to one, instead of six to one in the analogous mammalian groups.

The anatinæ (ducks and geese), which lie perhaps lowest of all the carinatæ, have a low death-rate, in marked contrast with that of the highest struthiones (ostriches), their next neighbors in the list.

And while deductions from such a small number of deaths can only be regarded as tentative and, indeed, preliminary, yet the results correspond very closely with those of veterinarian observers for mammals and of Dr. Heinvot, the ornithopathologist of the Berlin Zoological Gardens, who informs me that tubercle is extremely common in grain-eating birds, especially doves and very rare in flesh-eaters and song birds.

Food and Food Habits.—When we arrange our groups of mammals and birds according to their food habits we find what seems to be in the main a real correspondence with their relative death-rates, although there are some curious exceptions (Table III).

TABLE III.

		Death-Rate by Tubercle per Annum per 100 Living.
MAMMALS.		
Vegetable Feeders—		
Primates		22
Ruminants		6
Marsupials		7
	Average,	11.6
Mixed Feeders—		
Rodents	"	3.
Carnivora	"	1.
BIRDS.		
Vegetable Feeders—		
Gallinæ		11.
Struthiones		10.
Psittaci		1
	Average,	7.3
Mixed Feeders—		
Anatinæ	"	3.
Raptores	"	6.

In this grouping I have classed both the monkeys and the parrots as vegetable feeders, since although both of these receive a certain amount of chopped meat, milk, eggs, insects, etc., yet nine-tenths of their food is vegetable. Indeed, the keepers inform me that among the monkeys only the American species (platyrrhines), who form barely ten per cent. of the whole, receive animal food in any appreciable quantity.

These figures appear to point strongly toward a greatly increased susceptibility to the disease among vegetable feeders and a much reduced liability among meat-eaters, both mammals and birds. And this corresponds closely with the results of veterinary experience, in which cattle, rabbits, and guinea-pigs are highly susceptible; pigs much less so, and dogs, cats, and rats almost immune; hawks, owls, and song-birds slightly susceptible; fowls and turkeys extremely so.

Here again there are, however, serious exceptions to the apparent rule. The horse, ass—indeed all the odd-toed ungulates—the goat and the sheep, all pure vegetable feeders, having marked resisting powers and very seldom becoming infected. Evidently, although food-habits coincide more nearly with the distribution of tubercle than do racial divisions, yet there is some other additional factor involved.

Housing.—The question of the influence of confinement in artificially heated houses or in unwarmed sheds is an extremely difficult one to investigate, on account of the scarcity of fair parallels for purposes of comparison. For the most part only tropical and sub-tropical animals and birds are confined in heated houses, and only temperate or sub-arctic ones in the open sheds or unwarmed buildings, and both of these classes would probably die much more rapidly than they do if their quarters were reversed. On the other hand, it must also be remembered that, in the scarcity of space in the Gardens, animals living practically out of doors may have and often have no more space for exercise or larger sleeping quarters than those in warmed houses, and that some of the older buildings and sheds are worse ventilated and lighted than the modern heated houses; so that even out-door animals may be under as far from ideal conditions as indoor ones.

Temperament and adaptability must also be taken into account. An eagle in an open-air forty-foot cage, for instance, is much more injuriously "confined" than a parrot in a four-foot one in a hot-house.

So that we find the results so conflicting as to pre-

clude any positive conclusions. Among mammals we have both the highest (primates) and lowest (carnivora) tuberculosis-rate in highly heated houses. Among birds the highest rate (gallinæ) is in the open air; the next in a moderately heated house (struthiones), and the lowest in the hottest house of all (psittaci). So that, as between orders and families, there is nothing to be deduced from this factor in their environment.

Between members of the same order, however, there are a few suggestive contrasts.

Among the ungulates, as already mentioned, during the past winter, not a single death from tubercle came under my observation, among the forty-one cervidæ and thirty-eight bovidæ kept in open-air houses and sheds, while three occurred among the thirty-nine antelopes in warmed houses. The average life of the inmates of the monkey-house is about twenty months, while the Chinese (tcheli) and Japanese monkeys in the outside cages at each end of the house have already survived thirteen and seven years respectively. They were, of course, picked and hardened specimens to begin with, but they certainly would not have lasted half that time inside the house. Upon one occasion a female companion of a smaller species was placed with the older tcheli and lived happily for nearly four years, when the pair took to quarreling, so that she had to be returned to the house, where she died in six months. Another monkey presented to the Society had lived outdoors in a garden in Islington for seven years, but only survived the monkey-house six months. The few facts available would seem to point decidedly in the direction of the desirability of as little heat and as much fresh air as is reasonably consistent with survival.

A conclusion which both the Superintendent and Assistant Superintendent hold strongly, on the basis of a wide practical experience, and which is supported by the remarkable lowering of the death-rate following the addition of large out-door exercise-cages, open even in winter, in the continental and American zoological gardens. In Cincinnati the death-rate was reduced by this out-door treatment nearly fifty per cent., and in Philadelphia has been lowered to fifteen per cent. per annum, barely one-fourth of the London rate.

It would appear that some influence connected with the food-habits of both mammals and birds exercises an effect more or less constant upon their susceptibility to tuberculosis.

Food-habits may act in at least three different ways. 1. By the food itself becoming the vehicle of infection; 2. by some direct nutritive effect of the food upon the organism, increasing or lowering the vigor; 3. by the securing of the food in a state of nature, involving the attainment and maintenance of varying degrees of vigor and endurance.

The first of these possibilities has, I think, but little practical bearing, for while both classes of food are equally liable to the chance of infection by bacillus-laden dust, air, and fluids, sputum, etc., meat of every sort has the additional possibility of being itself infected—and yet tubercle is nearly twelve times as common in herbivora as in carnivora.

For the second possible effect there is more to be said, as meat is unquestionably more stimulating, more easily digestible, and more nutritious in proportion to its weight than any form of vegetable food.

Moreover, as the interesting experiments of Brouardel have shown, foxes and rats upon a carnivorous diet are almost completely refractory to infection by tubercle; while upon a vegetable diet, although they throve and gained weight, they became more than twice as susceptible. Calves, so long as they live exclusively upon milk, even from tuberculous cows, are almost completely exempt from tuberculosis, only from one in 5,000 to one in 20,000 having been found infected in the German slaughter-house inspection.

An interesting contrast in this respect exists between Old World monkeys and apes (catarrhines in the Zoological Gardens and the New World monkeys (platyrrhines).

As already mentioned, the former are almost exclusively vegetarian, while the latter receive quite a fair proportion of animal food in the shape of eggs, meal-worms and other grubs or insects, and sparrows, which last they devour with great gusto. And if any of these last courageous little foragers ventures into the house and large cages in search of scraps, he is pursued with astonishing agility and often actually captured.

The reason why this element is included in their diet is that they simply cannot be got to live without it.

It may be nothing more than a coincidence, but of the thirty-five deaths occurring during the six months among the vegetarian catarrhines no less than seventeen were due to tuberculosis, while not one of the ten deaths among the carnivorous platyrrhines was due to this cause. Upon inquiry of both the keeper and of the experienced attendant in the post-mortem room I was assured that in their experience tuberculosis was quite rare among the New World monkeys. And, as the death-rate from all causes among the New World monkeys was slightly in excess of that among the Old World ones (sixty-two per cent. per annum as against fifty-eight per cent.), the discrepancy can hardly be due simply to the surroundings agreeing better with the former than the latter.

And various keepers of experience have assured me that it is only since the introduction of a considerable element of animal food into the diet of anthropoid apes that it has been possible to keep them alive in captivity for more than a short time. The seven years' survival of the celebrated "Sally" at Regents Park is regarded as largely due to her partiality for beef-tea, of which she partook largely, and which is now a regular article of diet with all the anthropoids.

In human tuberculosis, the most successful food-cure which has yet been found is to put the patient upon a diet consisting chiefly, and in some cases exclusively, of broiled beef-steak and hot water; and some form of highly nitrogenous diet is usually insisted upon in the open-air sanatoria. In most of our American sanatoria this diet is strongly insisted upon, and my friend Dr. Tristram Pruen informs me that Walther compels his patients at Nordrach to take large quantities of milk and meat—especially in the form of ham and bacon—and that he finds this diet of the greatest value in his own sanatorium at Cheltenham. Although this diet is by no means confined exclusively to proteids, yet how distinctly carnivorous it is may be judged from the fact that the standard aimed at is the ingestion of the equivalent of *thirteen pints* of milk per day. And this proteid-cramming is regarded as second only in curative influence to the constant open-air life.

This food-effect, however, can only explain a part of the divergencies, for several families of herbivora, the horse, the ass, the goat, have almost as complete an immunity as the carnivora.

In the third factor we find what seems to me far the most important element in the relative immunity of flesh-eaters and that is the resultant habits of life and the vigor and endurance entailed by them. That a carnivorous method of life in the majority of instances demands a higher degree of activity, speed, and endurance than a herbivorous one needs, I think, little demonstration. And where, from any cause this higher degree of vigor and dash has

been acquired by herbivora, then immunity from tuberculosis follows. And as the degree of his vigor and activity is probably best roughly indicated by the size of the heart relative to the body weight, I have ventured to arrange my orders and groups again according to this character.

As will be seen, the variations in this regard seem to run more nearly parallel with the distribution of tuberculosis than any other yet suggested, but as I have only been able to find one series of measurements for birds (J. Jones in *Smithsonian Journal* 1856) and a few scattered ones for mammals, and many of these are based on two or three or even a single specimen, it can merely be regarded as an interesting and suggestive coincidence.

It, however, corresponds quite closely both with the differences between birds and mammals—the former with their larger hearts having an average death-rate by tubercle of six per cent. (per 100 living) as against a mammalian one of nine per cent., and with the contrasts between the carnivora and birds of prey, with their large hearts, and the bovidæ and gallinæ with their small ones. It also harmonizes the curious differences between the horse and deer, and the cattle and antelopes; leaving, however, the sheep with its small heart and low tuberculous death-rate, a marked exception.

TABLE IV.

Susceptibility to Tubercle acc. to Relative Heart Weight.

	Per Cent. of Deaths by Tubercle.	Heart Weight : Body Weight
Mammals—		
Primates	22	1 : 160
Ungulates (Ruminants)	6	1 : 220
Marsupials	7	1 : 280 (Opossum)
Carnivora	1	1 : 00
Equidæ	Very low	1 : 100
Cervidæ	" "	1 : 100
Birds—		
Gallinæ	11	1 : 279 (Turkey)
Raptores	6	1 : 113 (Vulture)
Water-Fowl	3	1 : 104 (Ibis)
Parrots	1	1 : 80

In our own species it has been suggested by more than one authority that the size and vigor of the heart was an important element in the predisposition to tuberculosis. Years ago Fothergill declared that the typical consumptive was small of heart and large of lung. The feebleness and rapidity of the pulse in even the earliest stages of phthisis are almost diagnostic. Dr. Pruen informs me that Bodington, the originator, over sixty years ago, of the superb open-air treatment of phthisis, considered the chief problem of the disease to be the weak heart, and devoted his attention more to the strengthening of the heart than to any other factor. And Walther of Nordrach to-day holds almost identical views regarding the state of the heart as chiefly responsible for the failure of the lungs to resist bacillary invasion. Altogether the conclusion to which this preliminary survey of the question of the distribution of tubercle points is that it is a matter of vigor, endurance, and resisting power, rather than of race, food, or exposure to infection; and as these powers are usually higher in flesh-eaters than in vegetable feeders, the former possess a marked relative immunity.

Dr. R. T. Hewlett, formerly connected with the Jenner Institute of Preventive Medicine, has quite recently been appointed professor of general pathology and bacteriology at King's College, London.

BIFOCAL LENSES; WHAT AREA SHALL BE DEVOTED TO THE SHORTER FOCUS?

By John E. Weeks, M.D.
New York.
Surgeon New York Eye and Ear Infirmary.

The question of eye glasses for the correction of errors of refraction and for aiding the vision of the old is one of much importance to mankind. Nature has failed to form an organ that perfectly complies with the laws of optics—in approximately seventy-five per cent. of the human race. In order to afford normal, easy vision to this defective seventy-five per cent. of mankind, glasses suitable to the individual should be worn. At the age of forty-two to forty-four years the phase of vision known as presbyopia makes itself manifest, particularly to civilized humanity, and glasses to remove its disadvantages are desirable.

If presbyopia supervenes on an eye of the normal (emmetropic) type, a glass for reading only is required. This is supplied in various forms, and, as but one pair of glasses is required, can be managed without trouble. When the individual who is not emmetropic reaches the presbyopic period, he must have a glass for distance vision possessing a focal distance differing from that required for close work. This means either that he must have two pairs of glasses, necessitating frequent changing, that he must wear a separate "front," or that he must employ bifocal glasses, namely, glasses one part of which is suited for distance and one part for near vision.

Bifocals are said to have been invented by Benjamin Franklin about the year 1770 ("The Complete Works of Benjamin Franklin," edited by John Bigelow, N. Y., 1888). They consisted of ordinary spectacle lenses that were split in the horizontal diameter. Half a lens of proper principal focal distance for distance vision was put in the upper half, and half of a lens with proper principal focal distance for reading was put in the lower half of the spectacle. Various modifications of this principle have been made from time to time, sometimes with a view to making the lens more elegant in appearance, sometimes to lessen the area of one or the other part for the purpose of extending the field of vision as obtained through one or the other part.

Bifocal lenses, as a rule, occasion much annoyance to the individual who attempts to wear them, particularly at first. They can be worn very comfortably when one is seated or when one is not moving about. The chief trouble experienced in their use is inconvenience occasioned by the blurring, which occurs when objects at a distance of more than two or three feet are seen through the part for reading. A lesser source of annoyance is the dispersion of rays of light that occurs at the line of union of the reading with the distance part of the lens, also by the removal of the optical center of one lens from the optical center of the other lens. Attempts have been made to remove the first of these sources of annoyances by lessening the size of the part of the lens used for close work. If a pair of the bifocal glasses of the Franklin pattern are being worn, walking is rendered quite difficult unless the glasses are very low on the face and the individual bends the head forward. It has been found that by shaping the lower segment so that the field for distance vision is not cut off at the sides (see Figs. 2 and 3) less annoyance is occasioned. Small oval discs have been substituted for the crescent-shaped slip; these leave the sides free, and they can be placed on the distance lens 1½ to 3 mm. above the margin of the lens, permitting of limited distance vision all

around the portion used for reading. This is probably the form best suited for bifocal glasses. The size of the disc should be carefully determined. Heretofore this has apparently not been done.

The ordinary proper reading distance is thirteen to fourteen inches from the eye. The fovea centralis is fully covered by the image of an object, placed at this distance, of about 9 mm. (⅜ in.) in diameter. Outside of this the distinctness of the image gradually diminishes, so that at the periphery of an area of 5 cm. (2 in.) in diameter, long primer type and even pica cannot be distinguished. To see distinctly over a wider area necessitates a movement of the eyes. If now we place on the distance lenses a disc for reading that affords a reading field sufficiently large to cover a page of the ordinary book in the horizontal and one-half of a page in the vertical meridian, the necessary requirement for reading and for close work will have been obtained.

Segments of circles ordinarily employed measure from 20 to 30 mm. in their horizontal diameters and 13 to 16 mm. in their vertical diameters. Circular "pasters" usually measure 17 mm. in diameter. These "pasters" are placed so that they reach the lower edge of the distance lens. The horizontal extent of the field for reading that these "pasters" give is approximately 35 cm. (15 in.)—much too large. They cut off too much of the field of vision for distance in its lower part. If a smaller oval "paster" can be put on the distance lens so that it will give sufficient field area at the reading distance and will also permit of distance vision almost if not quite entirely around it, we shall then have a bifocal lens which will give maximum service with minimum discomfort. After some trials with various lenses and some experiments with various devices the writer has concluded that this can be obtained by the use of a "paster" of oval shape which measures 10 mm. in its vertical and 15 mm. in its horizontal diameter; this gives a field at the reading distance of approximately 19 cm. (7 in.) in the horizontal, and 12.5 cm. (5 in.) in the vertical meridian. If the oval disc ("paster") is placed 2 mm. above the lower edge of the distance lens it will permit of clear distance vision below, sufficient to enable the wearer to see the curb, descend stairs, etc., without trouble; in fact, to be free from the great annoyance occasioned by the ordinary bifocal glasses. It is sufficient to place the optical centers of the portion of the lens for reading at the center of the "paster" The dispersion rays of light occasioned by the edge of the "paster" can be minimized by making the edge very thin. The writer has worn such glasses and finds them excellent for all purposes. In his operative work they are particularly serviceable. Patients also express themselves as being particularly pleased with this form of bifocal glasses.

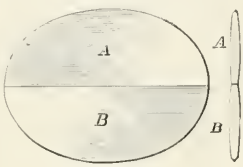

Fig. 1.—Franklin Bifocal Lens.

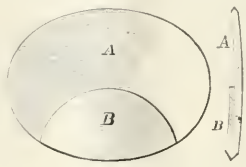

Fig. 2.—"Paster" Segment of a Lens.

Fig. 3.—"Perfection" Lens.

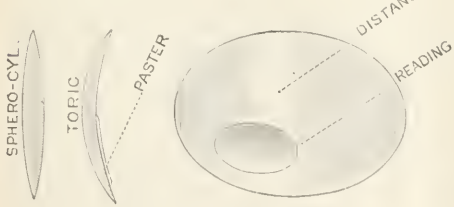

Fig. 4.—Desirable Form of Lens.

The Reduction of Turbinal Hypertrophies.—D. J. Gibb Wishart believes that this condition is a complex one, dependent not alone on local catarrhal factors, but on environment, climatic conditions, occupation, nervous mechanism, habits of life, and the abuse of tobacco and alcohol. Many of the plans of treatment proposed are unsatisfactory, for the results thereby attained lack the feature of permanency. Permanent relief can be expected only when there is a removal of bone or cartilage. He does not, however, believe in the wholesale removal of tissue. Every possible amount of nasal mucous membrane must be preserved. He, therefore, recommends sub-mucous galvano puncture, or the use of the turbinal trochar or the angular-handled Graefe knife introduced through a linear puncture. The use of the spokeshave in the nose is inadmissible, for the scissors or snare can remove any necessary amount of offending tissue.—*Canadian Practitioner.*

Rabies in Germany.—The Berlin correspondent of the *Lancet* writes that in Germany during the year 1900 there were 230 persons bitten by animals suffering, or suspected to be suffering, from rabies. This number showed a considerable decrease as compared with 1899, when 303 persons were bitten. Of the above 230 persons 187 were treated in the institute for Infectious Diseases in Berlin by injections of Pasteur's anti-rabic serum; the remainder were either treated at home by cauterization or other methods, or did not receive any medical treatment at all. It is remarkable that rabies did not develop in any instance either among the patients who received the injections or among others, so that no case of rabies in the human subject occurred in Germany in 1900. The bites were inflicted by one hundred and sixty-two dogs, five cats, and three cattle. Post-mortem examination showed the existence of rabies in one hundred and two dogs, two cats, and three cattle, and of suspected rabies in forty-four dogs and one cat.

Children's Seaside Sanatoria in Germany.—The Berlin correspondent of the *British Medical Journal* says that the "Society for Children's Sanatoria" at German seaside places can look back on its last year's work with satisfaction; 1,751 children in all (618 of whom came from Berlin) were treated in the four sanatoria of the society, the length of their stay averaging six weeks, but varying, of course, according to circumstances. The total number of days, counting all the four establishments, was 77,222; 14,633 warm baths and 15,184 cold baths were given: 830 of the little patients were dismissed cured, and 765 much improved.

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THE TREATMENT OF CYSTITIS.

THE management of a patient with acute inflammation of the bladder is usually simple enough, and in uncomplicated cases recovery is prompt; but when the disease becomes chronic, we often have a condition which taxes our patience severely. The treatment of those forms of cystitis which are caused by calculus, gonorrhœa, new growth, or stricture must, of course, depend upon the removal of the cause, since the inflammation is distinctly secondary to such conditions, but these conditions are not responsible for the very large proportion of cases of cystitis in which the disease is of a tuberculous nature, and it is tuberculous cystitis which requires such long and patient treatment, both of local and general conditions, and which is so difficult to deal with satisfactorily by surgical means. Von Hofmann has recently (*Die moderne Therapie der Cystitis*, 1901) contributed an interesting monograph on this subject, and he devotes much space to the treatment of tuberculous cystitis, which he considers the most important form of the disease. His main idea is that the disease should be considered general as well as local, and that very active systemic treatment should be instituted. In this regard creosote and guaiacol and their preparations seem to be the best drugs, but the question of nutrition is also of great importance, just as it is in pulmonary tuberculosis. Surgery has been called upon in many cases of tuberculous cystitis, but the most that can usually be done is to establish drainage, unless we should be so fortunate as to meet a case with a circumscribed ulcerative process, which could be treated by scraping or cauterization.

As is well known, the establishment of permanent drainage is, as a rule, followed by amelioration in the patient's condition, since, by it, the bladder is placed completely at rest; but when we want the fistula to close it will not always do so, and the results are very uncertain as to permanent benefit, no matter what treatment is employed in addition to the drainage. Von Hofmann recommends as useful preparations several salts of guaiacol, and specially notices the cinnamylate, and he also insists upon the importance of pushing the patient's nutrition as much as possible.

The local applications which will do good in cases of tuberculous cystitis are various solutions having germicidal qualities, and among other preparations may be mentioned several salts of silver and mercury. Patients will be found to differ in their tolerance of these preparations, and trial alone will show which is best and what strength individual cases will require. The most important reason for failure in treating this unpleasant disease is that the tuberculous process is rarely limited to the bladder, but commonly involves other parts of the genital tract, from which it is difficult or impossible to eradicate it. Our treatment of tuberculous cystitis must, therefore, remain much as it has been, systemic and local; the former consisting in pushing nutrition as much as possible and using some of the drugs which have been mentioned, and the latter consisting in the employment of those operative means which place the bladder at rest or eradicate any accessible foci of disease, and the use of appropriate local treatment by means of germicides and antiseptics. Many patients will improve under such a regimen, but the condition is one of the most unsatisfactory with which the surgeon is called upon to deal. We might add that von Hofmann looks upon the development of cystitis in a patient with an enlarged prostate as a serious matter to be avoided by rigid observance of catheter precautions. If cystitis does occur in such cases, he relies on nitrate-of-silver irrigation, and the internal administration of a urinary antiseptic. Good results in genito-urinary surgery sometimes follow the substitution of an organic compound of silver for the nitrate.

SUBSTITUTION IN MEDICINES.

IN a recent case of death from poisoning, the druggist who gave the wrong medicine offered as an excuse that he had merely substituted one article for another on the supposition that it was of equal strength and much cheaper. The prescriber, in testifying on the trial, stated that the practice was a very dangerous and very frequent one, and was apparently past remedy. While the latter may, or may not, be the case, it is quite certain that with many who claim to be reputable and competent pharmacists the practice of substitution is very common. The number of protests made from time to time in medical journals have reference to only a very small percentage of offenders, inasmuch as the larger number of such do not happen to be discovered.

The question of prevention, however, is a very serious one from every point of view. The physician, in his direct and responsible connection with the trustful patient, is the one most concerned, although drug manufacturers also have a right to claim fair play regarding the guaranteed qualities of their products. With both parties it should be the real thing or nothing.

From the business point of view it is a fraud on the producer and, from the ethical view, a danger to the consumer. Both parties in the compact have thus a common cause against the middle-man who surreptitiously plays the part of thimble-rigger and steerer.

The temptation to substitution is always strongest with the most expensive medicaments, and in the case of such as have a known quality of efficacy. An inferior and oftentimes inert article is almost invariably used when substitution is practised. Thus the manufacturer and the prescriber are always placed

in a false light with the patient, who expects certain promised results.

Generally speaking, the physician is the one to suffer the most, as his disappointed client is apt to leave him for another. How many lost patients can be accounted for in this way it would be difficult to imagine. The too trustful physician is in a very bad way between the prescribing druggist on the one hand and the ever-ready substituter on the other. Must he be compelled to turn dispenser himself in sheer defence? Certainly, in some cases, the crime has, in this way, met its penalty. But when we look about for a remedy against the evil we butt against the bulwark of general depravity and the impossibility of applying ordinary missionary efforts. The only thing is to discover and then to punish. The man who substitutes once will do so again. He has no conscience to begin with and nothing, in fact, to which an appeal can be made. The whole question then narrows itself down to that of mutual trust and the dispensing of original unbroken packages

THE FUNCTION OF MINUTE RESEARCH IN BIOLOGY AND MEDICINE.

To the great majority of the profession, especially to the "busy practitioner," the laborious researches of the biologist, the pathologist, and the chemist do not always appear to have a bearing upon actual practice. It was probably to counteract this tendency that the authorities of the Yale Medical School, at the annual commencement in June, invited Dr. Edmund B. Wilson to deliver the annual address to the graduating class on "The Higher Claims of Minute Research in Biology and Medicine" (*Yale Medical Journal*, July, 1901).

Ever since the announcement of Schwann's cellular theory of life, and Virchow's cellular theory of morbid processes, the point of view of the pathologist and the biologist has been the same. Both are now workers in the same field, who view vital phenomena in the focus fixed for them by the two men named, as well as by Darwin, Huxley, and Spencer. Both realize, to-day, that in the study of the origin and evolution of the subtle vital processes which go on in the cell lies the key to the problems of life and disease.

In order to illustrate the practical application of minute research in biology and medicine, Dr. Wilson, in his address, chose two problems which these sciences have been trying to solve—heredity and the origin of tumors—and gave his hearers a glimpse of what has been done in this field, together with a prophetic vision of what may be expected as the result of these investigations. In what follows we have endeavored to give a brief summary of the theme as gleaned from Dr. Wilson's address.

In studying the phenomena of cell-division it has been found that "the fertilized egg receives the nuclear material in exactly equal quantity from both the parents, in the form of rod-like bodies, known as chromosomes, that are identical in number, form, and size in both male and female. Our researches on cell-division are converging with ever-increasing probability to the conclusion that the paternal and maternal materials contained in the chromosomes are, or at least may be, equally distributed by division to all the cells of the body, whatever be their structures or functions. In other words, every cell may thus receive nuclear material from both parents, and thus bear within itself the germs of the hereditary predisposition of both." Further studies are necessary in order to establish this conclusion completely. When this has been done, we may understand how mental and physical characteristics have been handed down from parent to offspring on both sides from generation to generation.

As regards the origin of tumors, Dr. Wilson quotes Prudden, who, in a recent article (MEDICAL RECORD, March 10, 1901), has told us that in the study of the cell itself lies the elusive answer to this question. Experimental studies with cells under artifical conditions have shown how unfavorable influences may sway the process of growth and differentiation, and it has even been found that the unfertilized egg may be goaded to complete embryological development by chemical stimuli. Again, under certain chemical conditions, the egg, "as it were, loses control of itself, and gives way to a course of riotous living, producing, not a normal embryo, but strange and monstrous forms." Here we seem to be hot on the trail of the cause of tumors.

THE MURMUR OF MITRAL STENOSIS.

THERE are few phenomena in physical diagnosis that have been the source of so much discussion and difference of opinion as the murmur of mitral stenosis. The explanation for this fact probably resides in the circumstance that variations in the character and degree of the lesion, together with other concomitant conditions, give rise to corresponding variations in the resulting objective physical signs. Mitral stenosis is in general attended with a sensation of thrill or purring tremor over the body of the heart, apparently coinciding with the period of auricular systole; and with a peculiar, characteristic, rumbling murmur—that once heard is likely ever afterward to be recognized—either continuing into the systolic murmur of associated mitral regurgitation or being followed by a short, sharp, vigorous muscular first sound, the second sound being largely lost in the quickly recurring presystolic murmur.

While it is the almost universally accepted opinion that the murmur of mitral stenosis is presystolic in time, there are some who hold a dissenting view, maintaining that it begins with the movement of the ventricular systole. For the purpose of reaching a definite conclusion in the matter Dr. Hugh Walsham (*Lancet*, May 18, 1901) has studied systematically with the aid of the Roentgen rays a series of cases of mitral stenosis. He found, first of all, that in the normal heart the movement of the apex is heaving, being attended with somewhat rapid displacement toward the left and followed by a more rapid retreat toward the middle line. The greatest displacement, however, does not involve the apex, but rather the middle of the left border, corresponding to the ventricular cavity at a point where it is crossed by the left fourth rib. On auscultation the first sound of the heart is found to occur synchronously with the retreat of the cardiac shadow toward the middle line—corresponding to the ventricular systole, immediately after its projection toward the left—corresponding to the auricular systole. In the interval—corresponding to the period of repose—

slow and progressive distention of the shadow of the ventricular wall is occasionally seen. The visible and palpable cardiac impulse coincides with the auricular systole, while the succeeding shock is due to the ventricular systole. In fact, the position of the shadow that corresponds with the cardiac apex is in some cases below the point of cardiac impulse against the chest-wall.

Now, in cases of mitral stenosis it is found that the thrill conveyed to the palpating finger, as well as the murmur heard on auscultation at the point of maximum intensity, corresponds to the advance of the left border of the heart toward the left and ends abruptly with the retreat of the border toward the middle line—therefore coinciding with the auricular systole.

These interesting observations would seem to establish beyond doubt that the murmur of mitral obstruction and the accompanying thrill are presystolic in time. As is quite well appreciated, there is also often some degree of mitral insufficiency, so that the presystolic murmur is frequently continued directly into a systolic murmur.

News of the Week.

Koch's Modified Statement.—Professor Koch has issued a statement amending in two important particulars the address delivered by him before the Tuberculosis Congress in London. In commenting on his address, the MEDICAL RECORD said that his experiments were practically the same as those of Theobald Smith, although the mention of the latter by the orator was such as to give the impression that Smith had followed and not preceded Koch. He now says, in answer to this criticism, that he laid no claim either to priority or monopoly to any ideas propounded in the address, but "I sought only to tell of my own private experiments, and was, in fact, glad of the opportunity given to mention my contemporaries in some of their experiments, among whom was one of America's greatest medical authorities, Dr. Theobald Smith." Regarding the danger of infection from tuberculous cattle, he said, in the address: "I should estimate the extent of infection by the milk and flesh of tuberculous cattle and the butter made of their milk as hardly greater than that of hereditary transmission, and I therefore do not deem it advisable to take any measures against it." As modifying this uncompromising statement, he now says: "I did not mean to recommend the abandonment of comprehensive and expensive systems of regulation, prevention, and inspection that are now in operation. I simply said that it was injurious and unnecessary to go further with such systems when we were justified in expecting that our long-sought remedy was found and almost within our reach. Why, then, should we rear higher structures which must inevitably fall to the ground?" He very justly adds that experiment and not argument must now be the watchword of medical and scientific men who would conquer tuberculosis.

The Death of Dr. Moncorvo of Rio de Janeiro is announced. He was well known as an original worker in pediatrics, and the therapeutics of this important branch of medicine has been greatly enriched by his labors.

An Egyptian Medical Congress will be held at Cairo, December 10-14, 1902, under the patronage of the Khedive. The work of the congress will be especially devoted to the diseases peculiar to that country, such as ophthalmia, bilious remittent fever, abscess of the liver, ankylostomiasis, bilharzia, etc. An invitation has been extended to foreign medical men to participate in the discussions and read papers on appropriate subjects. The secretary-general of the congress is Dr. Voronoff of Cairo.

The American Veterinary Medical Association will hold its thirty-eighth annual convention at Atlantic City, September 3d to 6th. The topics to be discussed will be the communicability of tuberculosis from animals to man, the malaria-transmitting capacity of the mosquito, and new methods of meat and milk inspection. The society will also hear the report of the committee on the formation of a regular veterinary surgeons' corps in the United States Army.

A Memorial to Dr. Lazear.—A committee consisting of Drs. William Osler, Stewart Paton, and William S. Thayer was appointed some months ago, at a meeting of the friends of the late Dr. Jesse William Lazear, to receive subscriptions for a memorial to him and his work. Dr. Lazear was born in Baltimore county, Maryland, in 1866, and graduated from the academic department of the Johns Hopkins University in 1889. In 1892, he received the degree of M.D. from Columbia University in this city. From 1892 to 1895, he spent his time in study and investigation in Europe and as an interne at the Johns Hopkins Hospital in Baltimore. During the following three years and a half, while a member of the staff of the Out-Patient Department of the Johns Hopkins Hospital, he did much valuable work as a teacher and investigator in the laboratory of clinical pathology. In February, 1900, he became an acting-assistant surgeon in the army and was assigned to duty in Havana, where he was appointed a member of the army commission for the study of yellow fever. The final proof of the discovery that the disease is transferred by the bite of a certain mosquito could be obtained only by direct experiment upon a human being. To this experiment Drs. Lazear and Carroll courageously subjected themselves, and in the performance of this heroic duty the former lost his life.

Epizootic in Philadelphia.—A severe epidemic of influenza is prevailing among the horses in the suburbs of Philadelphia. In Radnor, Bryn Mawr, Ardmore, Overbrook, and all of the suburbs to the west of Philadelphia the disease has attacked great numbers of horses, draught animals and those in private stables suffering equally.

War Against Mosquitos in New Orleans.—The Board of Health of New Orleans has entered upon a war of extermination against mosquitos in two of the wards of the city. The district was assigned to our sanitary inspectors, who have devoted their entire attention to it during the past week, visiting every one of the 5,000 premises in the district, inspecting all water supplies, and treating all possible places for the incubation of mosquitos with oil. It was decided to use paraffin oil in the cisterns the chemist of the board having recommended that as the most successful in destroying mosquitos. Crude Beaumont oil will be used in the gutters and open ponds. Dr. P. E. Archinard of the Board of Health is superintending the work. The householders have been requested to renew the oil treatment weekly, the oil being supplied by the Board of Health.

Management of the State Hospitals.—Governor Odell made last month a visit of inspection to each of the State hospitals for the insane, and it is reported that the result has been a decision that the

State is paying a very high price for the services that it is receiving and that the cost of maintenance of the hospitals is extravagant. The Governor will, it is said, make a recommendation to the next legislature that the salaries of many of the officers of the hospitals be materially reduced and that a new system regarding supplies be adopted whereby a saving can be made in their cost.

Typhoid Fever in Chicago.—The Nineteenth Ward Improvement Association of Chicago held a mass meeting at Hull House one evening last week to discuss ways and means of putting an end to the prevalence of typhoid fever and malaria in that part of the city. Visiting nurses from Hull House are taking care of more than thirty patients, and in nearly every block there are from one to five persons stricken with fever. The meeting made an appeal to the City Health Department for help, and also issued a bulletin on the unsanitary conditions which are allowed to prevail in the district.

Zoological Nomenclature.—One of the chief points of discussion at the International Zoological Congress, held last week in Berlin, was that regarding nomenclature. The American delegates favored the adoption of a simple system and the substitution of abbreviated terms; the French proposed to make the existing nomenclature conform more strictly to the classical forms, grammatically and etymologically; the German delegation submitted a compromise proposition. The French proposition was finally adopted.

An Abortive Test of Bellinzaghi's Yellow-Fever Serum.—An order was issued recently by the U. S. War Department, convening at Havana a board of medical officers under Major Havard, Chief Surgeon of the Department of Cuba, for the purpose of supervising the experiments of Drs. Caldas and Bellinzaghi with their alleged yellow-fever curative and prophylactic serum. This order is said to have been issued at the request of the Brazilian minister at Washington, Dr. Caldas being of that nation. The experiments did not go very far, however; for two of the men bitten by infected mosquitos died. They were Spaniards and offered themselves to the Yellow Fever Board as subjects for experiment, as they wanted to become immune. They were healthy before the mosquitos bit them, but developed the fever four days afterward. Dr. Havard says that this will stop further experiments in which mosquitos are used, as they are more dangerous than was expected. Others who were bitten have developed the disease in a light form. The report does not state whether the serum was used in these cases either as a prophylactic or as a curative agent, but if it was it failed most signally. It was rather curious that the experimenters should have left Rio de Janeiro, where plenty of material is presumably at hand, to work in Havana, where material has become so scarce that it must be created by mosquito inoculation. Dr. Caldas claims to have discovered the true yellow-fever germ, but keeps his discovery a secret.

Suit against Physicians in Indianapolis.—A man who was sent to the Central Hospital for the Insane in Indiana as insane and afterward released has filed suit for $15,000 damages, making defendants the justice who committed him and the constable who took him to the hospital, together with doctors and other employees of the city dispensary. He charged that on or before June 24, 1901, the defendants entered into a conspiracy, as an insanity commission, to hold insanity inquests and divide the fees. This is a result of recent charges regarding what the local papers called the "insanity trust" it being alleged that a number of physicians and others had conspired to commit persons to the asylum without legal forms, in order to secure the fees for examination.

Dr. Thomas D. Wood has resigned as professor of hygiene and organic training at Stanford University, California, and accepted a similar position in the Teachers' College of Columbia University in this city.

A Diploma Mill in Jersey City.—The New Jersey State authorities, at the instance of Dr. J. M. Mitchell of Red Bank, Secretary of the State Board of Health, have closed the "Central University of Medicine and Science," which claimed to be incorporated under the laws of New Jersey, and which conferred diplomas on anyone who thought them worth ten dollars apiece, or two for fifteen dollars, and had the money to back up his convictions. The degrees conferred were denominated "honorary," and so, the circular of the concern announced, could be had without any examination. Although the degrees most in request, apparently, were those of M.D. and Ph.D., any others that might be called for could be supplied at the regular rates. The "university" seems to have been doing business for only a short time, and probably has not had many "graduates" yet.

The Medical Society of the Borough of the Bronx will hold its first regular meeting of the autumn at the Metropolis Theatre Building on Wednesday, September 11th, at 8 P.M. The secretary is Dr. Albert C. Geyser.

Operations at the Cook County Hospital.—The authorities of this hospital in Chicago recently posted a notice to the effect that all major operations must be performed by one of the attending staff only, the work of the internes being restricted to minor surgical cases. The house staff resented this imputation of incapacity, and has made a public protest. In this it is asserted that every one of the internes had had a college training before beginning the study of medicine, had been graduated from a reputable medical school, had passed the State board examination, and been licensed to practise medicine and surgery in Illinois, and finally had obtained his hospital appointment after a rigid competitive examination. In reply to the charge that there had been too much and unnecessary operating by internes, they state that no operation has ever been performed until after a thorough examination by a member of the attending staff, and except under his immediate supervision. "Considering the qualifications necessary to become an interne," they say, "and the fact that every senior interne has served twelve months in preparing for surgical work, it is justly evident that we should be regarded competent to participate adequately in the care of patients. Such privileges are enjoyed by internes of every other hospital in this country and abroad."

Leprosy in a West Virginia Mining Camp.—The West Virginia State Board of Health has been informed that leprosy exists among the foreigners in the mining districts in the eastern part of the State. An investigation will be undertaken to determine the truth of this report.

The Illinois Board of Dental Examiners.—Governor Yates of Illinois, a few days ago, requested the resignation of the State Board of Dental Examiners, and has appointed a new board in its place. This action was taken on information furnished by

the United States Consul at Munich, Germany, who is said to have in his possession diplomas which had been issued improperly. An explanation has been made by the president of the board, from which it would appear that the licenses were given according to a negligent system, by which the name of the recipient of the license was filled in after the signatures of the members of the board had been attached. A former member of the board has been arrested on three warrants, one for forgery in issuing licenses, a second for malfeasance in office, and a third for accepting a bribe, it being charged that he issued a license to a man who was not a graduate of any college, on the payment of $400. It is stated, however, that this system of signing blank licenses was discontinued some time ago. The secretary of the board, Dr. J. G. Reid, who was instrumental in securing evidence against the accused member, has been reappointed by the Governor on the new board.

Threatened Famine in Russia.—The annual struggle of the Russian agriculturist to snatch from the earth during the brief growing season enough food to supply his wants during the long winter has in great measure failed again this year. The cause for the failure this year is the same that reduced the yield of cereals in our own land, intense heat and drought, followed by torrential rains. According to the official report, only two provinces out of seventy have had good harvests, the rest running from below average to utter failure. There has been a very large yield in Siberia, but a distribution of food stuffs to those in the famine districts is impossible because of the few railways and the almost entire lack of passable roads. With the famine, which seems inevitable, will doubtless come the usual epidemics of relapsing and typhus fever.

Obituary Notes.—Dr. James A. Williams of this city died on Thursday at Armonk, Westchester County, where he had gone with his family with the hope of improving his condition. Dr. Williams was born in Sinking Springs, Ohio, sixty-one years ago. He was graduated from the Rush Medical College, Chicago, in 1861, and from Bellevue two years later. He entered the army as a surgeon, and was soon advanced to the rank of major, being the youngest in the army to hold that title. After the war he practised for a short time in Mattoon, Ill. From there he came to New York, where he remained in active practice up to within a couple of months of the time of his death.

Dr. James M. Howard, Jr., of Masontown, Pa., was killed in a runaway accident at Fairmount, W.Va., on August 19th. He was twenty-three years of age, and a graduate of the Jefferson Medical College, Philadelphia. He was the son of a physician.

Dr. Benjamin H. Kittrell of Winona, Miss., died recently at Fourth Lake. He was a graduate of the Medical Department of Tulane University, New Orleans, in the class of 1897. He was an acting assistant surgeon in the Spanish war, and was in the hospital at San Juan Hill during the Santiago campaign.

Dr. David Cory of this city died on August 19th. He was a graduate of the Medical Department of Columbia University in 1866.

Dr. John Duncan of Victoria, B. C., was drowned in the sinking of the *Islander* off Douglas Island, Alaska, on August 15. He was a graduate of the Medical Department of McGill University, Montreal, in the class of 1884.

Book Reviews.

Public Water-Supplies: Requirements, Resources, and the Construction of Works. By F. E. Turneaure, C.E., Professor of Bridge and Sanitary Engineering, University of Wisconsin, and H. L. Russell, Ph.D., Professor of Bacteriology. With a Chapter on Pumping Machinery by D. W. Mead, C.E., M.Am.Soc.C.E., etc. New York: John Wiley & Sons; and London: Chapman & Hall, 1901.

This work, although prepared for teachers and students of technical schools, contains very much that will interest physicians. Prefaced with an admirable historical sketch of ancient methods and works, from Joseph's well at Cairo to Roman aqueducts, it contains valuable chapters on the quantity and quality of water, source and examination of water-supplies, collection works, and methods of purification. The chapters on ground-water and the quality of water are especially concise, plain, and practical. The popular belief that aeration greatly improves a water is erroneous according to the authors. This assertion, however, is modified in the case of stagnant ponds and reservoirs in which putrefactive changes have taken place. Though aeration may not—actually does not, according to experiment—help Niagara water, it does help to purify the water of a filthy duck-pond.

The conclusion of the authors that a stream, once sewage polluted, should never be used for drinking water as long as there is any evidence of pollution present, is thoroughly sound and modern doctrine. The self-purification of streams, of which we used to hear so much, is an indefinite and unknown factor.

The information contained in the chapter devoted to water-borne diseases should become public property. Bacterial examination of water is treated at the length it deserves, and due credit is given the colon bacillus as an index of sewage pollution.

The prevention of the waste of water is an ever-present topic to us in America, where in some cities the consumption of water is easily double the amount that could possibly be used legitimately. When one considers that all this waste means increased municipal expense and consequent increased taxation, the importance of this subject cannot be overestimated. Several pages are devoted to this question, and the authors recommend the meter as the easiest and most rational method of preventing waste.

The second part of the work contains chapters on the construction of water works, valuable to the engineer and the sanitarian—and to the taxpayer also, for some space is deservedly devoted to the cost of erection and yearly maintenance of these works. The various forms and methods of collection, both of surface- and ground-waters, are treated of at length.

The purification of water is given an appropriate amount of space, prominent in which is the method of natural sand filtration. The value of this method, which has improved so much with our increase in bacteriological knowledge, is apparent in the reduction in typhoid death-rates after its use—amounting in some instances almost to ninety per cent. Information regarding covered sand-filters, their method of construction, cleaning, and cost, is given in detail.

The authors have very little to say in favor of the various household filters. Boiling is the one safe and efficient method for domestic purification.

On the whole this work is to be recommended to any one who has to do with any phase of the water-supply question. Its completeness and thoroughness are commendable features.

Operative Surgery. By Joseph D. Bryant, M.D., Professor of the Principles and Practice of Surgery, University and Bellevue Medical College, Visiting Surgeon to Bellevue and St. Vincent's Hospital, etc., etc. Vol. II. Operations on the Mouth, Nose, and Œsophagus, the Viscera Connected with the Peritoneum, the Thorax and Neck, Scrotum, Penis, and Miscellaneous Operations. Eight hundred and twenty-seven illustrations. New York: D. Appleton & Co., 1901.

The publication of this volume, somewhat delayed apparently, completes one of the best works on operative surgery in existence, and we therefore greet it with pleasure. The title recites the contents of the volume, in which we find much of what is most important in surgery.

The pictures are graphic and handsomely executed, and the plan of giving illustrations of the instruments required in particular operations is maintained. The author's literary style is so good that much is added thereby to the pleasure of reading the book. The volume begins with a consideration of the operations upon the nose, mouth, and œsophagus, which are included in one chapter, after which the surgery of the

abdomen is taken up and naturally occupies most of the book. The various forms of intestinal suture are explained largely by diagrams and illustrations, and the newest methods of closure with instrumental assistance receive attention. Certain abdominal operations cannot be well shown in an illustration, though a diagram is often valuable, and in this regard some illustrations in this work fail to show clearly what is intended. However, almost all attempts to make a useful picture of such an operation as gastro-enterostomy are failures. The various operations on the ureters receive considerable space, and the suture methods are carefully described. A few pages are devoted to the methods of examination of these canals, with descriptions of the necessary instruments. The important subject of hernia is perhaps the best illustrated of any in the book. All the modern methods of operative treatment are described and illustrated. The description of the radical operations for malignant disease of the rectum is very complete, and forms a valuable chapter of reference as well as an operative guide. The various methods of removal of the mammary gland and its related lymphatics receive the attention which so important a subject deserves. The author is an advocate of the advanced radical treatment whenever possible. The remarks on the operative surgery of the lung lead us to hope that there is a future of increasing brightness in this branch of surgery. Vesical surgery and its extensive armamentarium are well illustrated and described. Some of the most recently suggested methods in bone surgery are mentioned under the head of miscellaneous operations, as is also the operation for removal of the cervical sympathetic.

This volume completes a work which is a credit to American surgical literature.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Vol. XII., 1900. Edited by WALTER LESTER CARR, M.D., of New York.

THIS book, which is reprinted from the *Archives of Pediatrics*, contains twenty-three articles dealing with a great variety of subjects connected with the diseases of childhood. They show the scope of this specialty and the character of the scientific work done by this society.

SAUNDERS' MEDICAL HAND-ATLASES. I. ATLAS OF LABOR AND OPERATIVE OBSTETRICS, fifth edition. II. ATLAS OF OBSTETRIC DIAGNOSIS AND TREATMENT, second edition. By O. SCHAEFFER Privatdocent in Obstetrics and Gynecology in the University of Heidelberg. Edited by J. CLIFTON EDGAR, A.M., M.D., of New York. Philadelphia and London: W. B. Saunders & Co., 1901.

BOTH of these atlases are translations of the "Lehmann Medicinische Handatlanten," and are remarkable for their artistic excellence and scientific accuracy. Another distinguishing feature which must appeal to the practitioner who is in quest of information and not of attractive specimens of the bookmaker's art is that the numerous illustrations in these atlases are not inserted because they are pretty and help to fill up, but because they actually present in a clear and striking way some obstetric truth. The editor has done his part well.

The first volume is divided into two parts, one in which the act of parturition is considered from the standpoint of the practical obstetrician, and the other which deals with obstetric operations.

The second volume might very properly be called a textbook on obstetrics; for, even to a greater degree than the first volume, it may be said to be more than an atlas, nevertheless the best results will be obtained by studying it in conjunction with a larger treatise on obstetrics. In this edition many new plates have been added, and the text has been carefully revised and made more available for quick reference by the use of different type for the practical or clinical portions and for those treating more especially of the science and theory of obstetrics. The symptomatology and treatment receive more detailed consideration in this edition.

CLINICAL LECTURES ON STRICTURE OF THE URETHRA AND ENLARGEMENT OF THE PROSTATE. By P. F. FREYER, M.A., M.D., M.Ch., Surgeon to St. Peter's Hospital, Lieutenant-Colonel Indian Medical Service (retd.). New York. William Wood & Co., 1901.

THIS little work presents in a concise and practical way the methods of dealing with the affections named in the title.

The lectures are reproduced from published clinical reports in the *Lancet* and *Clinical Journal*, and represent the author's personal experience as given in his lectures at the Medical Graduates' College and Polyclinic. There are only 115 pages, but the ground is well covered, and there are illustrations of instruments advised for the various operations which the author has found most advantageous.

Correspondence.

LETTER FROM JAPAN.

(From Our Special Correspondent.)

RECEPTION TO DR. S. WEIR MITCHELL—JAPANESE STUDENTS ABROAD—THE HEALTH OF THE NAVY—A JAPANESE VARIANT OF CHRISTIAN-SCIENCE FOLLY.

TOKIO, July 4, 1901.

THE visit of Dr. S. Weir Mitchell has created a very good feeling among the Japanese medical men, who joined together in giving himself and party a warm welcome in the shape of a Japanese entertainment at the Maple Club in Tokio. The speeches on the occasion by such men as the President of the Medical Department of the University of Tokio, Dr. Kitasato, the noted bacteriologist and Director of the Institution for the Investigation of Infectious Diseases; Dr. Miura, Professor of Nervous Diseases in the University; Baron Saneyoshi, F.R.C.S., Chief of the Navy Medical Department, and Dr. Takaki, Dr. Saneyoshi's predecessor, now Director of the Charity and Tokio Hospitals, all indicated an increasing friendship for America, and a deep desire to cultivate the acquaintance of their colleagues in our land. The labors of Americans in the various fields of investigation, and the practical results therefrom, are evidently becoming more and more appreciated by the Japanese, who, having been educated under the direction of German professors, have hitherto looked to Germany for everything medical.

The present seems a very suitable opportunity for improving this relationship by the establishment of a few free medical scholarships for Japanese in some of the principal universities in America. In the departments of law, literature, and other sciences, many Japanese have been graduated, having been attracted to our universities by their manifestly great advantages, but in medicine alone comparatively few Japanese have sought instruction in our universities and colleges.

As English is now being taught in all the principal schools in the Empire, the class of students from which suitable candidates can be drawn is quite large compared with that which furnishes students who desire to study in Germany. The writer of this article once induced the authorities of his *Alma Mater*, the University of Pennsylvania, to establish a scholarship for Japanese students, but the value of the scholarship included only an abatement of the fees, and made no provision for other expenses. Only a few applied as the cost of the return journey and maintenance during the university course was much beyond the means of any but the wealthiest Japanese students. The following is the number of government students now studying abroad (of which a fair proportion are, I believe, medical students) and the schools from which they come in Japan. Education Department, 3; Tokio Imperial University, 32; Kioto Imperial University, 22; Higher Commercial School, 2; Higher Normal School, 11; the first to the fifth Higher Schools, 5; Tokio Industrial School, 8; Osaka Industrial School, 2; Tokio Fine Arts School, 4; Tokio Musical Academy, 2; Foreign Language School, 2; Sapporo Agricultural School, 3; Ladies' Higher Normal School, 2; Independent, 8; total, 106.

At the above-mentioned entertainment Dr. Stuart Eldridge spoke on behalf of the foreign medical men, of whom Dr. W. S. Worden, Dr. Teusler, Dr. C. H. H. Hall, Dr. F. E. Harmon, U.S.N., and Dr. W. N. Whitney were Americans practising in Tokio or Yokohama.

It is understood that Dr. W. W. Keen of Philadelphia will shortly pay Japan a visit, and also Dr. de Schweinitz of Philadelphia, both of whom will receive a warm welcome, as did Dr. H. C. Wood, who favored us with a visit last year.

Among recent statistical publications that of the Japanese Navy furnishes interesting material for consideration. According to the last Annual Report of the Surgeon-General of the Navy, the mean daily force in the service during the year 1898, exclusive of commissioned officers, was 18,420. The total number of cases of disease and injury was 20,330, being a ratio of 1,103 per 1,000 men—an increase of 281 per 1,000 compared with the record for 1897, and of 545 per 1,000 compared with the average figure for the past 14 years. This record looks startling, but the truth is that in 1898 a new system of writing up the sick list was adopted, slight cases being entered which had been previously omitted. If we turn to the number of deaths the indications are quite different, for these amounted to only 129 for the year, being 0.34 per 1,000 patients, or a decrease of 0.03 per thousand compared with 1897, and a decrease of 0.01 per 1,000 compared with the average death-rate for the preceding 14 years. There were only 6 deaths from injury and 25 from drowning.

Faith healing thrives in Japan, as elsewhere, but if one

may judge from recent investigations by Rev. Arthur Lloyd of Tokio, a certain very popular sect, called the *Remmon Kyôkwai* or Lily Gate sect, is not unlike Christian Science in several respects. This sect was founded by a certain Yanagita, but owes its popularity to a woman, Shimamura Mitsuko, born in 1831 in the village of Yoshika. When she had reached the age of fourteen, the son of a fisherman living in an adjoining village was adopted as her husband. After a few years her husband was retransferred to his own family, that he might become the successor of his father. This, of course, involved his divorce from Mitsuko, which seems to have been acquiesced in because it opened a path out into the world. Some of the opponents of the Remmon Kyôkwai say that she went about this time to Shimonoseki and led an unsavory life there in connection with a company of rice speculators, to whom she acted the part of a clairvoyant. Afterward she drifted across the straits and became an inmate of a *samurai* family of Kokura, Kyushu, until, through the mediation of the head of this family, she became the wife of one Shimamura Otokichi, a dealer in rice, who had won the favor of Lord Ogasawara of the Kokura clan. Unhappily in 1852 Mitsuko became sadly rheumatic, an almost helpless cripple in fact. At this juncture she applied to Yanagita, who had gained quite a reputation for his skill in treating similar disorders. At the first interview the shrunken cords of her neck and limbs were relaxed. This evidence of her sturdy faith seems to have convinced Yanagita that she was worthy to be the herald of the new faith. In the work of propagation she made large use of gatherings of the young of both sexes, and thus incurred the suspicion of the authorities. This sect had its source in the Nichiren sect of Buddhism, and Mitsuko in one of her addresses asserted that she was the reincarnation of Nichiren himself. The special claim made by the preachers of the sect is that diseases, whatever their nature, are healed summarily in response to prayer. On the ethical side, the teaching of the sect is essentially the popularized Confucianism of the Shingaku and Kyûô Dôwa.

OUR PARIS LETTER.

DEATH DUE TO MEDULLAR COCAINIZATION—SERIOUS ACCIDENTS RESULTING FROM COCAINE ANÆSTHESIA—CASE OF DEATH FROM THE USE OF EUCAIN—POST-GRADUATE COURSE IN PARIS.

PARIS July 27, 1901.

DR. BROCA, surgeon of the Paris hospitals, reported a case of death from medullar cocainization at a recent meeting of the Society of Surgery. The patient had been operated on by Dr. Prouff, who sent the observation to Broca. The patient was a woman sixty-two years old, who imagined she had a foreign body in her foot, and insisted on being operated upon, although the Röntgen rays had given a negative result. Local anæsthesia might have been used, but as there was chronic arthritis of the hip and knee, Dr. Prouff decided to use an intrarachidian injection, so that he might investigate the lesions caused by this affection. One cubic centimeter of Carrion's solution was injected. The anæsthesia was perfect, and the patient was able to get up and walk without difficulty immediately after the operation. There was no vomiting nor headache, and an hour after the injection she went home on foot, a distance of two hundred yards, and walked up several flights of stairs. The same day, in the afternoon, there was a noticeable change, extreme rachialgia being a prominent feature. Dr. Prouff was called, and found the woman very pale, with a weak pulse, and suffering from atrocious pain in the vertebral column. He had her get up and walk, and as there was no motor or sensory change he thought it sufficient to reassure her and to recommend a little patience. Death took place the next day.

Dr. Broca remarked that he, as well as his colleagues, had been asked to report all cases of death taking place after medullar cocainization. It seemed to him that this was a perfectly clear case, and it could be therefore argued that it was best not to recommend the use of this method indiscriminately.

Dr. Nélaton said that he had noticed recently very serious cardiopulmonary troubles after an injection. There were dyspnœa, pallor of the face, and a very weak and frequent pulse. Caffeine was used as a stimulant with favorable results. An analysis of the solution was made, and it was found to contain certain secondary products resulting from the decomposition of the cocaine. Dr. Rochard confirmed what Nélaton had said as to the changes observed in different solutions. A certain product called ecgonine is sometimes found, and the latter seems to have properties akin to those of atropine. Dr. Segourd, the celebrated gynecologist, said that he had tried Tuffier's method four times, and though he had experienced no difficulty in using the technique indicated, he had ceased employing it, as he found that he was disturbed during his operation by the excessive tremor the patients suffered from. Dr. Chaput advocated a second puncture and the removal of twenty cubic centimeters of cephalorachidian liquid, thereby preventing the usual accidents, such as vomiting and headache. Dr. Tuffier remarked that the case of death cited by Broca could not be discussed as to its cause, as the autopsy was not made. Moreover, the manner in which the patient was treated was such that it seemed to him that the operator was certainly as much to blame as the method.

At the following meeting held on the 10th of July, Dr Bousquet reported a case of death after an injection of eucaine. The patient, a woman, was to be operated on for a strangulated crural hernia. Immediately after an injection of two centigrams of eucaine, she grew very pale, the pulse became small, and the breathing labored. Artificial respiration and injections of caffeine and ether were tried and the patient improved. Extreme agitation came on, however, and in the evening she was in a comatose condition. She died at two o'clock in the morning.

In an article published recently in the *Presse Médicale*, Dr. Jayle, assistant of Professor Pozzi, advocated the creation of a certain number of post-graduate courses such as those held in Berlin and Vienna. Dr. Jayle said it was a noticeable fact that foreigners were deserting more and more the Paris School of Medicine, and the reason of this was not the lack of clinical instruction that was to be obtained nor the dearth of capable instructors, but rather the fact that there was no organized body of lecturers, which made it difficult for the foreign students to find what they wished, and to acquire in a relatively short space of time the knowledge they needed. There is perhaps no place in the world where a larger variety of skin affections can be studied than at the St. Louis Hospital; the French specialists for gastrointestinal affections rank among the highest; in children's diseases there are no better men to be found than Comby, Moizard, Hutinel, and Marfan, and yet there is such a lack of initiative and organization that foreign students come here to spend a few weeks, visit a certain number of hospitals, and then go on to Berlin and Vienna. Nothing can be looked for from the Faculty of Medicine, which remains absolutely inert. The municipal council, which has already created two cliniques—those of infantile surgery and of gynecology—will most likely undertake the creation of a municipal institute of applied medicine. One of its members, M. Auffray, has just published a report on the subject, which is given in full by Dr. Jayle, and which conveys a good idea of the crisis which is occurring in medical instruction in France. In this report mention is made of the fact that in former times students of other nations were allowed to come to France, graduate, and practice, whereas the laws are now much more strict, and a thorough knowledge of French is demanded of those who wish to become physicians in France, the two diplomas of bachelor of letters and bachelor of sciences from a French university being required. What is needed, therefore, is not a course of instruction to be given in three or four years, but one that will last only a few months, and that will be of a more practical nature. This course would be open only to physicians already having their diploma, and would correspond to the post-graduate courses in America.

LIME WATER AS A CULICICIDE.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: I write to offer what, in my opinion, is a simple, cheap, and sanitary method of ridding tanks and pools of the larvæ of mosquitos and preventing their deposit therein. For a number of years while living in Florida I used water from a small cistern to which mosquitos had access, and as a natural consequence in that region the water in the cistern would in warm weather occasionally contain a large number of wrigglers. When this occurred I would simply put a lump of unslaked lime into the cistern, or some air-slaked lime when I did not have the unslaked, and the larvæ would disappear as if by magic, and the water, which had previously assumed a yellowish tinge, would become as clear as crystal. The water would for awhile taste slightly of lime, but not disagreeably so.

Recently I accidentally discovered a rain-barrel full of water which was alive with the larvæ and pupæ of mosquitos, the former being vastly in the majority, and I immediately seized upon this opportunity to watch the effect of lime upon them. As I was not trying to ascertain the minimum quantity of lime necessary to kill the larvæ, but only to redemonstrate to myself that lime would do the work, I dumped my two hands heaping full of air-slaked lime into the barrel. This was done at 2.30 P. M. On inspection the next day at 7.30 A. M. there was not a single live larva in the barrel, but the

number of pupæ was apparently undiminished. Another inspection at 5 P. M. the same day showed no live pupæ or larvæ, and the water, which before the introduction of the lime was dark and foul, was clear, and dead larvæ were plainly discernible on the bottom.

The smallest amount of lime to a given quantity of water necessary for the purpose could easily be ascertained by experiment. If upon investigation the quantity is found not to be incompatible with health, the judicious use of a little lime would be a great boon to the inhabitants of such a place as New Orleans, where the majority of the families drink rain-water out of mosquito-breeding wooden tanks.

As bearing upon this subject I call attention to the absence or scarcity of mosquitos in typical limestone regions, and incidentally to the fact that yellow fever is never epidemic in such localities.

RICHARD WAGGENER, M.D.

NAVAL PROVING GROUND, INDIAN HEAD, MD

REDUCTION OF A SHOULDER DISLOCATION.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: Recently, in consultation, I reduced a shoulder dislocation which had resisted the most varied manipulation for several hours, by the following method: Having passed a strong, folded towel through the axilla, and requested the attending surgeon to hold the arm firmly against the patient's body, I administered a few drops of chloroform. Then, having placed a foot against the coracoid process (the shoe having been removed), I made traction on the ends of the towel, and instantly reduced the dislocation completely and easily. I do not think the chloroform aided in the reduction. Very little force was required. If I had a similar case again, I would try the same method without chloroform. This method may have been employed thousands of times, but it was new to me. It served me well, and I hope it will serve others likewise.

J. W. KALES, M.D.

FRANKLINVILLE, N. Y.

TREATMENT OF WOUNDS WITH TINCTURE OF IODINE.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: In your issue of August 3 you published an article by Dr. Carl Beck, on the primary treatment of infected wounds with tincture of iodine. I would like to call the doctor's attention to a work that may have escaped his notice. In 1895, Kocher and Tavel published a book, entitled, "Vorlesungen ueber chirurgische Infections-Krankheiten" (Basel und Leipzig). In the first volume, they deal with infections caused by staphylococci, for which they use the term staphylomycosis. On page 211, under treatment of wounds infected with staphylococcus, they say (translated from the German text): "We found solutions of carbolic acid, even in the strongest concentrations of five per cent., insufficient, and advise either the frequent application of tincture of iodine, or the packing of every small incision with a piece of gauze saturated in tincture of iodine, to be changed every three hours." Later on: "Necrotic tissues have to be removed with forceps and scissors, and as long as they stick they must be moistened with tincture of iodine or nitrate of silver, in order to lessen the possibility of decomposition (um thre Zersetzungsfaehigkeit zu verringern)." So also on page 180, when speaking of the treatment of furuncles: "Under ethyl-chloride spray an incision is made into the furuncle and the wound is painted with tincture of iodine."

ARTHUR STERN, M.D.,
Surgeon to the Alexian Brothers' Hospital.

ELIZABETH, N. J.

Inconvenience to England Caused by Our Immigration Laws.—A great increase is reported in the foreign population of London for the last year, due to the immigration of Russian Poles, Italians, and Roumanians. Many of these are poor and helpless, and upon arriving in London, en route for the United States, are refused passage by the consular agents and the steamship authorities. The question is to be brought up in Parliament as to how large a portion of these persons, condemned as unfit to be received in America, were left last year in London, their own countries refusing to take them back.—*Charities.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, August 15, 1901.

The Origin of Oxalic Acid from Protein and Protein Derivatives.—Arthur E. Austin draws the following conclusions from experimental investigations: (1) That oxalic acid is derived from the carbohydrate group in albumins, presumably through the intervention of glycocoll by a process of splitting, through which the remainder is converted into urea—a vital process, though imitated by strong oxidizing agents; (2) that oxalic acid may also be derived from uric acid by fermentative action and oxidizing agents, and perhaps also by vital process; (3) that oxalic acid, present in many organs of the body, practically absent in the fæces of animals fed on foods not containing oxalic acid, yet ever present in the urine after long periods of fasting, may rightly be called a metabolic product and rightfully take its place with acetone, lactic, acetoacetic, and oxybutyric acids as a measure of abnormal retrograde metamorphosis.

Bile in the Abdominal Cavity.—John F. Thompson reports the case of a man in whom was found a large fluid accumulation in the abdominal cavity, two or three days after he had been thrown from a cart against a stone wall. Aspiration secured five quarts of apparently pure bile, and was repeated seven or eight times in three weeks, each time removing several quarts of bile. The patient's condition becoming serious, operation was performed, and the abdomen evacuated of four quarts of bile. The intestines had been crowded up against the liver, and were strongly adherent to that organ and other neighboring structures. A drainage tube was inserted. The flow of bile gradually ceased, the sinus closed, and the patient is now well and doing farm work. The exact point from which the bile came is not known, but it is probable that one of the man's fractured ribs may have injured the liver, or possibly the injury was direct. The case illustrates the tolerance of the peritoneum to adverse influences.

Medical News, August 17, 1901.

Fibroma of the Mesentery.—J. B. Murphy reports a case with successful operation. Twenty-four inches of ileum were excised with the tumor and end-to-end union made with button No. 3; the button was passed on the twelfth day. Fibroma of the mesentery is rare, there being only eleven other cases reported. The gravity of the operation in these cases depends upon the extent of the intestinal resection; the immediate dangers from the operation are shock and hemorrhage from the mesentery.

Acute Peritonitis; Its Treatment upon an Etiological Basis.—C. D. Hill regards acute peritonitis as a secondary condition due to germ infection, though the entrance of such infection may not always be demonstrable. The place of entrance of the infection into the peritoneum often determines the degree of inflammation. Regarding peritonitis as a secondary condition, the treatment must be along the lines of prophylaxis and elimination. The opium treatment has been superseded by catharsis, which should be instituted at the beginning of the infection; the weakness must be met by the usual stimulants and the tympanites relieved by use of the rectal tube. Cases of disseminated peritonitis are best treated by operation early in the disease, allowing cleansing of the peritoneum. Serum therapy has been of value in this type of the disease, and there is yet more to be hoped for along that line.

The Etiology of Melancholia.—H. H. Stoner believes that melancholia is due to a disturbed balance between anabolic and katabolic tissue metabolism. It is an emotional disease, wherein the emotions are of a painful character, and the emotions he regards as wholly dependent upon the vegetative functions. According to this observer the cortical cells, or psychical neurons, functionate normally in melancholia; the quality of the sensation depends on the kind of stimulus inducing it; the quality of the sensation in melancholia is invariably painful, consequently it is due to the normal interpretation by a healthy cell of an abnormal stimulus. Assuming that a stimulus which enhances the metabolic process produces pleasurable emotions, and one which inhibits the process calls forth painful emotions, it is inferred that undue destructive metabolism is the abnormal stimulus referred to. The mental depression is explained by the patient's being absorbed by the painful emotions, that the psychical cells are not at fault is shown by the fact that the patient can be roused to the appreciation of other stimuli. The author considers that the successful treatment of melancholia goes to prove the validity of his

theory, as the only successful treatment tends to the re-establishment of the normal balance between constructive and destructive metamorphosis.

The New York Medical Journal, August 17, 1901.

Hot Air as a Therapeutic Agent.—Orrin S. Wightman thus sums up the advantages of this form of treatment: (1) Dry heat is a valuable pain reliever, without any of the depressant effects common to drugs. (2) In connection with constitutional and medicinal treatment, we have in it a positive curative agent. (3) It is a stimulant to rapid repair and absorption. (4) It is one of the most valuable eliminative agents we possess. (5) When indicated, it possesses a sedative action on the nervous system obtained by no other means.

Infection Spread by Domestic Pets; Resemblances between Diseases of the Lower Animals and Those of the Human Subject.—William B. Meany gives a number of examples of the transmission of diphtheria from animals to human beings, and *vice versa*. A disease has been observed in swine, sheep, horses, cattle, and dogs, which appears exactly similar to human diphtheria. The ratting and mousing propensities of dogs and cats make them especially liable to infection. It is supposed that pneumonic plague was spread on board the steamship *Friary* at Hull, January, 1901, by a cat taken on at Alexandrina, Egypt, which showed signs of illness during the voyage. It had frequented the forecastle, and only the men who lived in the forecastle succumbed to the attack. There were eight of these.

Dysentery in the Philippines.—M. H. Bowman says that investigations have shown that dysentery as seen in the Philippines is not a single, but two distinct and separate diseases. Acute dysentery is caused by the bacillus of Shiga. Its fatal result is due to inflammation of the bowel, rapid elimination of the watery fluids of the body, toxæmia, and exhaustion, much after the manner of cholera. Amœbic dysentery is caused by an amœba, and differs from acute dysentery anatomically, pathologically, and etiologically. It produces ulcers in the colon, and lesions in the liver. Medicine does not seem to influence the course of acute dysentery. Quinine solution is a specific for the amœbic dysentery, but its employment in rapid, acute, ulcerating cases is fraught with danger, and from the nature of the lesions it cannot be retained for a sufficient length of time to produce beneficial effects.

The Present Status of the Surgery of the Prostate.—William N. Wishard considers that operative procedures are of the greatest value when undertaken early, and that when they are long-deferred, serious resultant bladder, urethral, and renal diseases make the outcome increasingly dangerous. When the catheter has failed to give adequate relief, death is reasonably certain to occur ere long, especially in cases where the urethra has greatly increased in length by the elongation of its prostatic end, unless the suprapubic opening for either prolonged drainage or for the removal of the obstruction is done. If the symptoms are not severe, and are not amenable to the catheter, and if the length of the urethra from the meatus to the point where the urine is obtained does not exceed nine inches a perineal opening usually affords opportunity for stretching the entire length of the prostatic urethra, for dividing the small collar-shaped growths around the bladder end of the canal, and for removing the small projections by the finger, forceps, or cautery. In view of the serious dangers involved, many cases should be subjected to nothing more than the formation of a suprapubic channel, as suggested by McGuire and modified by Morris.

Journal American Medical Association, August 17, 1901.

Two Cases of Suppuration of the Parotid Gland with Pus in the External Auditory Canal.—Francis R. Packard reports two cases, which possess interest from the fact that in each case there was considerable difficulty in eliminating suppurative otitis media as the cause of pus in the auditory canal. Both cases were children, and the presence of the pus might be accounted for by infiltration through the incisuræ Santorini. The first patient a child of nine months, had a gummatous mass in the parotid gland and surrounding tissues, and was relieved by incision and specific treatment. The second case was a fatal one of measles and pneumonia, complicated by the parotiditis.

A Case of Multiple Gangrene Associated with Cholangitis and Adenoma of the Liver Complicating Typhoid Fever.—Isaac A. Abt reports such a case occurring in a child of twenty-one months. The gangrene, in areas varying in size from a pin-point to a silver quarter, and showing in the various stages papule, pustule, and ulceration with gangrene, were distributed over the anterior surface of the neck, the lower portion of the face, the lateral aspect of the thorax, and the entire back, as well as the inner surface of the thighs and the upper third of the legs. This condition occurring during or directly after typhoid fever is extremely rare. Catarrhal cholangitis was also found in this case, and adenoma, both rare occurrences.

The Diagnosis of Typhoid Fever in the Laboratory.—John Lovett Morse first protests against the separation of laboratory and clinical methods in the diagnosis of this disease, both being necessary, and then describes the various laboratory tests. They are the Widal reaction, examination of the fæces, the urine, and the blood for the typhoid bacillus, examination of the rose spots, the diazo-reaction, the leucocyte count, and tests which show the presence or absence of other diseases—such as examination of the blood for the plasmodium malariæ and lumbar puncture when there is question of meningitis. Laboratory methods must be used with due recognition of their value and of their limitations, otherwise they may lead to erroneous conclusions. The Widal reaction and the leucocyte count are the most useful; they are easily carried out and are within the reach of all. Certain other methods are of equal or even greater value, but are impracticable for every-day use.

Symptoms of Typhoid Fever in Infancy and Childhood.—J. P. Crozer Griffith says that the symptoms of this disease in children often differ materially from those occurring in adults. As to the onset, the walking typhoid is the rule in children, but there is also a sudden form of onset characterized by vomiting and by decided fever from the start. The duration of the disease is distinctly shortened, about seventeen days being the average length. Abortive attacks lasting a week are common. The mortality is less than in adults, especially under five years of age. Typhoid roseola is nearly as frequently present as in adults; enlargement of the spleen is probably always present; the temperature often arises without the usual step-like ascent. The fall may be almost critical. The tongue is not very liable to become dry, except in older children; vomiting may be troublesome, but diarrhœa is usually absent. Hemorrhage is of rare occurrence. There is a tendency for the nervous symptoms to predominate over the intestinal. There may be a pseudomeningitis at the beginning.

American Medicine, August 17, 1902.

Some Observations on the Treatment of Acute Insanity in General Hospitals.—Daniel R. Brower notes the following defects in the public institutions for treatment of the insane. Most of them are too large; they are too far from the homes of many patients; admission is by a cumbersome method, and many of them are in the hands of politicians. He believes that many acute cases of insanity can be cared for in general hospitals, admission being limited to cases of mania, melancholia, and stuporous insanity. Such patients should not be retained longer than six months unless well on the way to recovery. Admission to the general hospital wards should be free to the insane as to those afflicted with other diseases.

A Case of Gastritis Complicated by Myasthenia Gastrica, with Remarks on Weakness of the Gastric Muscle.—Edwin Zugsmith reports a case with recovery. Myasthenia may be caused by local and general overwork, may follow the acute infections and accompany certain chronic diseases. There are two forms, stagnation and retention, the dividing line being the presence or absence of food particles in the stomach before breakfast. Prognosis depends on the degree of the trouble and the extent and nature of the complications. In the mild forms a complete cure can be established. Treatment should be influenced by the reaction of the patient, the diet and the habits of life being carefully controlled. Intragastric electricity, and local and general massage are useful. If the patient continues to retrogade in spite of vigorous, persistent treatment of this sort, gastroenterostomy should be performed.

A Study of the Hemorrhoidal Circulation with Special Reference to the Prevention of Bleeding after Radical Operations for Piles.—Will B. Davis believes that the hemorrhoidal arteries do not enter into the formation of piles and that they contribute little, if at all, to post-operative hemorrhages. He agrees with Verneuil as to the active cause of piles and bases his explanation of post-operative hemorrhage on the same factor, believing that thorough divulsion—from anus to ampulla—preliminary to operation will prevent the bleeding, or if not done before operation and hemorrhage does occur this divulsion will check it. He strongly recommends this practice since after thorough divulsion the muscular wall of the rectum will not recover its contractility suf-

ficiently to embarrass the veins in their blood-returning function by compressing them at their points of exit until the healing process is fairly complete.

Philadelphia Medical Journal, August 17, 1901.

Oil of Pennyroyal as a Remedy Against Mosquitos.—V. H. McKnight calls attention to the fact that oil of pennyroyal is antagonistic to mosquitos; the insects avoid persons who have this oil about them.

Progressive Hardness of Hearing and Its Arrest by Surgical Removal of the Incus.—Charles H. Burnett believes progressive hardness of hearing to be due to an "affection of the nerves supplying the middle ear and correlated structures." He has operated upon twenty-five cases prior to 1892, and considers that incudectomy arrests progressive deafness not only in the operated ear, but in the opposite ear, if it has appeared there, and is prophylactic if the other ear is not yet affected. Since 1892 he has operated upon fifty-three cases, the results of which, however, he has not yet published.

The Difficulties Attendant upon the Proper Treatment of Diseases of the Ear in Dispensary Practice.—Francis R. Packard calls attention to the very patent obstacles to proper treatment in dispensaries, such as the class of persons treated—foreigners unused to cleanliness and unable to comprehend directions, lack of time due to overcrowding of patients, the difficulty of keeping records of cases owing to lack of time, and inadequate armamentaria. He thinks much of the trouble comes from the fact that the hospital managers know nothing about the practical management of a dispensary, and urges that every physician who works in a special institution should insist upon having dispensary work as carefully provided for as the work in the wards.

A Nosological Study from a Clinical Standpoint of Certain Manifestations Accompanying and Following Malaria.—G. W. Penn believes that no one, seeing a case of continued malarial fever, so called, during the late summer and fall months, can tell within one to seven weeks its duration. He believes the unknown fever of the South is a sequence of estivo-autumnal fever in individuals whose condition is such as to permit the persistence of the toxæmia after the germs have been destroyed—in other words, is a post-malarial fever. In these cases after the first week or two quinine is inefficient, and examination shows the absence of malarial hæmatozoa. He recommends laboratory investigation along the line of serum therapy for the treatment of this condition, which is common throughout the Southern States.

The Lancet, August 10, 1901.

Pasteurization of Infected Milk.—E. Sydney St. B. Sladen says that the danger of using milk containing microorganisms that cause scarlet fever, typhoid fever, diphtheria, and consumption is diminished by heating it to 80° C. and keeping it at that temperature for ten minutes. If the milk be heated to 85° C. all such danger appears to be removed. The author gives statistics in regard to the temperature and time required to bring about the death of, or to inhibit the action of the tubercle bacillus. He also furnishes clinical evidence of the transmission of tuberculosis by milk. Professor Bang states that by a short heating at 85° C. the tubercle bacilli are killed, and if immediately afterwards the milk be well and rapidly cooled its loses its cooked taste. Excellent butter can be made with cream that has been heated to 85° C.

On the Physiological Cure of the Morphine Habit.—W. Oscar Jennings pursues the following plan of treatment which reduces the craving and thus destroys the habit with the minimum of suffering. He proceeds as fast as possible, but as slowly as necessary to effect a cure without distress. In the first place he substitutes rectal injections of morphine for the hypodermic injections, which give an even sedation instead of a fascinating stimulation. For the heart depression which always follows reduction sparteine is given. For the next factor in the craving, hyperacidity of the stomach and organism generally, bicarbonate of sodium is administered. The last of the author's therapeutic triad is the hot-air bath, which is tonic and sedative, and may also act as an eliminator of some excitant of craving. A moderate and as a rule non-alcoholic diet is insisted on. For insomnia galvanization may be magical, but if unsuccessful some hypnotic must be given. Exercise and Turkish baths will assist in preventing the return of cravings. The author reports several cases successfully treated in the manner described.

Curious Symptoms after Administration of Nitrous Oxide for Dental Extraction.—A. Stanley Green administered gas to a man of twenty-six years, using Barth's inhaler and allowing plenty of air. Complete anæsthesia was easily produced and four teeth were extracted. A few minutes after recovering consciousness the patient complained of numbness in hands, legs, and feet. The hands were pronated, the fingers slightly flexed, and the thumbs strongly adducted. Rubbing caused pain. Respirations became rapid, and accompanied by sighing and then stridor. The pulse was 84, the color was good. The patient was excessively restless and unable to articulate. The symptoms gradually subsided and after an hour's rest the patient was sufficiently recovered to return home. He was not at all of an hysterical temperament. The author has administered gas more than 1,000 times during the past three years and has never before met with such a case.

British Medical Journal, August 10, 1901.

Plague and Its Prevention as a Disease Communicable from Animals to Man.—David Samuel Davies, in view of the fact that the plague is known to be a rat-borne disease, advocates an international agreement to the effect that merchant vessels shall destroy rats on board before loading and discharge, and that uniform steps be taken to prevent intercommunication between ship and shore rats at times of loading and discharge. A resolution to this effect has been passed by the British Chamber of Commerce, and will be presented at the next meeting of the Associated Chambers of Commerce.

Berliner klin. Wochenschrift, July 29 *and August* 5, 1901.

Tabes in Women.—P. Fehre's analysis of forty-one cases of this disease in women leads him to believe that the etiological and predisposing factors found in men are equally active with the other sex. In all instances syphilis plays an important rôle either as a direct or indirect cause, while the puerperal state can at least aggravate the disease. The spread of syphilis and the increased participation of women in affairs seems to have brought about a relative and absolute increase in the number of female tabetics.

Chronic Pentosuria.—F. Meyer describes the case of a middle-aged man whose urine, on examination for life insurance, was found to give a well-marked reaction to both Trommer's and Moore's tests. The diagnosis of diabetes mellitus was accordingly made and the patient subjected to a course of treatment. A subsequent polarization test was negative, and so he was declared cured. Six years later he came under the observation of the author complaining of emaciation, weakness, headache, and neuralgic pains in the extremities. Some constitutional disease was suspected and the uranalysis gave positive results with Trommer's and Moore's tests, but the fermentation and polarization tests were negative; so pentosuria was suspected, and its presence was confirmed by the orcin reaction. Several methods of treatment, such as rigid diet with Carlsbad cure, moderate diet with some carbohydrates, and a wholly unrestricted diet, were all ineffectual in reducing the amount of pentose excreted, but finally a régime of milk and definite quantities of carbohydrate caused great general improvement with a diminution of the pentose to one-half the former amount. The emaciation, neurasthenia, and obstinate neuralgia appear to be the most prominent features of the disease and the favorable effect of a mixed diet is noteworthy.

The Frequency of Herpes Zoster.—E. Hoennicke has collected a series of statistics which lead him to conclude that herpes zoster makes about one per cent. of all skin diseases. Both sexes are affected equally but it is especially a disease of youth, occurring most frequently between the ages of fifteen and thirty and being rarely observed in early childhood and old age. In general those regions of the body are most often affected whose nerve trunks possess the largest number of branches, but the trigeminal domain is an exception to this rule, perhaps owing to its greater risk of exposure to injury. The disease shows no preference for either side of the body, though bilateral herpes is rare. Physicians and attendants on the sick are apt to suffer during epidemics but there is no other calling exhibiting a predisposition. While sporadic zoster occurs all through the year, the spring and fall are the seasons of the epidemics.

Puerperal Psychoses.—E. Meyer has found that of 1104 female patients that have been treated in the clinic of psychiatry at Tubingen, in 51 cases the disease began during the puerperium or lactation. Of these, 11 were melancholia, 4 periodic melancholia, 3 circular psychoses, 5 paranoia, 0 acute dementia (verwirrtheit), 14 katatonia, 2 hebephrenia, 2 epilepsy, and 1 hysteria. A study of these cases did not reveal any specific puerperal psychosis, and none of the pictures differed from types of the diseases depending on the ordinary etiological factors,

neither was it possible to detect any particular tendency referable to their puerperal origin. The prognosis is the same as that of the usual types of the diseases.

Enuresis in Childhood.—M. Thiemich considers the nocturnal incontinence of children not as a local trouble to be grouped under the diseases of the uropoietic system, but as a manifestation of hysteria. In adopting this view, it is necessary to take into consideration the fact that the hysteria of children differs from that of adults in being essentially monosymptomatic, without the presence of the usual stigmata, and the author holds that the good results following such measures as removal of adenoids, injections of strychnine into the mons veneris, elevation of the pelvis, etc., are to be ascribed solely to their suggestive effect. The most efficient measure is the employment of a strong faradic current, which is not necessarily to be applied to the abdomen, but is just as efficient if one pole is placed over the sternum and the other passed over the arms. Care must be taken not to convey the impression that the treatment is a punishment, for such methods are notoriously inefficient, but it is to be explained that, even although painful, the measure is certain, and that a second or third application is always successful; if tactfully conducted, more than a single session is rarely required. Removal from home and isolation, in this as in all forms of hysteria, are the most potent of all remedies, and, while usually difficult to carry out in these cases, may be reserved as a last resort. A somewhat analogous condition is that of "pollakuria," in which small quantities of urine are frequently voided through the day, and this also usually yields readily to the electrical treatment.

Human and Bovine Tuberculosis.—R. Virchow assumes an attitude of conservative but tolerant and hopeful agnosticism towards Koch's recent utterances at the British Tuberculosis Congress. Lister's note of caution receives recognition and due prominence is given to the fact that the converse experiments on man are still lacking. Any suspicion, however, that the preparations of the Berlin Veterinary Institute prepared by Schötze under Koch's supervision were inconclusive is groundless, and it was satisfactorily demonstrated that infectious matter taken with great care from human consumptives did not in the animals experimented upon produce any lesions comparable to those of bovine tuberculosis. Koch's statement that human tuberculosis and that of cattle are different, and that the former cannot be transferred to these animals does not surprise the author, since he himself long ago expressed the opinion that this difference existed, while it must be admitted that the second half of the theorem has now been definitely proven. In the consideration of these problems, it is especially important not to lose sight of the fact that a tubercle is not any haphazard thing that may happen to contain tubercle bacilli, but is a definite anatomical structure consisting of cells that have developed from the living body, and the tubercle bacillus is no constituent element of this structure. This distinction has unhappily been too often disregarded, with much resulting confusion. Another question which has not received sufficient consideration is that of quantitative bacteriology. The detection of a single cholera or typhoid bacillus is usually heralded as evidence of the existence of other countless millions, but the subject still requires much study, and the author believes that unless a certain quantity of bacilli has been introduced into the body the risk is not great.

Muenchener medicinische Wochenschrift, July 30, 1901.

A Subjective Symptom in Pericarditis with Effusion.—P. Pregowski observed that while he was suffering from a pericardial effusion whenever he attempted to lie on the right side he had the sensation of something pressing on the mediastinum and downward, *i. e.* toward the right side. This he ascribed to the pressure exerted by the fluid in changing the position.

Oleum Cinereum in Syphilis.—Maul finds that this is one of the safest and most agreeable antisyphilitics, and mentions two cases in which intragluteal injections of ten to fifteen grains were given without any unpleasant symptoms. It is not necessary to warm the remedy before injection, but it should be prepared exactly according to Neisser's formula, and sterilized.

Cotton Swabs in Eye Practice.—O. Neustatter recommends cotton swabs made by twisting a bit of absorbent cotton about the end of a match or glass rod instead of the ordinary camel's-hair pencils in use. If the latter are used, one must be kept separately for each patient, and even then it should be sterilized after use. This is an expensive and troublesome method, while the swabs are absolutely sterile and cheap and in infectious cases can be burned immediately. All the requirements of such an instrument can be fulfilled by modifying the shape and degree of firmness given to the cotton, and every use for which the brush is adapted is better served by this substitute.

Specific Blood Changes after Urine Injections.—A. Schattenfroh reports positive results of his experiments to determine whether the injection of urine of an animal into one of a different species produces specific changes in its blood. A large number of rabbits received subcutaneously in divided doses 120-150 c.c. of human, goat, or horse urine, the injections being repeated at intervals of two to three days, until the entire amount had been given. The serum of the animals treated with human and goat's urine acquired strong solvent and agglutinating properties for the red cells of the animals in question. This action was especially well marked in serum prepared with human urine. Control tests with active and inactive goat serum produced in the rabbits large amounts of "anticomplements" and "precipitins," while hæmolytic bodies were entirely absent.

Vaginal Exploratory Puncture and Incision.— H Franz gives a résumé of the opinions of various authorities which shows that the value of this procedure is still far from settled. Many commend it as a useful diagnostic measure, while others discard it as dangerous and unreliable. At Fehling's clinic eighty-one cases have been subjected to it, with very satisfactory results. The diagnosis was confirmed by the exploration in fifty-six cases; in ten cases the evidence so obtained caused the diagnosis to be changed; six times the results were doubtful, and in four cases nothing was gained. The conclusion is that vaginal puncture is a valuable aid in the diagnosis of tumors situated in the *cul-de-sac* and causing protrusion of the posterior fornix. It is especially adapted for the differentiation between tubal tumors, either of inflammatory nature or arising as ectopic pregnancies, and pelvic exudations. Scrupulous asepsis in all points is to be observed. Vaginal section may advantageously be added to the puncture. The needle should be sufficiently long and of large caliber, and is plunged into the lowest and most fluctuating part of the tumor. The cervix is then drawn upward and forward making the posterior vaginal wall tense, and the mucosa is incised close to the needle. A dressing forceps may then be easily plunged into the tumor, and by the opening of its jaws the aperture is enlarged sufficiently to permit the escape of the fluid. The cavity is packed with iodoform gauze and drained with rubber tubing, through which irrigation may easily be performed.

Deutsche medicinische Wochenschrift, August 1, 1901.

Some Cardiac Affections without Organic Disease.—Th. Rumpf describes a case of "wandering heart" occurring in a man of thirty. In the erect posture nothing abnormal could be detected by auscultation or percussion, but changes of position produced marked alterations. With the patient on the right side, the apex was displaced outward, while, when he was lying on the other side, it was moved to the sixth interspace, close to the left border of the sternum, the whole distance traveled being about four and one-half inches. The anomaly developed after an obesity cure which reduced his weight eighty-six pounds, and the relaxation of the abdominal walls so produced supposably allowed a similar laxity of the diaphragm which deprived the heart of its normal fixation. An analogous disturbance depending on an elevation of the diaphragm is the palpitation following the accumulation of gas in the stomach, or, more rarely, the colon. The symptoms so produced may go on to intermittency of the pulse, elevation of the cardiac dulness, oppression, and pain, all disappearing as soon as the flatus has been discharged. Another functional lesion is the so-called "stumbling heart," which consists in an intermittence depending on the occurrence of a second systole close on the first, without the intervention of a complete diastole.

A Typhoid-like Disease Produced by a Hitherto Undescribed Organism (Bacillus Bremensis Febris Gastricæ).—Kurth describes some observations made in Bremen during the summer of 1900, which, perhaps throw some light on the affection known to the older clinicians as gastric fever, and which also may explain the definite percentage of cases of typhoid fever in which the Widal reaction remains negative. In examining the stools of a suspected typhoid patient, an organism was detected which strongly resembled, but was not identical with Gartner's bacillus enteritidis and which gave a strong (1-500) serum reaction with blood taken from another patient, who also did not give a Widal. In the course of the summer, five cases were observed in which the same bacillus could be demonstrated and the serum reaction obtained, while no agglutination was produced with typhoid bacilli. The organism is a highly motile rod of the size and form of a typhoid bacillus, and is provided with

numerous flagella, and does not stain by Gram's method. It is highly virulent for guinea-pigs and white mice, which die within twenty-four hours after inoculation. The course of the temperature in the cases described is very irregular, and does not present the usual appearance of a typhoid curve.

French Journals.

Complete Traumatic Rupture of the Urethra.—Walther reports a case of this kind. The patient fell astraddle, completely rupturing the urethra. Walther saw the case fourteen hours after the accident. In a perineal incision he found the ends of the urethra which had been separated several centimeters, and he reunited them by a suture in three places. The operation resulted in union by first intention. Recovery was uneventful, and the patient has not suffered at all from contraction of the urethra.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, July 4, 1901.

Value of Experiments with Salol in the Clinical Study of the Functions of the Pancreas.—P. Nobécourt and Prosper Merklen draw the following conclusions from their investigation of this subject. The property of splitting up salol is not limited to the pancreas alone, but the bile and all the mucosa of the digestive tract possesses the same action. It is, however, probable that this breaking up of salol does not take place in the stomach on account of the acidity of the gastric juice; it occurs, indeed, only in the presence of an alkaline or neutral medium, and a very feeble acidity suffices to prevent the action. Clinically, then, the use of salol has no value in the exploration of the functions of the pancreas.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, June 13 1001.

The Heart in Typhoid Fever.—According to M. C. Bacaloglu, typhoid pericarditis may exist alone; oftener, there is an endopericarditis. Anatomically, the pericarditis may be purulent; it may be dry, adhesive, while sometimes there is effusion which is rapidly reabsorbed. In a case observed by Bacaloglu, a smear of the pericardial fluid showed the presence of the bacillus of Eberth. Besides, this worker has produced experimentally pericarditis by the injection of this bacillus. Endocarditis is generally localized on the mitral or bicuspid orifice, more rarely on the tricuspid or pulmonary orifice. It may be due to various microorganisms or to the bacillus of Eberth. This affection has been reproduced experimentally with the typhoid bacillus.—*Gazette des Hôpitaux*, July 9, 1901.

Asphyxia and Apparent Death by Hanging; Resuscitation by Rhythmical Tractions on the Tongue.—Camille Joubert reports the case of a young man of eighteen years, who, in a state of acute alcoholism, tried to commit suicide by hanging. When the writer reached him, he found two attendants rubbing him vigorously with brandy, but in vain. The place where the patient was rescued was so contracted that it was impossible to apply the ordinary methods of artificial respiration. With a hemostatic forceps, the tip of the tongue was seized, and rhythmical tractions of this organ were begun. In about twenty minutes the patient gave a rather noisy inspiration. The efforts were then suspended for an instant, and the breathing ceased. Again, after about six minutes of renewed effort, respiration was re-established regularly and definitely.—*La Tribune Médicale*, June 12, 1901.

Torsion of the Pedicle of Ovarian Cysts.—Albert Martin believes that this accident occurs much oftener than is known. Clinically, the symptoms vary according as the strangulation is complete or incomplete. In the first instance, there is violent abdominal pain which occurs suddenly, while the general condition becomes rapidly bad. The facies becomes haggard, the pulse frequent, the respiration irregular, and there is nausea with vomiting. If the tension is complete, a true peritonitis supervenes, with all its alarming symptoms. In complete torsion the symptoms are less severe, and death comes more slowly. This affection may be confused with hepatic or nephritic colic, with strangulation of the bowel or volvulus, or with the rupture of a tubal pregnancy. In such cases an exploratory operation will be the only means of clinching the diagnosis. It is much safer for the patient to explore the abdomen than to temporize, for operation will save many lives that would otherwise be sacrificed.—*Revue Médicale de Normandie*, July 25, 1901.

Metastatic Ophthalmia of the Left Eye; Serpiginous Ulcer of the Right Eye; Bilateral Conjunctivitis in a Patient Suffering with Pneumonia.—Petit and Chevallier describe the case of a woman, seventy-nine years old, who was brought to the hospital suffering from an attack of pneumonia. Eleven days later, a conjunctival secretion was discovered in the left eye. The eye grew worse, and the affection spread to the right eye. Within five days the conjunctival secretion was very much less, but an ulcer developed on the right cornea, involving almost its upper half. The iris was covered with exudate and contracted. There was slight hypopyon. The left eye began to show exophthalmos. There was marked chemosis; the eyelids were œdematous. The cornea was opaque. There was slight hypopyon, and the tension was slightly increased. The movements of the eyes in all directions did not seem to cause pain. Finally, the right cornea was perforated in the center. A month after the patient's admission to the hospital, almost every inflammatory symptom had disappeared from the left eye. In the right eye there were symptoms of panophthalmia, intense chemosis, exophthalmos, etc. Microscopical examination after death revealed numerous encapsulated diplococci. The pus from the ulcer showed many lanceolate diplococci. From smears of the conjunctival secretion on agar there grew numerous colonies of pneumococci; and from the pus of the ulcer there were pure cultures of the pneumococcus. The infection probably spread to the eye by way of the lacrymal passages and by the nasal fossæ.—*La Revue Médicale de Normandie*, June 25, 1901.

Diagnosis of Scarlatina.—G. Variot states that while measles may be suspected with some degree of certainty in the period of invasion on account of the more or less prolonged catarrhal phenomena which precede, this is not the case with scarlatina, the period of invasion of which is very rapid and the onset sudden. In normal scarlatina of moderate intensity, the most frequent form, there is a triad of symptoms which makes the diagnosis of the disease almost absolutely certain; the association of fever, angina, and erythema, appearing after twenty-four or thirty-six hours, forms a complete clinical picture, the features of which are very characteristic. The eruption is at first generally observed in the groins, on the abdominal wall, over the upper part of the thighs, on the sides of the thorax, and in the axillæ. When still more developed, the exanthem is indeed characteristic; it appears at a little distance to be a diffused redness, but on examination with a magnifying glass, it is seen to be made up of tiny elevations on the skin which are not always perceptible to the touch. The skin between these points is of a less deep tint. The existence of malignant scarlatina is shown by extreme hyperthermia (41° C. and more), by delirium, and by unusual agitation. The nervous disturbance is most alarming. Isolation of scarlatina should always be practised.—*Journal des Praticiens*, July 20, 1901.

Clinical Examination of the Cerebrospinal Liquid.—Ch. Achard presents a most interesting paper on this subject. After puncture, the liquid generally flows out, drop by drop, sometimes very slowly, sometimes more rapidly, and now and then it will come out in jets, as it does when a pleurisy or ascites is punctured. The quantity of liquid withdrawn varies. This liquid is normally perfectly limpid, colorless, and clear as water. In jaundice it is of a yellowish tinge. Exceptionally, when jaundice is not present, it looks like clear urine—having an amber tint; the cause of this is not well understood. In acute meningitis, it becomes cloudy, milky sometimes, and even purulent, with a greenish shade. This liquid may be bloody. This has been observed in scurvy, in cerebral hemorrhages, and in those of the spinal meninges. Allowed to stand, the normal cerebrospinal liquid has no sediment. In acute or chronic inflammation of the meninges it is flocculent, the tiny particles resembling grains of sand. In suppurative meningitis there is a rather thick, purulent layer. As to the density, the writer has determined it to be normally from 1.003 to 1.004, while in morbid conditions it varies between 1.002 and 1.009. As to the permeability of the spinal serosa, it seems that it is truly elective for certain normal crystalloid substances of the blood, and offers an insuperable obstacle to the passage of substances foreign to the normal composition of serum. The cerebrospinal liquid contains in every 1,000 parts from 990 to 986 c.c. of water, and 6 c.c. of chlorides. There have also been found small quantities of phosphate and carbonate of lime, urea, in the majority of cases a substance which reduces Fehling's solution, and at times traces of albumin. Fibrin is found in meningitis. Peptones are found. Finally, bile pigments may be present. According to Concetti, bactericidal substances are contained in this liquid. The toxicity in the normal state is *nil*. According to certain writers, the cerebrospinal liquid, in the normal condition, does not contain cellular elements or at least only a few lymphocytes. The bacteriological study of this liquid is productive of very valuable results. Thus it may be seen that lumbar puncture may contribute much to the certainty of diagnosis, prognosis, and treatment.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, July 21, 1001.

Society Reports.

BRITISH CONGRESS ON TUBERCULOSIS.

Held in London July 22-26, 1901.

(Continued from page 278.)

SECTION III.—PATHOLOGY, INCLUDING BACTERIOLOGY.

Third Day.—Thursday, July 25.

(The session of Wednesday was held in union with Section II—see p. 237.)

The Varieties of Tuberculosis.—Professor C. BENDA of the Urban Krankenhaus, Berlin, opened this discussion. The tubercle bacillus, he said, is immovable, it has a slow growth, and it causes severe local reaction in the tissues. These three qualities limit its dangers for the organism attacked whilst all three combined produce a localization of the germ of the disease. The bacillus may, however, spread through the body with the help of other factors of motion. In the organism in which the bacillus finds no means of development, tuberculosis goes very slowly on its continued course, and may remain localized for quite a long time, *e. g.*, in the lymph glands. In correspondence with the character of the development, tuberculosis progresses in the same organ, or attacks neighboring organs (regional metastases), or may pass on to a remote organ (distant metastases). In the spread of tuberculosis in the same organ, the epithelial canals, in which runs the excretory stream, play an important part. In the lungs the bronchioles, in the kidneys the urinary tubules, in the scrotum the "vasa epididymidis" and the "vasa efferentia," as well as the rete testis, are channels for the spread of the disease. Regional metastasis occurs chiefly through the epithelial channels and by the lymph vessels. The share of the mucous membrane in regional metastasis is recognizable in therespiratory, the digestive, and the urogenital apparatus. These canals spread the tuberculous virus not only in the direction of the excretory stream, but, with the help of antiperistalsis, also in the opposite sense, as from the prostate to the scrotum, or from the bladder to the kidneys. In remote metastases the epithelial channels come into consideration, as when infection of the bowels follows disease in the lungs. The blood vessels and the thoracic duct are, however, the most important factors in the production of remote metastases. The blood vessels serve not only as a means of development for the bacilli but also for the dissemination of the toxin. The clinical picture of acute miliary tuberculosis rests not only upon the dissemination of the bacilli and the development of the metastatic tubercles, but also and especially upon the toxæmia resulting from poison formed in the blood-vessel tubercles.

Dr. D. J. HAMILTON, Professor of Pathology, University of Aberdeen, said the chief portals by which the tubercle bacillus gains entrance to the human body are the lungs and the lower half of the small intestine. A primary tuberculosis of the stomach may almost be excluded, and the same may be said of that of the upper air-passages. Nevertheless the lymph-glands along the course of the upper air-passages and along the higher segments of the alimentary canal are common seats of a localized tuberculosis. The question thus arises whether the absorbents of the mucous membrane of these parts can take up the bacillus and hand it on to the glands without themselves becoming tuberculous. Having gained entrance to the body the bacillus tends to propagate along the lymphatics rather than through the blood-vessels, and the reason for this is probably that a great many bacilli are destroyed by the phagocytes in the blood. The pericardium is rarely tuberculous, even when all the other serous membranes throughout the body are affected. This he attributed to the peculiar power the pericardial fluid has for resisting the tubercle bacilli. He went on to consider the giant cells of tubercle and their meaning, the variety in the outward aspects of the lesions of tubercle, caseation of tubercles and its cause, and the absence of putrefaction in ulcerating tuberculous lesions.

Fourth Day—Friday, July 26.

Mixed Infection in Tuberculosis.—Mr. A. G. R. FOULERTON, bacteriologist for Middlesex Hospital, London, opened the discussion. He said that his remarks were limited almost entirely to the consideration of the part played by secondary infections in that form of tuberculosis in which the complication is most manifest, and in which the results of secondary infection are, as it would seem, most disastrous, that is to say, in chronic pulmonary tuberculosis as it occurs in adults. Frequently, indeed almost invariably, the terms chronic pulmonary tuberculosis and chronic pulmonary phthisis are used in clinical medicine as if synonymous; whereas pathologically the two conditions differ widely, although agreeing in the fact that bacillus tuberculosis is present in the lesions of each. In uncomplicated chronic pulmonary tuberculosis the single organism present, the specific bacillus, is one which, under the given conditions, does not manifest more than quite a low degree of virulence in the majority of cases, whether as regards its direct action on the tissues actually infected, or as regards its action on the system as a whole by the production of toxins. In chronic pulmonary phthisis, on the other hand, to the action of this parasite is added the more acute influence of pyogenic organisms, whose potentiality for evil, again under the given conditions, is incomparably greater, whether by direct action on the tissues infected or by the production of toxins. In lower animals the conditions which correspond with general miliary tuberculosis and with chronic pulmonary tuberculosis can be produced at will according to the method of inoculation practised. If one causes a general blood infection by the injection of bacillus tuberculosis directly into a vein, the result is manifest in the development of a large number of gray miliary tubercles in the lungs—the common seat of arrest and lodgment of bacteria circulating in the blood—in the spleen, and elsewhere. The animal usually dies from the results of the infection before sufficient time has elapsed for the granulomata to undergo the degenerative changes found in cases of tuberculosis in which the degree of primary infection has been less intense. If, on the other hand, the animal is made to inhale infected dust, one sees a chronic, and at first strictly localized tuberculosis, such as is the first stage towards chronic pulmonary phthisis. Under these conditions, unless the initial dose of bacteria inhaled has been excessive, life is sufficiently prolonged for the resulting granulomata to undergo the successive degenerative phases seen in the lesions of chronic pulmonary tuberculosis in man. Practically all who have worked at the subject are agreed that various species of cocci are the predominating organisms in the secondary infection of tuberculous cavities; Streptococcus pyogenes, Staphylococcus pyogenes aureus, Staphylococcus pyogenes albus, Diplococcus pneumoniæ, and Micrococcus tetragenus being found more especially. Amongst other bacteria of less common occurrence under these conditions are Bacillus coli communis, B. pneumoniæ of Friedlander, B. pyocyaneus, species of Proteus, and Saccharomyces albicans. Sata also describes B. pseudodiphtheriticus and B. pseudodiphtheriticus pulmonalis as occurring with some frequency. Artault, again, has compiled a very full list of the bacteria which are found in cavities after death, but many of the organisms mentioned by him, and by others who have carried out this method of examination after death, must have been present as merely casual contaminations, and cannot be considered seriously as having had any definite influence on the course of the disease. It is to the pyogenic cocci, and above the rest to Streptococcus pyogenes, that we have therefore to look when considering the effects of secondary

infections as exercised through the lengthened course of a case of chronic pulmonary phthisis.

Dr. Wm. Ophuls, of San Francisco, after referring to the methods by which the subject had been studied, went on to say that the general opinion at present is that the effect of mixed infection in pulmonary tuberculosis is profound, some even ascribing all or nearly all the acute processes to it, though others, while not denying the occurrence, consider it of little importance. The truth lies midway between these two views, some pneumonic processes in phthisis being due to the tubercle bacillus alone, others to mixed infection. The speaker had studied thirty-nine consecutive cases of phthisis, to which he added one later case. A histological and a routine bacteriological examination of all the organs had been made. In the neighborhood of old cavities and scars was often found the condition called by Rindfleisch "Inveteriertes Oedem"—indurated, airless areas of smooth surface. Bacteria were never found in these. Old tubercles are either disseminated or conglomerate. No bacteria, except tubercle bacilli, were found in these except in cavities in them. Tuberculous pneumonia was found in twenty-five cases—*i. e.*, a pneumonic process, lobular or fused, in which only tubercle bacilli could be found. The tubercle bacilli were present in large numbers where liquefaction of caseous areas was going on. The process was considered to be due to aspiration from cavities. In seven cases in which old cavities had been secondarily infected with pyogenic cocci, a more or less general infection had resulted, though no mixed infection in the lung. In two cases a late stage of infiltration of the pulmonary tissue with blood aspirated during a hæmoptysis was met with. In one, the bacillus tuberculosis was found in sections, and from one staphylococcus pyogenes aureus was cultivated. No example was met with in this series of the "käsige Mischpneumonie" of Sata, *i. e.*, mixed infection with caseation; this, the author thought, was possibly due to climatic reasons, for he met with such cases when working in Germany. The course of phthisis clinically shows a primary stage of slow insidious development, succeeded by numerous exacerbations and remissions. These exacerbations are to be considered to correspond to the inhalation of infectious material from cavities into the bronchi. The result will vary according to the amount and nature—if there are many pyogenic cocci, an acute mixed infection will follow, which may develop into a käsige Mischpneumonie, or a more chronic condition leading to carnification. In many cases, the acute inflammatory process produced by the pyogenic cocci causes, if there are few, a localized lesion; if many, a tuberculous pneumonia. Probably many lesions which are found post-mortem to be purely tuberculous start as mixed infections; this opinion is supported by experimental evidence. This, however, is not true of all, for one finds cavities containing tubercle bacilli in pure culture.

Mode of Death.—In twenty out of the thirty-nine cases, the immediate cause of death was acute mixed infection, or sepsis, originating from cavities containing pyogenic cocci. Of the remaining nineteen, in five only was death due to the extent of the pulmonary tuberculosis; in two, the cause was acute infection of the pleura; in one, perforation of an intestinal ulcer; in four, the giving out of a moderately hypertrophied heart; in one, fatty heart and myocarditis; in one, diarrhœa; in five the cause was obscure.

SECTION IV.—VETERINARY.

First Day—Tuesday, July 23.

Sir G. Brown, C.B., Governor of the Royal Veterinary College, presided over this section.

Diagnosis of Tuberculosis in Animals During Life.—Prof. Dewar, Principal of the Edinburgh Veterinary College, in opening this discussion, expressed his belief that cows with tuberculous udders were more numerous than is commonly supposed. The udders were affected in three per cent. of tuberculous cows. In seventy-five per cent. the thoracic organs were affected early. Tuberculin was the most reliable means of diagnosis, but it must be prepared by a competent pathological chemist and carefully tested before use. He pointed out the rules to be observed by the veterinary surgeon in testing a herd, and if all precautions were taken the results would be correct and definite in ninety-eight per cent.

Drs. Nocard and Malm were equally convinced of the certainty of the results, and the latter averred that all his results had been confirmed by necropsies.

Dr. Schutz pointed out that susceptibility to tuberculin had a latent period, rose suddenly, and fell gradually.

Dr. Bang, of Copenhagen, said that ninety-nine per cent. of the cows whose milk he had pronounced tuberculous on microscopical examination were found to have tuberculous udders.

Prof. McFadyean held that bacteriology was essential for diagnosis, as this had to be determined earlier than in man. The tuberculin test at an early stage he found better than all others together, but it was not infallible. Artificially infected cows might show no reaction for fifty days.

Dr. Huytra had had only two per cent. failures with tuberculin.

Prof. Owen Williams found the test almost infallible. He had expected to hear something of such sources of infection as dogs, cats, horses, birds, etc. Several other speakers agreed that tuberculin was the chief reliable test and when sources of error were excluded successful in ninety to ninety-eight per cent.

A communication by Prof. Arloing of Lyons was read by the chairman. The author said that the serum of tuberculous animals gave the agglutination reaction in a dilution of $\frac{1}{10}$ to $\frac{1}{16}$, but in the non-tuberculous it required $\frac{1}{2}$ to $\frac{1}{4}$; and this test he found of special value when fraud had been resorted to in order to vitiate the results of tuberculin testing.

Second Day—Wednesday, July 24.

Milk Supply in Relation to Tuberculosis.—Mr. J. A. W. Dollar, who opened the discussion, dealt with his subject in almost all its many aspects. He gave experimental facts that seemed inconsistent with Koch's statement regarding the transmission of bovine tuberculosis. He considered the rarity of primary intestinal tuberculosis was due to the fact that to infect the digestive tract there must be a degree of concentration of the bacilli. He warned the audience not to credit the common idea that goats are insusceptible, for Prof. Nocard had shown they could be infected by injecting tuberculous milk beneath the stripped udder. Tubercle also attacked sheep and asses.

The President remarked that Dr. Crookshank had produced tuberculosis in a calf by injecting phthisical sputum.

Mr. Eaton Jones had great doubts about the propositions of Koch, and said the health authorities ought to go on protecting the public in every possible way.

Prof. Young condemned the laxity of the authorities in the inspection of milk. He thought it would help much if they had the power to test dairy cows with tuberculin.

Mr. Laithwood said it was easy to prevent disease through the milk supply. He recommended a State veterinary service such as Italy had established. He would include tuberculosis in the Contagious Diseases (Animals) Act, and not allow tuberculin to be used except by qualified veterinary surgeons. It did not follow that the milk of a cow was safe because its udder did not appear diseased.

Prof. Stockman thought milk could not be affected if the udder was healthy, and all udder disease should be notified. General inoculation was hardly practicable, and dairymen would want impossible amounts for compensation. Inflammation cells in milk were suspicious.

Prof. O. WILLIAMS suggested that tuberculin should be scheduled as a poison to prevent fraud, and a small duty levied on sales to be used for compensation.

Prof. BANG said that in Denmark, under a law passed for the purpose, all cows with udder disease had been killed during the last three years. Milk from all suspected animals was sent to him for report, and his diagnosis of tubercle had been confirmed post mortem in ninety-nine per cent. In only fourteen per cent. of tuberculous cows with the udders unaffected did the milk cause disease when injected into guinea pigs. He recognized the value of outdoor treatment, but infection was the one cause, and a sound herd might be kept always indoors without becoming tuberculous.

Professors MCFADYEAN and CROOKSHANK both controverted Koch's statement, and other speakers pronounced it hasty or premature. One member, however, ventured to congratulate the milk-dealers on Dr. Koch's discovery, and said no people were more healthy than dairy farmers and milk vendors; but others did not support him, and in his reply Mr. Dollar said that French peasants who herded with their cows were very liable to phthisis, and in Queensland, where herds were constantly in the open air, tuberculosis was rife among them.

Third Day—Thursday, July 25.

Tuberculosis and the Milk Supply.—Mr. JAMES KING, Chief Veterinary Inspector of the City Corporation, opened the discussion. He said that tuberculosis very seriously affected the meat supply. So great were the losses entailed that farmers and purveyors had often forsaken the trade, and butchers were driven to the dead-meat market to escape the fear of confiscation. He, therefore, dealt more and more with foreign meat to the detriment of home supply. He might buy an ox for £30, and after slaughter tuberculosis might be found and the meat condemned. Mr. King had found the disease in some of the best cattle exhibited at shows when they were examined after slaughter, showing how prevalent is tuberculosis in even picked herds. He urged the necessity of legislation to prevent the home trade being quite destroyed. At present, he said, the purchase of oxen has become more of a gamble than a legitimate trade, and he asked how long this state of affairs is to last before some active steps are taken to reduce or stamp out cattle tuberculosis.

Sir GEORGE BROWN said great differences existed in the action of inspectors. He did not think many had read the recommendations of the Royal Commission.

Mr. BOWEN JONES said legislation could not be obtained except on the strongest evidence, and he was against including tuberculosis under the Contagious Diseases (Animals) Act. He brought forward some recommendations which, though supported by Mr. W. Cooper, were not voted on. Mr. Pearson and others advocated the minority report of the Royal Commission.

Mr. FIELD, M.P., said that tuberculosis had increased fifty per cent., the consumption of meat threefold. Many acting meat inspectors have no proper knowledge of their duties.

Mr. ANDERSON, of Glasgow, dwelt on the dangers of fraud in connection with compensation.

Prof. OWEN WILLIAMS would have inspectors appointed by central—not by local—authorities.

The Hon. W. P. REEVES, Agent-General for New Zealand, said tuberculosis was very common there, although the cattle lived so much in the open air. Every town of 2,000 inhabitants had its own slaughter-house, under government inspection. Owners of diseased beasts were paid half their value, and the flesh was destroyed.

Mr. HUNTING, editor of the *Veterinary Record*, said half the meat slaughtered escaped inspection altogether and thought compensation would relieve the butcher.

Fourth Day—Friday, July 26.

Legislation for the Control of Tuberculosis in Animals.—Prof. MCEACHRAN of Montreal read a paper opening the discussion on this subject, in which he offered the following as suggestive of the needed legislation:

1. Tuberculosis should be included in the list of contagious diseases. Tuberculous animals should consequently come under the provisions of the Contagious Diseases (Animals) Act; but the local authorities should have power to allow the sale and movement of such parts of the carcasses as were known not to carry contagion, such as hides, hoofs, horns, and hair, thus preventing unnecessary loss.

2. All foreign animals admitted for breeding or dairy purposes should be tested by the tuberculin test. Tuberculous animals should be prohibited from entering.

3. Tuberculin should be controlled, and none but qualified veterinarians be allowed to use it; and all reacting animals should be reported, marked, and quarantined.

4. All animals showing clinical symptoms of tuberculosis, especially disease of the udder, lungs, uterus, or bowels, should be killed at once, and all scrub and grade animals reacting should be killed within six months. Pure-bred cattle may be bred from under Bang's system, in quarantine for life.

5. All testing, of other than imported animals, should be by voluntary application for a test of the entire herd, and the expense should be borne by the State. A reaction of 2 per cent. should be understood to indicate tuberculosis, 1½ per cent. should be regarded as suspicious. Suspicious animals should be quarantined and re-tested in three months, unless clinical symptoms developed, when they would be at once condemned; the Government should have the right to order a re-test when considered necessary.

6. Disinfection of premises should be ordered by special regulations, the carrying out of which would be superintended by Government officials.

THE MUSEUM AND THE DESCRIPTIVE CATALOGUE.

The Organizing Council of the British Congress on Tuberculosis for the prevention of consumption acted wisely in making a museum a part of the programme, thereby affording opportunity for the careful study of the scientific aspect of the matter. This museum contained the concrete proofs of the scientific facts which form the basis of our knowledge of tuberculosis. Completeness was aimed at, and was attained, and it is no mere expression of words to say that there is not one scientific fact of the slightest material importance relating to tuberculosis which was not represented in this collection.

The museum was devised and arranged by Dr. Jobson Horne, who also compiled a catalogue fully descriptive of the contents and scheme of the museum. The catalogue, of about two hundred pages, contained a plan of the museum, five plates illustrating the pathological specimens, and a large number of statistical charts, maps, and diagrams. The catalogue was thus a compendium of facts relating to tuberculosis, which could profitably be kept for future reference.

The museum was divided into two main sections, which were further subdivided. The first section was the larger and was purely scientific. It illustrated in a systematic manner the bacteriology and pathology of tuberculosis. The first exhibit consisted of five tubes inoculated and exhibited by Prof. Koch, containing cultures of the tubercle bacilli which were the four hundred and thirty-fifth lineal descendants of the original bacilli isolated by him on August 15, 1881. Moeller and Rabinowitsch exhibited cultures of the acid-fast organisms bearing their names. Dr. Bulloch sent from the Bacteriological Laboratory of the London Hospital

an interesting exhibit dealing with the chemistry of the tubercle bacillus, and also of the bacillus phlei. Mr. Swithinbank exhibited a complete collection of cultural growths, and several varieties of tubercle acid-fast bacilli, organisms of pseudo-tuberculosis, and pathogenic streptothrices at different stages of growth. He also exhibited cultures of the bacillus tuberculosis which, after exposure to liquid air for periods varying from six hours to forty-two days, had lost neither vitality nor virulence. A culture by the same exhibitor made from a growth of actinomycosis after eight years of desiccation, demonstrated an extraordinary vitality.

The next division dealt with Experimental Tuberculosis, and in this were to be seen the preparations forming the basis of the opinion expressed by Professor Koch in his address, viz., that human tuberculosis differs from the bovine, and cannot be transmitted to cattle. By the side of these could be seen the results of the experiments conducted by Professor Sydney Martin for the Royal Commission in 1895, and these preparations afforded valuable opportunities for comparative study. The results attained at different periods from inoculating guinea pigs with tuberculosis were demonstrated by some excellent specimens by Mr. Shattock. Some colored drawings, illustrating the results of the late William Marcet's experiments in 1867, were of historical interest as well as of scientific importance.

The morbid anatomy of the subject was most fully dealt with. The systematic arrangement of the specimens, and the addition of preparations of normal organs for comparison and also of organs affected with diseases allied to or simulating tuberculosis afforded an unequaled opportunity for study. The morbid anatomy series contained some five hundred specimens which demonstrated every lesion tuberculosis has produced in the human body. Some of these specimens were of great historical interest. In the section dealing with tuberculosis of bone and organs of locomotion, there was exhibited a preparation of spinal caries from a patient under the care of Percival Pott, who first clearly described the condition in 1779. The suprarenal body from the first case in which bronzing of the skin was associated with disease of these organs was lent by Guy's Hospital, together with some similar preparations from patients under the care of Dr. Addison. Tuberculosis of the thoracic duct was represented by a most interesting little preparation, which the catalogue described as having been obtained from one of "the three cases of obstruction of the thoracic duct," dissected by Sir Astley Cooper, and described by him in 1798. To these cases Professor Benda, of Berlin, made reference in his paper on tuberculosis of the thoracic duct.

This long series of morbid anatomy specimens was almost entirely derived from the museums of the hospitals in London, which had been carefully searched by Dr. Horne for some months previously in order that the most unique and complete preparations might be brought together. Accompanying the descriptions of these in the catalogue were brief clinical histories which materially added to the value of the catalogue as a work of reference.

The histopathology of the subject was fully dealt with in the collection of upwards of sixty microscropic preparations. Following up this series was a collection of specimens illustrating the morbid anatomy of tuberculosis in animals and also macroscopic and microscopic preparations illustrating the comparative morbid anatomy. The exhibits illustrating recent research work included, among others, sections and preparations by Dr. Jobson Horne of the earlier stages of laryngeal tuberculosis, and the way in which the disease may become quiescent or arrested. Professor Benda sent a very complete collection of preparations showing tuberculosis of the valves of the heart, of the blood vessels, and of the thoracic duct.

The second section of the museum contained exhibits relating to the statistics, diagnosis, therapy, and prophylaxis of tuberculosis. Mr. Shirley Murphy exhibited charts and diagrams showing the effects of over-crowding. These were reproduced in the catalogue, and will repay a careful study. Sir Hugh Beevor exhibited charts illustrating the associations of phthisis in England. These were also reproduced in the catalogue, and brought out the facts that food supply and air supply are more closely related to phthisis than all other causes. But food seems more influential in the young, air supply in later life. Dr. Tatham sent some graphic charts showing the mortality from phthisis during the last forty years. Dr. Symons, Medical Officer of Bath, also sent some interesting charts dealing with tuberculosis in that city, and those from Dr. Kaye showed the history of and the death-rate from pulmonary tuberculosis in the West Riding.

The manufacture of tuberculin was demonstrated by photographs and models, and the processes were briefly described in the catalogue.

An architectural section containing drawings and plans of sanatoria and of hospitals, either already erected or in course of erection, had been arranged by Mr. Thomas W. Cutler.

(To be continued.)

BRITISH MEDICAL ASSOCIATION.

Sixty-ninth Annual Meeting, Held at Cheltenham, July 30, 31, August 1, 2, 1901.

(Continued from page 273.)

SECTION OF MEDICINE.

First Day—Wednesday, July 31.

The Value of Research in Medicine and Therapeutics.—Dr. E. T. Wilson of Cheltenham president of the section, delivered a brief introductory address with this title. He said that the scientific study of infective diseases has not only given improved diagnostic methods, but also has changed the therapy of such affections. Every disease gained to the infective class becomes preventable, and our treatment of it acquires a definite aim. He thought that from a scientific standpoint drugs have been unduly discredited. He deprecated the use of proprietary medicines of unknown formulæ and advocated the scientific investigation of new drugs and compounds in the laboratory and hospital.

Chronic Diseases of Joints Commonly Included in the Terms Chronic Rheumatism, Osteoarthritis, and Rheumatic Gout.—Dr. A. E. Garrod of London in opening this discussion, said that the subject of joint diseases must be considered *de novo*, as current views of their pathology had gone through many changes, from purely articular through the stage of articular with visceral complications, up to the view that they were only outward manifestations of a constitutional diathesis or disease, an infective fever with arthritis. Were the cases grouped under the heading of rheumatoid, or osteoarthritis, really examples of a single malady or not? Their clinical and pathological pictures did not agree. At least two main groups called for special mention: (1) the fusiform type in young and middle-aged women with great muscular atrophy, and very little evidence in the early stages of bony changes, but with a good deal of constitutional disturbance; and (2) a nodular type occurring in later life, with no constitutional change, but with much evidence of bony destruction or alteration. He believed the two groups were specifically distinct, and not stages of the same malady. Did these two groups have any relationship with bone rheumatism, on the one hand, or with gout, on the other? Taking the fusiform group first, he gave reasons for holding that even these had no real relationship to true rheumatism. On the other hand, he said it was far less easy to assert that bone rheumatism played no part at all in the causation

of rheumatoid arthritis. It might be doubted whether the relationship would ever be settled by mere clinical observation, but possibly bacteriological evidence of a conclusive character in one direction or the other might soon be forthcoming.

On the possible relationship of the nodular type of osteoarthritis to gout, the problem was somewhat different. In most cases there was no evidence of a gouty origin of the changes, and he regarded rheumatic gout as a hopeless term.

In the cases of joint trouble occurring in children, which so closely resembled the fusiform type of rheumatoid arthritis in adults, the enlargement of the spleen and lymphatic glands so commonly observed lent some support to a bacterial origin of the malady; but he thought it advisable to maintain an expectant attitude on the question till further bacteriological research afforded a surer basis for the erection of theories as to their pathology. In regard to treatment of these chronic joint diseases, he advocated (1) the removal of all debilitating influences, such as profuse menorrhagia, dyspepsia, etc., and especially of unhealthy states of the gums; (2) a generous dietary; (3) some drugs such as cod-liver oil, iron, and arsenic; and (4) massage to the affected muscles and especially the douche massage.

Dr. William Osler of Baltimore agreed that the problems must be faced without prejudice from inherited views. Confining his remarks to arthritis deformans, whether in children or adults, he thought there were two groups: (1) An infective group, comprising the fusiform type in adults and the variety in children with enlarged glands; (2) a dystrophic group. The former resembled true rheumatic fever very closely, and the diagnosis could not be made for a long time after the acute onset. The latter group included the so-called spondylitis deformans when it affected the spine, and the bulk of the old-age cases without much or any constitutional disturbance.

Mr. Wm. Armstrong of Baxton thought that while the local joint changes in the diseases in question were practically identical, the exciting causes were very different, but he reduced them to two, viz., (1) bacterial invasion, and (2) neuropathic changes. He quoted cases in support of the neural hypothesis: (1) A young woman who rapidly recovered from two attacks of acute rheumatism, but with the third had nerve strain, and then was crippled; (2) a man with gout who had, after several attacks with recovery, an attack combined with business worry, which then took a crippling shape; (3) a case of osteoarthritis, with influenza as the bad element; (4) an arthritis following duodenal autointoxication. Lowered health was the factor common to them all, and which he thought influenced the joint affection for evil. Treatment should, therefore, be directed (1) to the basic cause, (2) to eliminate reflex irritation, and (3) to build up the health. He had found the prolonged administration of arsenic and bromides distinctly useful.

Dr. A. P. Luff of London thought that osteoarthritis was often a dystrophic sequela of rheumatism. He gave a sketch of his term osteoarthritis, and inclined to the microbic theory of origin rather than to the neuropathic. He thought the monarthritic form a distinct disease. He advocated a generous diet for treatment, and had seen good results from radiant heat and some of the guaiacol preparations.

Dr. W. P. Herringham of London adverted to the difficulty of diagnosis between acute rheumatism and osteoarthritis. The diagnosis might be summed up as true rheumatism having permanent cardiac lesions and transitory joint trouble, and osteoarthritis having temporary cardiac trouble, with permanent joint lesions. He argued for the identity of the disease known as rheumatoid arthritis, although he granted that in old people the disease was osteal rather than synovial; that in children there was fever, but not in old persons; also that in them there were glandular affections. The difference in type, he attributed not to the pathological process, but to the difference in tissue proclivities at the different ages. For example, epithelial inflammations were characteristic of young life, and fibrous degenerations of late life. These tendencies might be enough to account for the differences in joint changes without assuming the existence of separate diseases. At any rate he appealed against the subdivision of the disease rheumatoid arthritis until more evidence was available. In regard to treatment he especially recommended the winter climate of the Grand Canary Island.

Dr. Hawthorne of London could not recognize any three distinct groups of chronic joint diseases or even two; the types merged into each other. It was debatable whether the poison of acute rheumatism was the cause of chronic joint affections. Joint changes indistinguishable from those known as rheumatoid arthritis sometimes followed attacks of subacute rheumatism, and these deformities were sometimes associated with endocarditic changes and fibrous nodules. He advocated the disuse of terms involving theoretical considerations.

Dr. W. Calwell of Belfast remarked on the frequency of this group of diseases in the lower animals. Arthritis might be caused by several poisons, although structural changes might vary with each. He referred to the etiological bearing of defective hygiene, uncleanliness, with cold and damp. Defective clothing and water supply had also a causal significance. He considered early morning bathing an important preventative.

Dr. Eliza Dunbar of Cheltenham believed that rheumatoid arthritis had a microbic organ, but considered that overstrain in neurotic girls was an active contributing cause, and that the prevention of the disease in girls was possible.

Dr. E. J. Cave of Bath confined himself to the question of etiology. Various infective agents might produce identical anatomical changes: and the same infection might give rise to different anatomical changes. He described a case in which a septic infection was definitely the cause of a typical rheumatoid arthritis. It was necessary especially to investigate the earlier stages of the condition. Certain persons had probably a special proclivity to joint affections from any cause. In treatment he hoped for good effects from serum-therapy.

Dr. Samuel West of London considered the etiological factors the only satisfactory basis for discussion. From his own experience, he held that if in early cases of rheumatoid arthritis a search were made for some source of general infection, and if this were removed cure of the joint condition would follow. It was probable that the joint changes resulted from the absorption of the toxins of several bacteria.

Dr. Saundby of Birmingham also thought that the etiological basis was the most important point to establish. Much was still unknown, but it was known that certain forms of arthritis followed certain infections.

Dr. Sarat K. Mullick of London argued in favor of the neural theory of the origin of the disease, particularly referring to the associated trophic skin changes and to exaggeration of the deep reflexes.

Dr. Preston King of Bath maintained that rheumatoid arthritis was a general disease of the system, of which the joint changes were only a part.

Escape of Cerebrospinal Fluid from the Nose.—Dr. Watson Williams of Bristol in conjunction with Dr. Stocker of Clevedon, showed and described the case of a patient who suffered from a persistent escape of cerebrospinal fluid from the nose.

Pneumococcic Arthritis.—Dr. Nathan Raw of Liverpool presented a communication based on seven cases of pneumococcic arthritis occurring in the course of 700 cases of lobar pneumonia. The pus in the joints was sweet smelling and contained no other microorganism.

Second Day—Thursday, August 1.

Peripheral Neuritis in Beer Drinkers.—Dr. Ernest S. Reynolds of Manchester opened a discussion on "Peripheral Neuritis in Beer Drinkers, its Precise Causation and Diagnosis." According to his experience, alcoholic paralysis occurred almost invariably in those who either drank beer alone or beer in combination with spirits; and that pure spirit drinkers suffered more from delirium, mania, and gastric and hepatic disorders. A description of the epidemic of peripheral neuritis in Manchester and district, the characters of which are now well known, was described, and the steps leading to the incrimination of arsenic in the beer drunk were detailed. This epidemic had not proved that true alcoholic neuritis did not exist. There were three possibilities: (1) That the neuritis was entirely caused by the alcohol in the beer, and that the skin lesions and irritation of the mucous membranes were due to arsenic; (2) that all cases of so-called alcoholic neuritis were really due to arsenic; and (3) that, although either was able to produce neuritis alone, the cases in the Manchester epidemic were due to their combined action. The first possibility was dismissed, in view of the recognized occurrence of arsenical neuritis. In favor of the second possibility was that although alcohol was consumed in large quantities in Scotland, Ireland, and London, yet alcoholic neuritis was rare, certainly rarer than it had been for years in the Manchester district. The recent epidemic had been shown to be due to arsenic, and he had seen no case of neuritis in a person who had not drunk arsenicated beer. During the seven months that the Manchester district had been free from arsenicated beer no cases of neuritis had occurred in his experience which were not relics of the epidemic. It was suggested that even spirits and wines might be frequently contaminated with arsenic. Suphuric acid was said to be added to brandy and gin for trade purposes, and even in the case of whiskey crude sulphuric acid was sometimes used to cleanse the stills. In answer to the question, if arsenic had been the real cause in the past of alcoholic neuritis why had not the characteristic skin eruptions been observed, it was suggested that minute doses of arsenic taken for a long time might be sufficient to produce neuritis, and insufficient to produce skin changes or those in the alimentary tract, for arsenic was a cumulative poison; on the other hand, either that skin changes that were present were not noticed or that they were attributed to other causes than arsenic—for example, to the effect of vermin; and it was to be remembered that pigmentation did not occur in fair people. In regard to the third possibility—the combined action of arsenic and alcohol in producing so-called alcoholic paralysis—he was convinced that, considering the amount of pure alcoholic beverages consumed in the world, true alcoholic neuritis was one of the rarest diseases known, and that large numbers of the cases recorded as such were really due to this combination. Arsenic in an alcoholic subject was much more virulent than when taken alone. In every case of alcoholic neuritis, concomitant symptoms should be looked for, and the urine and epidermal structure should be examined for arsenic. The differential diagnosis of the form of neuritis seen in the epidemic from that seen in beriberi was discussed, and it was suggested that some of the supposed outbreaks might be due to chronic arsenical poisoning.

Professor Dixon Mann of Manchester in describing the characteristic symptoms in the Manchester epidemic, thought that the excessive muscular tenderness was probably due to the fact that the neuritis was more acute than that usually ascribed to alcohol alone. He had found no evidence to support the view, as was suggested, to meet the difficulty arising from the smallness of the amount of arsenic, as compared with the magnitude of the results, that the arsenic existed in organic combination. The Royal Commission had stated that the amount ranged from one and one-half grains to three grains per gallon, and he had all along expressed the opinion that more was present than the published analyses stated. He had been greatly struck with the amount of arsenic that was stored up in the keratin structures of the skin, indicating a strong affinity between them. Neurokeratin was a large constituent of the white matter of the central nervous system, and his analyses had shown that the white matter contained much more arsenic, weight for weight, than the grey. In regard to the precise manner in which arsenic produced the neuritis, it was probable that it acted on the nerve centres as well as the peripheral nerves. The ultimate result of the action of arsenic was fatty change in the nerves, and this he was inclined to ascribe to an action similar to that believed by Hott to belong to phosphorus, namely, that it interfered with the power of the protoplasm to take up and store oxygen probably from both a lowered vitality of the cells and a direct chemical action on the proptoplasm.

Dr. A. P. Luff of London believed that alcoholic and arsenical neuritis were distinct conditions. In alcoholic neuritis there was no excessive muscular tenderness, and no pigmentation or other characteristic change in the skin. If all cases of alcoholic neuritis had been due to arsenic it was very unlikely that the toxicological examinations that had been made in many cases would not have revealed it.

Dr. Kelynack of Manchester gave the results of an investigation into the frequency of peripheral neuritis in the Manchester Royal Infirmary, as compared with hospitals in Cambridge, Dundee, Belfast, and London, showing that much of the so-called alcoholic paralysis met with in Manchester of late years was due to arsenicated beer. The conditions of the introduction of the arsenic into the system during the epidemic led to an increased rate of absorption, an exceptional accumulation in the body, and a retarded elimination. The alcohol and other ingredients of the alcoholic beverages greatly accentuated the toxic effect of the arsenic.

Dr. Osler of Baltimore had never seen a case of alcoholic neuritis in a person who had taken beer alone, but he did not meet with more than two or three cases in a year. He had never observed in these cases pigmentation, keratosis, bullous lesions, or herpes, although he had been for many years well acquainted with the skin lesions due to arsenic. Hyperæsthesia of the skin and muscles varied greatly in different forms of neuritis; he had seen it in most intense forms in post-typhoid neuritis.

Dr. Nathan Raw of Liverpool had had under his care two hundred and twelve cases of the epidemic neuritis, which might be divided into acute and chronic—the acute being due to a sudden increase in the amount of arsenic in the beer occurring late in the epidemic, reaching one and a half grains to the gallon, and the chronic to the ingestion of small doses of arsenic for a term of months. The skin lesions were characteristic of the epidemic. The explanation of the whole question was the combined effect of arsenic and alcohol. Since the epidemic had ceased, and arsenic had disappeared from the beer, the number of cases of alcoholic neuritis remained much the same as before. He believed peripheral neuritis could be produced by alcohol alone, either in beer, in whiskey, or in other spirit. In arsenical cases, the sensory symptoms predominated, both the motor and sensory changes passed off more readily and completely than in the alcoholic cases, and relapse might occur in the arsenical cases, suggesting that arsenic was cumulative.

Dr. Waldo of Bristol had seen extreme muscular tenderness in cases of alcoholic neuritis, and arsenic given alone, medicinally, rarely produced neuritis.

Dr. Pope of Leicester remarked that all the cases he had seen in Leicester were in persons who had drunk

beer from one brewery that had used the contaminated glucose from Liverpool. He had difficulty in believing that alcohol alone could produce neuritis, seeing that many persons drank enormous amounts of spirits without developing it.

Mr. ORMROD of Workington had seen skin eruptions in several cases, but no marked pigmentation.

Dr. CATON of Liverpool had traced cases of neuritis occurring in beer drinkers to contamination with lead.

Sir WILLIAM GAIRDNER of Glasgow had seen no case of peripheral alcoholic paralysis until 1884, when the late Dr. Ross had shown him six at one time in the Royal Infirmary in Manchester, although it had been his duty, as a teacher of medicine in Glasgow, to study types of disease. He had remarked to Dr. Ross on the rarity of the disease in Scotland, considering the amount of whiskey drunk. Since then he had been carefully on the lookout for the disease both in hospital and in private and he had not met with even ten cases. This, he believed, argued some other localizing cause than alcohol, and no doubt in the recent epidemic that cause was arsenic.

Treatment of Acute Rheumatic Endocarditis.—Dr. CATON of Liverpool then read a paper on the arrest of the acute endocarditis occurring in the course of acute rheumatism by means of rest, the application of small blisters to the chest, and the administration of sodium iodide. If no special treatment were devoted to the heart-complications of rheumatism and if, immediately after its subsidence, patients returned to ordinary life, permanent organic cardiac disease would probably develop. But in all cases, and especially those in children, if commencing valvulitis were detected and this method of treatment adopted, permanent crippling of the heart would be avoided.

Dr. OSLER had not been able to determine in his own practice whether Dr. Caton's plan of treatment was followed by good effects or not. The permanent heart lesions which were serious were not due to the vegetations, but to the sclerotic changes in the valves which were set up.

Dr. HAWTHORNE of London remarked that it was the insidious forms of rheumatism occurring in childhood that were particularly dangerous. Early and complete rest was the best means of preventing endocarditis.

Professor CLIFFORD ALLBUTT of Cambridge stated that in his experience well marked physical signs of a previous endocarditis, in a substantial minority of cases, wholly disappeared. Not only should all means be employed to reduce blood-pressure in these cases, but blood-mass should also be kept down by a reasonable limitation of the fluids ingested.

Sir WILLIAM GAIRDNER of Glasgow emphasized the importance of absolute rest for persons who had had acute or subacute rheumatism, not only during the earlier stages but after the temperature had fallen and all joint swelling and pains had ceased.

Dr. WILLIAM EWART of London thought that the good effect of the treatment described depended more on reducing the rate of development of the valvular lesions than in curing them.

Sir WILLIAM BROADBENT of London deprecated the stereotyping of any plan of treatment. Rest and reduction of the volume of the blood were of the utmost importance. In his experience, too, murmurs sometimes disappeared after an interval of years. Murmurs might be present even when the heart was functionally efficient. It was of great importance to give salicylates in large doses in the early stages of acute rheumatism, during the first forty-eight hours, and this he thought was effective in preventing endocarditis.

Dr. SAMUEL WEST of London drew attention to the unreliability of statistics in regard to acute rheumatism. It was possible for cardiac murmurs to disappear in the presence of organic valvular disease, the existence of which was subsequently proved by post-mortem examination. The importance of rest could not be exaggerated. It was possible to demonstrate by percussion a dilatation of the heart following on a patient leaving the recumbent position.

Third Day—Friday, August 2.

Bacteriology of Fetid and Gangrenous Suppuration.—Dr. EDWARD RIST of Paris read an important paper on this subject, describing some new methods and new results. The particular method he referred to was one invented by Dr. Veillon of Paris, by which anaerobic germs could be easily cultivated in agar tubes. He had made investigations with this method on the bacteria of mastoiditis and otitis media. The cases described of mastoiditis caused by streptococcus or pneumococcus alone, certainly existed, but they were very rare; the discharge was not fetid, and the form of the disease was a mild one. In the greater majority of cases, the mastoiditis was preceded by chronic, fetid otorrhœa, and was itself of a very fetid character. These cases were generally severe, and liable to be complicated by other fetid and gangrenous suppurations. They were caused by anaerobic germs, which were able to destroy the tissues by a process of putrefaction. He had found the same anaerobic germs in the disseminated metastatic gangrene of the lungs caused by otitic septicæmia. Guillemot had made a special study of pulmonary gangrene in general, and had shown that it was always caused by anaerobic germs, and that the process of gangrene was a real process of putrefaction. Dr. Rist had investigated several cases of putrid pleurisy connected with either cortical gangrene of the lungs, bronchial dilatation, or abscess of the liver, and had always found them to be caused by anaerobic germs. In one case, after pleurotomy, the infection penetrated through the cutaneous wound into the connective tissue between the dorsal muscles, and caused a gangrenous and gaseous phlegmon which extended with alarming rapidity; the discharge contained the same anaerobic germs which had already caused the pleurisy.

Dr. Veillon, with Dr. Zube, had been able to show that in nineteen cases of appendicitis out of twenty-one the pus was full of anaerobic germs, sometimes, but not always, associated with some rare and comparatively harmless streptococci or coli bacilli. The same had been shown by Dr. Cotret in periurethral suppuration, by Dr. Halié in some cases of uterine inflammatory processes, and by Dr. Teissier in intestinal diseases in infants. A critical review of many observations published by several authors had convinced him that cases believed to be of typical streptococcic otitic septicæmia, for instance, were polymicrobic infections, in which the anaerobic germs had been overlooked.

In many cases there were only anaerobic germs in the pus. He had seen a case of mastoiditis, and another one of putrid pleurisy where not a single colony grew on ordinary agar plates, whilst anaerobic germs grew abundantly in agar deprived of oxygen. He had studied a case of fetid pyosalpinx, where the ordinary plates remained altogether sterile; the cultivation in anaerobic tubes allowed him to isolate six anaerobic species, among which two different streptococci, which, in stained preparations, would certainly have been mistaken for streptococcus pyogenes. He therefore asserted, as a result of the researches he had described, that anaerobic germs were the specific agents in fetid suppurations and active gangrenous processes.

Indigouria.—Drs. A. MCPHEDRAN and GOLDIE of Toronto reported a case of indigouria in a patient who had dyspepsia due to bolting his food. The urine contained a mere trace only of indican.

Treatment of Intestinal Diseases.—Dr. J. A. RIVIÈRE of Paris read a paper on the abortive and curative treatment of acute intestinal diseases, particularly enteric fever and appendicitis, with calomel, conjoined with bicarbonate of sodium and quinine, and followed by the

administration of water by the mouth and warm applications to the abdomen. The principle on which the employment of calomel was based was that it stimulated the secretion of bile, which exerted its antiseptic action on the microbes in the intestinal tract causing the particular disease, and to a less extent that it stimulated the excretory functions of the liver.

Electricity in the Treatment of Pulmonary Tuberculosis.—Mr. CHISHOLM WILLIAMS of London described his results in the treatment of pulmonary tuberculosis by means of electrical currents of high frequency and high potential. He referred to forty-three cases so treated, all being of a severe type. At first, after each application, the temperature rose, but each successive rise was less, and when no rise followed, arrest of the disease had occurred. Cough was lessened. Expectoration at first was increased, and sometimes became rusty, but its offensiveness lessened and eventually became almost absent. The number of the bacilli first increased, then decreased. Weight was put on, and all the symptoms were coincidentally alleviated. The average term of treatment was about three months.

Treatment of Cardiovascular Diseases.—Dr. H. J. CAMPBELL of Bradford communicated a paper on the treatment of cardio-arterial disease. After describing the commoner forms of the disease, he stated his plan of treatment as directed to the reassertion of balance between the force of the heart and the resistance to the blood-flow through the vessels, by influencing either the heart or the vessels. Each case had to be treated on its special indications, with this end in view He had found the sphygmometer of Hill and Barnard of the greatest value in his observations. In the cases with but slight vascular disease, but with a hypertrophied and failing heart, in addition to enjoining suitable hygienic measures, he gave nitroglycerin, a dry diet, and aperients. In the second group of cases, with primary vascular disease and secondary cardiac hypertrophy, he gave small doses of strophanthus, with potassium iodide, together with graduated exercises. If sclerosis of the kidney were present, he gave milk diet and sodium iodide.

Diagnostic Value of Tubercle Bacilli in Phthisis.—Dr. J. A. CHOWRY-MUTHU of St. Lawrence, Isle of Wight, read a paper on this subject. The number of bacilli present was of much less importance than their virulence. The symptoms and signs usually ascribed to consumption did not necessarily mean the presence of tubercle; other microbes might produce similar phenomena. But the absence of tubercle bacilli from the sputum did not negative the presence of tuberculosis, although their occurrence was certain evidence of its presence.

Drug Idiosyncrasy.—Mr. C. GRIFFITH WILKIN of Yeovil narrated a case of rheumatic endocarditis in which there was excessive intolerance to morphine, nux vomica, and quinine.

Zomotherapy of Phthisis.—Dr. FORBES ROSS of London read a paper on the value of a dietary of meat albumin in the treatment of tuberculosis. Milk albumin did not, and myosin did, produce a stable tissue nutrition. It was suggested that this might be due to the fact that myosin was a fixed albumin, while milk albumin was an excreted albumin. But it was stated that it might advantageously be mixed with milk, and was in no way contrary to the simultaneous employment of other approved methods of treatment.

Mucin in Intestinal Diseases.—Mr. W. STUART LOW of London read a paper describing the good effects of the administration of mucin by the mouth, combined with bicarbonate of sodium, for conditions of irritability, desiccation, and ulceration of the gastro-intestinal tract.

SECTION OF SURGERY.

Third Day—Friday, August 2.

Injuries to Joints.—Mr HOWARD MARSH opened a discussion on "Injuries to Joints with Special Reference to their Immediate and Remote Treatment by Massage and Movement." He thought that massage should always be employed under the direction of skilled surgical advice; in his experience unfortunate accidents sometimes had followed its inconsiderate use. Massage increases the circulation through a part, removes exudation, and acts as a stimulus through the nervous system. It acts also as a sedative in relieving muscular spasm and promotes the absorption of recent adhesions. Movement might be used in three ways. In the first place, in joints structurally normal but hampered by adhesions this would be done under an anæsthetic; secondly, subsequent ordinary passive movement; and thirdly, movements against resistance. This treatment was specially applicable in sprains and contusions of previously healthy joints. A skiagram was always useful. Complications that might be overlooked were fractures, subluxation, rupture of muscles, or displacement of tendons. The latter was, in his experience, rare In recent dislocations he was in the habit of carrying out passive movement early, after a few days, instead of using fixation apparatus. It is important to decide whether an injury is inside or outside a joint; if the bones could be moved within a limited range easily and in a normal way the injury was in all probability mainly to structures outside; this he looked upon as a valuable diagnostic sign. In long-standing cases the question must be decided as to what has been the cause of the delayed recovery. Complications of injuries that must always be kept in mind were sarcoma and hæmophilia. After forcible movement under an anæsthetic massage should be carried out daily for some three weeks.

Mr. WHITELOCKE confined his remarks to the treatment of recent injuries to joints in young adults. An anæsthetic should be used to make an exact diagnosis He then used elastic pressure, and within twelve hours after the injury he commenced passive movement, and continued it daily along with massage. About the tenth day he allowed active movement, and within three weeks he had always found that these injuries were sufficiently recovered from to allow of the resumption of athletics. He deprecated the use of all rigid apparatus.

Mr. F. BURGHARD had obtained good results in cases of shoulder dislocation from massage and the discarding of all fixed apparatus. He was in the habit of repeating passive movement under gas once a week

Dr. WARD COUSINS always used an antiseptic bath in case of subcutaneous injuries near joints. He had found the hot-air bath of much service in cases complicated by rheumatism. He applied massage in the first instance to the surrounding muscles and tendons. He agreed with the recommendation of early movement and massage.

Mr. BARLING agreed with Mr. Whitelocke in his use of elastic pressure, but had not found recovery in cases such as those described by the latter so rapid as three weeks. He had found that most of the subjects of these injuries were out of condition in regard to their muscular system, and therefore did not allow active exercise early. In Colles' fracture he discarded the use of splints unless the deformity was great.

Mr. PAUL BUSH laid emphasis on the fact that in forcible movement under an anæsthetic the joints should be carried through their extreme range of motion.

Mr. RUTHERFORD MORRISON thought that care should be taken to distinguish injuries to the joints themselves from injuries to their surroundings. In cases of true joint injury he did not recommend the universal use of massage In cases of displaced semilunar cartilage and fractured patella he always insisted on a considerable period of rest after operation.

Mr. Marsh, in replying, said he agreed with Mr Whitelocke as to the value of elastic supports applied by means

of cotton wool and Martin's bandage immediately after a sprain. The effusion which would otherwise occur from the ruptured or temporarily paralyzed blood-vessels would be to a large extent prevented and very little swelling would take place. He employed passive movements very early—within twenty-four hours. After suture of the patella or the removal of a semilunar cartilage, as soon as the wound was healed—that is, within seven or eight days—the splints were removed and passive movements were begun and carefully increased while massage of the muscles was daily employed. After suture of the patella the patient was allowed to walk, wearing a rigid apparatus, within a month of the operation, while both morning and evening he was directed to practise gentle movements, without bearing any weight on the limb. The speaker agreed with Mr. Barling as to the dependence of the joints on the surrounding muscles for security and protection. When muscles were weak any violent exertion was very likely to lead to joint damage. He further entirely agreed with his views as to the treatment of many examples of Colles' fracture without splints. The deformity (even in non-impacted fracture) was often but little marked and was not material. The loss of power and the stiffness often remaining after this fracture were not due to the mere deformity of the bones, but to the fact that the tendons and other soft parts had become fixed by adhesions, which had formed while the limb was immobilized for three weeks, or even longer, as the custom of some was, on splints. He had seen several cases in which, although there was distinct, even marked deformity, the use of the hand was scarcely at all interfered with.

Treatment of Congenital Dislocation of the Hip.—Mr. F. F. Burghard of London read a paper on this subject. He first gave a brief account of the anatomical peculiarities present. He had obtained no satisfactory results from apparatus. He described Lorenz's bloodless method, and remarked that only in a few cases was there true reposition, as the head usually left the acetabulum later. He had had experience of twenty cases. In two he had used the Paci method with disappointment, as regards the final result. In nine cases he had carried out Lorenz's bloodless method. In one the result was perfect, in five fair, and in two failure. He had five times performed Lane's operation, but now believed that the method rested on a misapprehension. In five other cases he had performed a modified Lorenz's method of open operation, with good results.

In children under two he recommended only active and passive movements. Between the ages of two and five he recommended Lorenz's bloodless method under the control of the *x*-rays. About the age of five he believed the open operation of Lorenz gave the best results. After the age of seven he did not advise operation.

Mr. Howard Marsh thought that those cases alone required operation in which there was much displacement upward and backward, and where there was a sliding condition of the head.

Reducibility of Long-standing Dislocations.—Dr. E. W. Dunbar read notes of two cases of old standing dislocation successfully rectified. One was a partial dislocation of the right hip joint of five years' standing. The other was a case of partial dislocation of the right sacro-iliac joint, which had existed for six years. Both were illustrated by skiagrams. Both were reduced under anæsthesia.

Mr. Buckell thought that the ease in reduction was due to the fact that the dislocation was partial in each case.

Hydatids of the Pleura.—Mr. Whitelocke read notes of the case of a young woman who had been treated by thoracic section for hydatid of the right pleura. The mother cyst was not removed at first, but was thoroughly scraped. A sinus persisted for ten months when the mother cyst came away; it then closed.

Mr. Michie of Adelaide related a similar case.

Dr. T. Rankin related a case of amputation of the right leg at the knee for senile gangrene in a man aged seventy-two.

Mr. Chicken showed a collection of sixty-seven loose bodies removed by operation from a knee joint.

(*To be continued.*)

Medical Items.

Contagious Diseases — Weekly Statement. — Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 17, 1901.

	Cases.	Deaths
Measles	72	2
Diphtheria } Laryngeal diphtheria (croup)	136	27
Scarlet fever	120	9
Smallpox	36	6
Chickenpox	3	—
Tuberculosis	271	164
Typhoid fever	56	12
Cerebro-spinal meningitis	—	7

The Bacteriology of Cystitis, Pyelitis, and Pyelonephritis in Women.—Thomas R. Brown concludes that (1) the direct cause of the infection of the urinary tract in women is the invasion and multiplication of some form of microorganism; (2) the commonest cause of these infections is the B. coli communis, which a consideration of the cases of acute cystitis definitely proves can and does in a large number of cases set up a true infection without the aid of any other microorganism; (3) marked variations are seen in the virulence of this microorganism and in its pyogenic properties; (4) other microorganisms frequently found are the tubercle bacillus, various staphylococci, and the B. proteus vulgaris; while numerous other varieties have been less frequently met with, as the B. pyocyaneus and the typhoid bacillus; (5) the proportion of cases of infection due to the B. coli communis is greater in women than in men, probably because of the close proximity of the female urethra to the anus; (6) besides the microorganisms, other factors are in most cases necessarily essential to the development of a cystitis; the chief being anæmia, malnutrition, trauma of and pressure upon the bladder, congestion of the bladder, and retention of urine; (7) in cystitis the chief mode of infection is by the urethra, although one must also consider the possibilities of a descending ureteral infection from an infected kidney, pyogenic metastasis by means of the blood and lymph currents, and direct transmission of the microorganisms from the intestinal tract, or from some adjacent focus of infection; (8) in pyelitis and pyelonephritis the usual modes of infection are along the ureter from an infected bladder, and by means of the blood and lymph currents; (9) in the great majority of cases of cystitis, both acute and chronic, and in the majority of cases of pyelitis and pyelonephritis, the urine is acid; (10) irritation caused by ammoniacal urine is apparently sufficient to render the bladder susceptible to infection without the aid of any other etiological factors; (11) in infections of the kidney due to a urea-decomposing microorganism, a stone is very likely to be present if the case is at all chronic; (12) certain conditions exist which present most of the symptoms of cystitis but no infection, the most difficult of which to diagnose is probably urinary hyperacidity of neuropathic origin; (13) the diagnosis of renal infections can be made with absolute certainty only by ureteral catheterization, but a probable differentiation between renal and vesical infections can be made by a careful study of the urine alone; (14) tuberculous infections of the urinary tract frequently occur with no other demonstrable tuberculous lesions elsewhere in the body.—*The Johns Hopkins Hospital Reports.*

What are the Most Efficient Remedies for Shock, Syncope, or Temporary Exhaustion; and How should they be Used?—N. S. Davis says that in all cases of profound shock and syncope the most important thing is to increase the force and depth of respiration in order to get more oxygen into the body. The patient should be kept in the horizontal position, cold water dashed on the face, and compresses of hot and cold water alternately applied to the dorsal and cardiac regions. As soon as the patient can swallow a little cold water should be given, and then a cup of meat broth without pepper. Meat broth may be given in enema, if necessary, as may also decinormal salt solution. Valerian and assafœtida will allay restlessness. Opiates and anæsthetics should be avoided. Well-salted meat broth will increase the saline elements of the blood. Stimulants, especially alcohol, are apt to do more harm than good. The author considers it folly to use alcohol, ether, strychnine, digitalis, etc., in the same patient, as is often done, for this group of remedies is easily divisible into two classes, the respective effects of which, are antagonistic. All exert their most prominent influence on the cerebrospinal nerve structures, including the centres of respiration and circulation. But while the strychnine and digitalis increase the cerebrospinal activity and promote respiratory, cardiac, and vasomotor efficiency, all authorities agree that the alcohol and ether directly diminish cerebrospinal sensibility and action, including the centres of respiration and circulation, thereby causing relaxation of the peripheral capillaries and arterioles, less depth of respiration, and less systolic force of the heart. Pushed to full or toxic doses strychnine so strongly excites the nerve centres as to produce rigid muscular contraction with acute sensibility, while alcohol in large doses relaxes every voluntary muscle in the body, enfeebles both respiration and circulation, and renders the patient insensible. It would be difficult to find two remedies in the materia medica more directly antagonistic in their effects on the living body than alcohol and strychnine. Yet they are both persistently called stimulants and both given not only in cases of shock and syncope, but also in a large majority of cases of typhoid fever, diphtheria, pneumonia, etc.—*Illinois Medical Journal.*

Seasonal Variations in Growth of Boys between the Ages of Seven and Fourteen Years.—The observations recorded below were made by F. W. Hitchings and G. W. Fitz, at one of the Boston institutions. All the children were weighed, stripped, once a week, and heights were measured every three months, except in the third quarter, which occurred in August. Twenty out of the thirty boys in the home remained throughout the year, and these only are considered. The results of the study are as follows: (1) Variations in weight amounting in some cases to as much as five pounds were observed in most of the boys from week to week. These variations were so numerous and so marked as to suggest that any single test of an individual is liable to a plus or minus error of several pounds, and that successive weighings are necessary for accuracy. (2) Over ninety per cent. of the total increase in weight occurred during the period from June to December. (3) During the period from January to June the weight fluctuated without definite gain or loss, constituting a period of minimum growth. This seemed to be made up of shorter periods of gain and loss, which practically neutralized each other and were more or less variable in their occurrence and in their range in different individuals. (4) The weight fluctuations were much more marked during the period of minimum growth in weight than during the period of maximum growth. This seemed to indicate that there was less resistance to external influences during this time, and that on the whole the vitality of the child was at a lower level. (5) A preliminary study of the weather conditions in connection with these curves of growth showed that rainfall, temperature, and barometric pressure had slight, if any, influence. Humidity, on the other hand, seems to have had some influence during the period of minimum growth. (6) The general form of the curve of growth in weight was found common to all the individuals studied (20), covering the ages from seven to fourteen. The larger minor fluctuations were also found to be common to the majority of the boys, suggesting that the causes were general rather than individual, and that growth throughout this age period has the same general seasonal variation. (7) Growth in height in the majority of cases showed either a continuous increase at the same rate throughout the year or more rapid growth during the period of most rapid increase in weight.—*Journal of the Boston Society of Medical Science.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 17, 1901:

		CASES	DEATHS
SMALLPOX—UNITED STATES.			
Kansas, Wichita	July 27th to August 3d	1	
New Hampshire, Nashua	July 27th to August 3d	2	
New Jersey, Newark	August 3d to 10th	4	1
New York, New York	August 3d to 10th	36	13
Ohio, Cleveland	August 3d to 10th	1	
Pennsylvania, Philadelphia	August 3d to 10th	8	
Utah, Salt Lake City	August 3d to 10th	1	
Washington, Tacoma	July 28th to August 4th	3	
Wisconsin, Milwaukee	August 3d to 10th	1	
SMALLPOX—FOREIGN.			
Brazil, Pernambuco	June 15th to July 15th	..	81
Rio de Janeiro	June 1st to 30th	..	52
Colombia, Panama	July 29th to August 5th	7	1
Egypt, Cairo	July 1st to 22d	.	2
France, Marseilles	June 1st to 30th	..	4
Paris	July 20th to 27th	..	3
Great Britain, Dundee	July 20th to August 3d	6	
Glasgow	July 27th to August 2d	2	
London	July 20th to 27th	11	
India, Bombay	July 8th to 16th		6
Calcutta	July 6th to 13th		3
Madras	July 6th to 13th		8
Italy, Messina	July 20th to 27th	19	16
Naples	July 14th to 28th	99	10
Mexico, Mexico	July 21st to 28th		1
Russia, Moscow	July 13th to 20th	4	2
Odessa	July 20th to 27th	3	
Warsaw	July 13th to 20th	..	3
Spain, Barcelona	July 1st to 20th	..	5
Uruguay, Montevideo	June 8th to 15th	12	
YELLOW FEVER.			
Colombia, Bocas del Toro	August 2d	..	1
Costa Rica, Port Limon	August 3d	4	1
Cuba, Havana	July 27th to August 3d	3	1
Marianao	July 27th to August 3d	1	1
Pinar del Rio	July 27th to August 3d	1	
Regla	July 27th to August 3d	1	1
CHOLERA.			
India, Bombay	July 6th to 13th	..	15
Calcutta	July 8th to 16th	..	2
Java, Batavia	June 22d to July 6th	63	43
PLAGUE.			
China, Hongkong	June 22d to July 6th	109	107
India, Bombay	June 8th to 16th	..	101
Calcutta	July 6th to 13th	..	16

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

INTERNATIONAL CLINICS, a Quarterly, by HENRY W. CATTELL, illustrated, 8vo., 304 pages. J. B. Lippincott Company, Philadelphia, Pa.

THE DISEASES OF THE RESPIRATORY ORGANS, by WILLIAM F. WAUGH, M.D., 12mo., 221 pages. G. P. Engelhard & Co., Chicago, Ill.

SYPHILIS: ITS DIAGNOSIS AND TREATMENT, by WILLIAM S. GOTTHEIL, M.D 216 pages, illustrated. 12mo. G. P. Engelhard & Co., Chicago, Ill.

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Original Articles.

METASTATIC CHORIOIDITIS OCCURRING IN THE COURSE OF PNEUMONIA, DUE TO GRIPPE. BASED ON A STUDY OF SIX CASES WITH TWO AUTOPSIES.*

By CHARLES STEDMAN BULL, A.M., M.D.,
NEW YORK.

The few remarks accompanying the reports of these six cases, are confined to the subject of metastatic ophthalmia, occurring in the course of pneumonia and endocarditis, due to influenza, and have no application to other forms of metastatic inflammation in the eye, due to the puerperal state, or to general septic poisoning, or to the epidemic form of cerebrospinal meningitis.

The diplococcus is known to be the cause of epidemic cerebrospinal meningitis, and it is probably the cause of the inflammation of the uveal tract so often met with in this disease. These cases do not end in panophthalmitis, and I believe that no accurate report has ever been published of any microscopical examination of such eyes.

Metastatic ophthalmia was first observed in cases of puerperal fever. It was subsequently met with in other forms of septic fever, and was described as pyæmic or phlebitic ophthalmia. In 1856, Virchow discovered in a metastatic panophthalmitis capillary emboli in both retina and chorioid. This discovery established the fact that purulent chorioiditis does occur as a metastatic affection, and experience has since satisfactorily proved that both eyes may be attacked, one shortly after the other. The disease is always due to septic infection, and microorganisms can nearly always be found, when the opportunity occurs to search for them. The lesion in the eye is often closely dependent upon a general septic condition of the system, which is sometimes fatal, and which is always of such gravity as to overshadow the local condition. The microorganisms which have been found in such cases are the staphylococcus albus and aureus, the streptococcus pyogenes, and the pneumococcus. Bacterial thrombi have been demonstrated in the vessels of the uveal tract, retina, conjunctiva, ocular muscles, and orbital tissue.

We know that in very acute sepsis there is an absorption of a large amount of the chemical products of decomposition, and embolic suppurations are apt to occur. The septic embolism is rapidly followed by suppuration, which may extend to the entire eye in the form of panophthalmitis. The thrombosis sometimes comes from a microbic area, as in endocarditis or pneumonia. Whether the obstruction occurs in a chorioidal or a retinal vessel can only be determined by the ophthalmoscope at the very beginning of the ocular symptoms. Later this fact can only be demonstrated by microscopical examination.

Goh makes a rather fine-drawn distinction between septic retinitis and septic chorio-retinitis. He says that in septic retinitis there are no acute inflammatory phenomena present, for it is not caused by the local infiltration of bacteria, but by a general blood disturbance of a toxic nature. By this blood disintegration either the capillaries suffer by being deprived of their endothelium and diapedesis occurs, or else marantic thrombi are formed in the veins of the chorioid and retina. Such a thrombosis, however, he thinks is rarely the cause of septic retinitis, when occurring in the retina, but if it occur in the chorioid, it may favor the development of a metastatic inflammation by disturbances in the circulation, especially in the bilateral form of the disease.

Before Goh published his article, it was well known that the retina is peculiarly susceptible to pathological changes in diseases of the general system due to an alteration in the blood, and that the changes in the retinal vessels were secondary to the alteration in the blood. Septic retinitis is more frequently met with than panophthalmitis, and its course is relatively favorable. The foci are small and circumscribed, and the chorioid is rarely involved. It is not due to the formation of emboli, for obstructions of the retinal vessels have never been found. Hence the retinal foci are dependent on some chemical change in the blood. In cases of thrombosis, however, the heart's action is very weak, and the vascular wall, in consequence of the change in the quality of the blood due to the septic process, loses its normal condition, and this is what we find in the chorioidal veins in one or both eyes, the lesion being defined as marantic thrombi. The frequent bilateral character of metastatic chorioiditis is explained in part by the narrowness of calibre of the capillary vessels, and in part by the disposition to clot formation.

Large infectious plugs, which cause a stoppage of the larger vessels, are only occasionally thrown off into the circulation during the course of a pyæmia. The smaller embolic material is much more commonly spread through the general circulation, and takes its own course, independently of the method of division of the larger or smaller arteries. The smaller the vessels, the greater the danger of these smaller clots being arrested. In the region of distribution of the carotid arteries, it has been assumed that metastases are generally rarer than in the internal organs of the body and in the extremities, and the ophthalmic artery would naturally share in this assumption. Only about one-eighth of the amount of blood in the ophthalmic artery goes to the eyeball, which is therefore an organ poor in blood compared to its size. The eye seems less receptive of more compact plugs and more disposed to the occurrence of capillary emboli.

It has been assumed that the occurrence of metastatic ophthalmitis signifies that the general disease has taken on a particularly severe type; but this is doubtful, for, if true, the ocular metastases must then be regarded as of peculiar and unusual importance, and would have a marked prognostic significance.

The frequent bilateral appearance of metastatic

*Read at the meeting of the American Ophthalmological Society, held at New London, July 17, 1901.

chorioiditis, like all bilateral internal ocular lesions, must be regarded as a symptom of a general constitutional condition. In such cases we should expect to find numerous metastases in other parts of the region of distribution of the carotid arteries.

We possess almost no satisfactory anatomical investigations as to what part is played by the eye in the development of metastases. We know that metastatic ophthalmia is met with in influenza, scarlatina, measles, diphtheria, variola, varicella, parotitis, and more rarely in erysipelas and typhoid fever. Of late we have known that it is still more frequently met with in pneumonia and endocarditis.

The irido-chorioiditis, which sometimes occurs in recurrent fever and in rheumatism, is an infectious disease, and may be suppurative, but it never leads to suppuration of the eyeball. The same may be said of the so-called gonorrhœal metastases. Most of these patients do not die, but recover their general health. Hence we have no opportunity for anatomical investigations.

Unilateral isolated metastatic ophthalmia differs in no way from similar isolated purulent foci in other parts of the body, and is not of such vital significance as the bilateral form of the disease. In the rarer form of metastatic inflammation, orbital cellulitis, the exciting cause is the pneumococcus, which has been found in great numbers in the orbital cellular tissue. If the pneumococcus enters the eyeball, the inflammation excited usually runs a mild course, and the cocci which have formed foci of disease subsequently disappear.

The disease, as presented in the six cases which form the basis of this paper, is characterized by pain in the eye and head, intense vascular congestion, with the usual symptoms of chorioiditis or irido-chorioiditis, and rapid and total loss of sight. It may be ushered in by severe headache and vomiting, rise of temperature, and general febrile symptoms. The intra-ocular tension is at first increased, but subsequently sinks much below normal, even when no perforation of the eyeball occurs. The course of the disease is from three to six weeks, and the prognosis is always bad, the case ending in total blindness with a shrunken eyeball. Enucleation of these eyes is not advisable in the acute stage of suppuration, especially if the capsule of Tenon or the orbital tissue be involved.

Case I.—The patient was a boy, aged fourteen, whom I first saw in January, 1901. Three months before he had a severe attack of grippe with high fever which on the third day culminated in pneumonia of the right lung. He was delirious for several days, and when he regained consciousness he was blind in both eyes, and remained so for four days. The sight then began to return in the left eye and rapidly improved, but the vision in the right eye has never been restored. He consulted an oculist, who told him that the right eye had been lost by suppuration, and a yellow reflex was noticed from the pupil. Two days before I saw him the blind eye became red and very painful, and for this he came to the Eye Infirmary. There was then marked ciliary injection, the iris was irregularly dilated and immovable, with posterior synechiæ on the nasal side, and was discolored and of a greenish hue. The cornea and lens were clear, except at the periphery of the latter. The tension was minus 2. There was a very shallow anterior chamber, and the iris bulged at the periphery. There was a yellow reflex from the fundus, with several large vessels running over it. The ophthalmoscope showed the vitreous clear of opacities, and the infiltration involved the chorioid and probably the retina also throughout the entire fundus. Vision in the left eye was $^{20}/_{40}$ and the opthalmoscopic picture was negative. Assuming that the cause of the chorioiditis was the occurrence of one or more arterial or venous obstructions of microbic origin, the comparatively short duration of the blindness in the left eye may possibly be explained by the fact that the vascular obstruction in this eye may have been of small size and that it broke up into smaller masses and passed on in the circulation before any suppurative process began.

Case II.—The patient was a man, aged thirty-two, by occupation a machinist, whom I first saw on January 22, 1901. On December 18, 1900, he was taken ill with symptoms of grippe, which in two days rapidly developed into pneumonia of the right lung. On the eighth day of his illness the right eye became inflamed, with severe pain, great swelling of the lids, and rapid loss of sight. In three days the vision was completely abolished, and there has been no perception of light since. The left eye remained intact, and the vision when tested was normal. When I first saw him the swelling of the lids had nearly disappeared, and the eyeball was somewhat flattened and shrunken. There was no perception of light and the tension was minus 2. The cornea was slightly hazy, the iris was discolored and sluggish, and the lens was clear. There was a dense yellow reflex from the fundus, which extended forward to the ciliary region, over which the retinal vessels could be distinctly traced. The eyeball had perforated below in the inferior quadrant, just back of the ciliary region, and some thin pus was discharged from the inferior cul-de-sac. This pus was examined microscopically, but no bacteria were found in it.

Case III.—The patient was a gentleman, aged forty-two, of frail physique and delicate health, whom I first saw in February, 1899. He was attacked with grippe, which rapidly assumed a serious aspect. Pneumonia developed on the third day, and advanced so rapidly that in forty-eight hours the whole right lung became consolidated. On the morning of the fifth day from the beginning of the attack, the vision of both eyes became affected, and I was sent for. I saw him within two hours after this was noticed, and in both eyes discovered a focus of disease in the chorioid, just above the region of the macula, the media still being perfectly clear. Six hours later I saw him again, and found the vitreous of the right eye so cloudy that no details of the fundus could be made out. The vitreous of the left eye was clear, and remained so until the end, but instead of one focus of chorioidal disease, there were four foci in different parts of the fundus, all posterior to the equator. The next morning the right eye was entirely involved with iritis, pus in the field of the pupil, conjunctival chemosis, and the general appearances of a panophthalmitis with severe pain and no perception of light. In the left eye the entire fundus presented a yellow reflection, as far forward as could be seen with the ophthalmoscope through a dilated iris. The iris itself was not involved, and the picture presented was that of a purulent chorioiditis with a clear vitreous. In the afternoon of this day the left lung became involved, and the patient rapidly sank and died early the next morning, seven days after the attack of grippe began, and five days after the right lung first became involved. By the kindness of the family, I was permitted to remove the right eye for examination.

The eyeball was enucleated in the usual manner, and, after being hardened, was divided nearly in the vertical meridian. The two halves of the eye were then embedded, and about fifty sections were made

stained, and mounted for examination. All the tissues of the eye, with the exception of the lens, were filled with pus cells. In the sclera, chorioid, retina, and optic nerve were numerous lacunæ filled with blood cells. Many veins and arteries in the retina, chorioid, and sclera were plugged with emboli. This was especially noticeable in the retina. There were only a few recognizable rods and cones in the bacillar layer, but the nuclear layers were greatly thickened. The retinal pigment cells were scattered in groups of varying size in the midst of masses of granular exudation. There were groups of pus cells all through the ciliary body and in the vitreous. The chorioid and retina were practically but one layer, as the line of union between the two was obliterated. The micrococci present were the staphylococcus aureus and the streptococcus, and they were found in large numbers in all the tissues, not only in the purulent areas, but also free in the vessels, where they formed the main constituent of the thrombotic and embolic plugs of obstruction.

Case IV.—This patient was a gentleman, aged forty-two, who had always enjoyed excellent health, and, being a man of means, had led a healthful out-of-door life. He was a man of very temperate habits, and denied ever having had any venereal disease. About six months before I saw him, after exposure for many hours to a cold rain storm, while on a hunting trip, he contracted an acute inflammatory arthritis of both knee-joints and the left shoulder-joint, which confined him to bed for six weeks. He had rather a mild endocarditis, which had yielded to treatment, but left him with a mitral murmur. I saw him early in March, 1898, and he then had a rather aggravated conjunctivitis with moderate secretion. This yielded slowly to treatment, but two weeks later he contracted influenza, which showed a high temperature, and on the fifth day pneumonia of the right lung appeared. The disease rapidly extended to the entire lung, and his heart began to labor painfully, with decided irregularity and marked intermissions of the beat. On the fifth day after the pneumonia first appeared, the right eye became red and very painful, with swelling of the lids and chemosis of the ocular conjunctiva. On the sixth day, three foci of suppuration were discovered in the chorioid in the vicinity of the posterior pole, the anterior chamber became shallow, and the aqueous humor turbid. The foci of chorioidal exudation rapidly grew larger, coalesced, and in twenty-four hours the whole fundus was involved, and gave back the characteristic yellow reflex. The next day the whole uveal tract was involved, and there were a number of hemorrhages on the surface of the iris. The tension was at first very much increased, but as soon as the iris and chorioid were involved, the tension sank below normal, and continued about minus 2 until the end. There was slight exophthalmos, but no other evidence of orbital cellulitis. The patient rapidly sank into a septic condition, and finally died of failure of the heart's action. The left eye remained intact throughout. No autopsy was allowed. The marked feature in the case was the very rapid extension of the suppurative process in the chorioid after the appearance of the three foci of disease, and this feature seems to be characteristic of this variety of chorioiditis.

Case V.—The patient was a lad, aged fifteen, whom I first saw in December, 1899. He had always shown a marked tendency to contract the various contagious diseases of childhood, and had suffered from measles, whooping cough, mumps, diphtheria of a mild type, and scarlatina, which left him with diseased kidneys, and albumin and casts in his urine. He contracted grippe for the third time early in December, 1899. It was a rather mild attack, except for a high temperature ($104\frac{2}{5}°$). There were no thoracic symptoms except a bronchial cough until the eleventh day, when consolidation was discovered over a limited region at the base of the right lung. The pneumonia pursued an asthenic, sluggish course, but the consolidation gradually extended to a larger area of the lung, and the patient grew weaker. On the sixth day after the appearance of the pneumonia, the patient complained that the sight of both eyes was affected, and I was sent for. There was a slight ciliary injection and a muddy iris on both sides, but the aqueous and vitreous were clear. The ophthalmoscope showed a large focus of infiltration in the chorioid just above the macula in the *left* eye, and four distinct foci of disease in the chorioid of the *right* eye. These latter rapidly coalesced, and in about fifty hours the entire fundus of both eyes showed the characteristic yellowish reflexion. There were no signs of orbital cellulitis, but in two days both eyes were entirely blind. The high temperature persisted from the beginning, but the process of consolidation was apparently confined to the lower lobe of the right lung. The heart's action was feeble throughout the attack, but there were no signs of endocarditis. The lad slowly sank and died on the ninth day after the pneumonia was discovered. No autopsy was permitted.

The case is interesting from the marked difference shown in the inflammatory process in the lung and in the eye. The pneumonia was confined to the lower lobe of one lung, and pursued its course slowly and without any very marked symptoms except the high temperature. The metastatic chorioiditis showed the rapid progress characteristic of the lesion, ending in total destruction of the vision of both eyes in forty-eight hours.

Case VI.—The patient was a man, aged forty, whom I first saw in March, 1897. He had had a rather mild attack of influenza and was supposed to be convalescing, when, on the ninth day, a suspicious rise of temperature occurred, and he began to cough. An examination showed some consolidation at the base of the left lung. He was kept in bed and carefully watched, but the area of consolidation rapidly extended, and in three days involved the whole of the lower lobe and had invaded the upper lobe. On the sixth day after the pneumonia developed, he complained of failure of vision of the right eye. I saw him about six hours later and found three small foci of infection in the chorioid, one on each side of the optic disc, and one directly at the macula. The media were perfectly clear, the iris was normal in appearance and reaction, and the fundus of the left eye was normal. I examined him again the same evening, and found that two of the foci had increased in size and coalesced. The media were still clear and the rest of the fundus showed no infiltration. The left eye was still intact. The next morning there was a marked change. In the right eye the whole chorioid was infiltrated nearly to the ciliary processes, and the vitreous was slightly cloudy in its posterior part. The iris was not involved, but there was a vivid ciliary injection and engorgement of the deep episcleral vessels as far back as the equator. In the left eye there was a well-marked iritis with adhesions to the lens capsule on the nasal side. The disease pursued a very rapidly destructive course. In the left eye the pupil was blocked by exudation on the next morning, and by the evening of this day all the signs of a septic panophthalmitis were present with some exophthalmos and very severe pain. In the right

eye there was no iritis, but the whole chorioid was involved and the vitreous was very cloudy. On the fourth day after the beginning of the chorioiditis the left eye perforated in the ciliary region below, and the pain then became less severe. There was no perception of light in either eye. The whole left lung was involved, and the patient died comatose on the twelfth day after the first development of the pneumonia. An autopsy was made twenty-four hours after death, and I was permitted to remove the posterior portions of both eyeballs together with the optic nerves and chiasm. There was a very general congestion of the blood vessels of the brain, both on the base and convexity, but no exudation and no signs of meningitis.

After hardening the halves of the eyeballs and the optic nerves, the latter and the chiasm were first carefully examined microscopically, but there was no exudation within the sheath, nor any sign of optic neuritis, and this was confirmed by microscopical examination of many sections. Numerous plugs were found in the smaller vessels of the chorioid and retina in the right eye, and in the left eye every section showed these plugs all over the field in almost every chorioidal vessel. The autopsy also revealed a septic endocarditis which had not been suspected, and here were found numerous streptococci and pneumococci.

In this case the left lung and heart were the seat of the infection. The right eye became first involved, presenting the picture of infectious chorioiditis; while in the left eye the first lesion was an iritis, rapidly followed by a general chorioiditis and panophthalmitis with perforation.

PROTOZOAL LIFE IN THE BLOOD OF MAN AND ANIMALS, AND SOME OF ITS EVOLUTIONARY PHASES IN THE BODIES OF SUCTORIAL INSECTS.*

By M. P. OVERHOLSER, M.D.,
HARRISONVILLE, MO.

All forms of life are included in two great divisions, animal and vegetable. From the largest and highest types of living things down to the minutest forms of microscopic life this same distinction prevails.

In the study of the minute beings of the microscopic world it is only the disease-producing microorganisms that interest the physician. These are also divided into the same two great classes. The first class includes the pathogenic vegetable microorganisms which are called bacteria. The second class includes the disease-producing animal microorganisms which are called protozoa. We thus find that the various and numerous infectious diseases affecting man and animals are either bacterial infections or protozoal infections.

Heretofore the study of the specific microbic agents of disease has been most largely confined to the field of bacteriology. The numerous discoveries, rapid developments, and great achievements in medicine and surgery which have been wrought out by the investigations and study of the life history of the various pathogenic bacterial microorganisms have claimed so much attention of the physicians and surgeons of the present age that the study of the life history of some of the most important and most common protozoal infective agents has been quite neglected.

Recently, however, the announcement of the discoveries of the parasitologists of the present time has revived a new interest in this field of work and we now find that our investigations, pursued with a clearer and more definite understanding of the life cycles of some of the most common protozoal infective microorganisms, are proving to be most interesting, instructive, and practical to the physician.

In this paper I can give but a mere outline of what has been accomplished during the last few years in the study of protozoal parasitic life in the blood of man and various animals, and the great developments that have followed the discovery of a second life cycle of these parasitic microorganisms in the bodies of suctorial insects.

To guard against the use of too many cumbersome and technical terms and to present the subject in a concise and plain manner, avoiding as much as possible a disarranged and confused statement of facts, have been among the points I have endeavored to observe in the preparation of this paper, but in the effort to do this I have been confronted with the difficulty that much of the knowledge we now possess on this subject has been given us by naturalists and scientists who have used the technical terms employed in biology, zoology, and parasitology in giving us the benefit of the knowledge they have gained in their observations and experiments in this line of work.

I therefore ask to be permitted, without criticism, to indulge in the use of terms used by our parasitologists of the present time in the study of this protozoal life, promising as often as convenient to clear up the meaning of obscure technical terms by brief explanation. The protozoa form the lowest division of the animal kingdom and are those organisms which consist of a single cell. The living protoplasm of which they are composed varies considerably in its physical characters. Some are surrounded by a cuticle or shell which serves as a protective covering, others are simply minute naked masses of protoplasmic matter.

The difference in the morphology, life history, and method of reproduction have led zoologists to divide protozoal life into a number of classes or orders. We will not burden our minds with the names, much less the description of any of these great orders, with the exception of one. This one important order embraces the protozoal life we wish to study and is called the order of sporozoa.

All representatives of this order are true parasites, and consist of proper cellular elements made up of protoplasm, a nucleus, and a nucleolus. They have the characteristics of living at the expense of other cells and are therefore true endocellular parasites.

They have an amœboid phase of life and multiply by spores. This group is very widely distributed, being found as parasites in members of all subdivisions of the animal kingdom with but few exceptions. Representatives of this order or class of sporozoa are found in the frog, the tortoise, the carp, the rabbit, the sheep, the ox, the pigeon, the owl, the crow, the sparrow, the lark, the bat, the silk worm, man, and no doubt in many other forms of animal life where they have as yet escaped the eye of the observer.

There are a number of varieties or sub-orders of this sporozoal life. We do not find the same form in birds that we find in reptiles, nor do we find the same form in the ox that we find in man. They differ from each other in many particulars, yet each variety retains the general characteristics of all sporozoal life, and particularly the manner of multiplication by sporulation.

One of the most interesting and valuable discoveries of recent date is the discovery and positive demonstration of two distinct life cycles of some varieties of these sporozoal micro-organisms. The one cycle is completed in the body of some form of

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animal life and is called the intracorporeal cycle. The other cycle is completed in the body of some suctorial insect and is called the extracorporeal cycle.

The study of the evolutionary phases of these parasites in the intracorporeal and extracorporeal cycles of their existence has given us the key that has unlocked and unfolded to our view long-hidden secrets of the peculiar life history of some of these protozoal infective agents, a knowledge of which now promises to do as much in the prevention and successful management of one of the most widely spread diseases as any discovery heretofore made in the science of medicine.

From the beginning of the history of our science the symptomatic manifestations of this protozoal life in man have been carefully observed and quite minutely described, but the etiological factor producing the symptoms was not understood and for a long time was believed to be some peculiar form of miasm emanating from stagnant waters and floating in the atmosphere—a bad or *mal* air and for this reason called *malaria*.

There are few terms in medicine so misleading and so unfit to express the true conditions, pathological or etiological, of any disease as the term malaria, but since it has become so fixed in the history of our science and in our medical literature of the present time, and is always applied to those well-marked clinical conditions of the system produced by this parasitic protozoal life in the human body, we will retain the word and use it more generally, applying the same term to all these protozoal infections, whether found in man or animals.

To give us a clearer idea of this protozoal or malarial parasiticism, if you choose, of animal life, we will consider briefly a few interesting sub-orders and species of this great class, sporozoa.

The great scourge of the silkworm, called pebrine, which at one time threatened to destroy the silk industry of France and Italy, was found by Cornelia to be due to protozoal oval parasitic bodies in the tissues of the developed silkworm.

The worm which developed from the infected eggs he found succumbed before the spinning of the cocoons. The great practical result of Pasteur's work in this disease consisted in the demonstration that one could determine by the use of the microscope the uninfected eggs and separate them from the unhealthy ones, so that it became possible to obtain a new breed of worms free from infection.

As a result of the discovery of Cornelia and the investigations of Pasteur, the ravages of this disease have been checked. This sporozoal microorganism belongs to the sub-class of sporozoa called microsporidia, and Theolan says its ravages among the silkworms caused France to suffer a loss of a thousand million francs in thirteen years and Italy a loss of twice this amount in less time.

As we have been taught heretofore to view and name these protozoal sporular infections in the human body this disease called pebrine is simply a malarial parasiticism of the silkworm.

In 1871, a protoplasmic sporozoal life was observed by Ray Lankester in the blood of frogs; it was studied by Danilewsky and has since been found in lizards and turtles. It was observed that the plasmodia developed within the red blood corpuscle and that the intracorpuscular phase of life terminated by sporulation; that is, the parasitic protoplasmic body would divide into a number of segments which formed spores. These spores after being liberated from the corpuscle floated freely in the plasma, reinfecting new corpuscles and thus repeating the same cycle of existence. Some spores it was noticed, however, developed into what are now known as adult forms of the parasite having a vermicular movement and being capable of elongating and enlarging themselves, but reaching no further stage of development in their temporary hosts. It was afterwards learned that these mature forms of the parasite were differentiated into two sexes, and under proper conditions, had the faculty of uniting with each other. These mature bodies are called gametes or gametocytes, and are large and small in size. The larger gametocyte represents the ovule or female element, and is called the macrogametocyte. The smaller gametocyte represents the spermatozoon or male element and is called the microgametocyte. In the intracorpuscular or endoglobular phase of this protoplasmic parasitic life multiplication by sporulation takes place with the liberation of sporules or amœbulæ into the plasma, where they again reinfect new corpuscles, some of which pass on through the same process of sporulation, others of which develop into differentiated adult parasites for propagation of the species outside of its temporary host. This constitutes the first cycle of existence of these peculiar sporozoal micro-organisms.

The second life cycle, in which the elements of fecundation unite, producing a new generation of innumerable sporozoites, takes place in the body of a second or definitive host, so far always known to be some kind of a suctorial insect. Those plasmodial microorganisms found in the blood of frogs and other reptiles are called hæmosporidia, and to apply the same term to the diseased condition in these forms of animal life as we have been taught to use for similar infections in man, we must call it *batrachian* or *reptilian malaria*.

In 1885, Danilewsky observed in the nucleated red corpuscles of birds clear bodies lying on one side of the nucleus and curved over its ends, thus having a crescentic shape. Grassi and Felleti, in 1890, described a second form of organism, smaller and more irregular in size, lying at one end of the corpuscle and displacing the nucleus to the other.

This type of protozoal life has been observed in a great variety of avian species—sparrows, pigeons, owls, crows, etc. These parasites have a life history very similar to that of those found in reptiles. They are also endoglobular or intracorpuscular parasites, which nourish themselves at the expense of the hæmoglobin of the red blood corpuscle, converting its coloring matter into melanin, thus gradually diminishing its normal hæmoglobinic tint and finally destroying the corpuscle by the process of segmentation and sporulation.

We find here, as we find in reptilian malaria, adult forms of the parasite which are capable of no further development in their temporary host, and which represent the end product of the first cycle of this parasitic life. These bodies float free in the plasma with no office to perform except to wait for their transmission to their second or definitive host where fertilization of the macrogametocyte results in a fresh crop of sporozoites.

Ross found that the second life cycle of hæmosporidia of birds was completed in the body of the culex pipiens, a variety of mosquito.

It is known that blood containing microgametocytes and macrogametocytes taken from infected birds by this variety of mosquito finds in the mid-intestine of the mosquito all the conditions necessary for the proper union of these sexual elements which results in the formation of a zygote or sporocyst, inside of which are developed an immense number of zygotoblasts or sporozoites. On the rupture of the zygote or sporocyst the zygotoblasts or sporozoites become free in the body of the mosquito, filling the salivary ducts,

and there await their inoculation into the next avian victim bitten by the infected mosquito.

Volumes have been written on the subject of hæmocytozoan or hæmosporidian infection of birds alone. It is, as we have shown in other forms of life, an intracorpuscular protozoal infection, and again using the same term we have been taught to apply to these infections in the human body, it is most properly called *avian malaria.*

In 1889, Theobald Smith discovered an endoglobular parasite in the blood of cattle suffering from Texas fever. These parasitic agents are found to be homogeneous pale bodies of a pyriform outline, one end being round and the other tapering to a point. Usually two such bodies are found in the same corpuscle lying with their pointed ends together but not apparently in continuity.

This disease has a wide geographical distribution, being found in the Southern States and in parts of Europe and Africa. It may assume an acute, rapidly fatal form, running its course in three or four days, being characterized by fever, rapid destruction of red corpuscles, hæmaturia, hæmoglobinuria, and at autopsy great enlargement of the spleen may be found. This disease of cattle has been carefully studied by Smith and Kilborn, who have shown that the disease is transmitted by a special tick, Boophilus bovis, or the cattle tick.

They have proved that a diseased animal from which all ticks are carefully removed does not infect a healthy animal; that fields may be infected by carrying to them ticks taken from diseased cattle; that young ticks born of mothers nourished upon diseased cattle produce Texas fever when they are placed upon susceptible cattle. These men have proven conclusively that the adult tick, after living upon the skin of an infected animal, upon whose blood it feeds, when it drops to the ground and lays its eggs transmits the infection to its progeny, and the younger ticks developing from the eggs of an infected mother tick are capable of inoculating the disease into healthy animals.

We thus see that the life history of the protozoal parasite producing Texas fever of cattle embraces also two distinct cycles; one cycle is completed in the body of the ox, the temporary host of the parasite; the other cycle is completed in the body of the cattle tick, the permanent host of the parasite.

This disease may destroy a whole herd of susceptible cattle, and is only another variety of the same great class of sporular protozoal infections, and can be most appropriately named *bovine malaria.* Kolle has found other endoglobular parasites somewhat different from the preceding in calves.

It has long been known also among the shepherds of Italy that young lambs feeding in marshy places were subject to a severe and fatal anæmia, which has since been proven to be due to destruction of the red blood corpuscles by protozoal parasites.

There are still other animals subject to this infection, but I have cited, I think, examples sufficient to prove the existence and similarity of these protozoal diseases in all subdivisions of the animal kingdom. It is thus plainly seen and acknowledged by all who have studied and investigated this subject for themselves, that protozoal endoglobular parasiticism is very widely diffused throughout the animal kingdom, from reptiles to man.

For the physician the most interesting and most practical part of the study of protozoal intracorpuscular parasiticism is found in the study of human malaria.

In 1880, Laveran, a French military surgeon stationed in Algiers, discovered the malarial protozoan microorganism in the blood of man.

We find much of interest in the early history of the researches of malarial affections, and on through the ages down to the present time; but the time is too limited to attempt to present even a short historical sketch on this disease; suffice it to say that in the most ancient period of its history we find that Empedocles of Agrigento, five hundred years B. C., discovered the injurious effects of stagnant water upon the health of man and is said to have delivered his city from an epidemic of fever by draining the stagnant water of the surrounding country.

The next great discovery was the specific remedy for the disease and the introduction of cinchona bark into Europe toward the middle of the eighteenth century.

The third important discovery was that of Laveran, a little over twenty years ago, who found the parasite in the blood.

The last and quite recent discovery, and one which promises to do more than any other in the prevention and eradication of this disease, is that of the transmission of infection solely by the anopheles mosquito.

Grassi says the importance of this discovery cannot be overestimated. "If throughout the length and breadth of the Italian peninsula, where nature smiles so maternally, this dreaded disease, which claims 15,000 of our inhabitants annually and has depopulated and rendered uninhabitable certain of our districts, can now be subdued, every acre of our prolific soil can be utilized and a great future, far beyond even the most enthusiastic expectation, will open up for our country. Beyond this, the eradication of malaria will make the tropics habitable for all classes of men, and greatly favor the advancement of civilization and culture throughout the earth."

The water theory and air theory of infection have both been exploded. Celli had healthy individuals in the Santo Spirito Hospital drink for several days water collected in the Pontine marshes and from stagnant pools near Rome, but with negative results. Zeri, at the suggestion of Celli, carried out three series of experiments. He had nine persons drink for from five to twenty-five days one and one-half to three quarts daily of water taken from malarious places so that each person ingested from ten to sixty quarts of stagnant water. He sprayed the mucous membrane of the respiratory apparatus with marsh water by means of an ordinary compressed atomizer, experimenting in this way on sixteen individuals. In five persons he experimented with rectal injections of water from malarial regions. In none of these cases was he successful in producing a single attack of malaria.

To prove the infection by the sting of the mosquito, Bignami transported infected mosquitos from a place where malaria prevailed to positively non-malarious districts, where healthy men were bitten by the infected mosquitos and soon developed malaria. He then took healthy men from non-malarious districts, whose blood was found free from malarial plasmodia by repeated microscopical examinations, and transported them to malarious regions, where he kept them free from infection for an indefinite period of time by confining them day and night in fine screen cages where the malarial mosquito could not reach them.

After positively demonstrating that these patients could not contract malaria from the air or water or food of these highly malarious districts, he then liberated malarial-infected mosquitos in the screen cages of these patients, and after a proper time, they developed the clinical symptoms of malaria,

and the microscopical examination of the blood showed malarial plasmodia.

That this insect, the mosquito, was somehow concerned in the production of malarial disease has long been conjectured. Its association with swamps, with high atmospheric temperatures, its geographical distribution, its nocturnal habits, and other circumstances had forced this conclusion on many minds long ago. Certain savages even recognized the connection and believing that malarial fever was caused by the mosquito, gave the disease and the insect the same name, but it was not until experiments were made like those I have cited that the manner of infection was positively demonstrated, and it was conclusively proved that the only mechanism by which malarial infection of the human body can be acquired is by inoculation. This means that the extermination of the malarial mosquito will lead to eradication of human malaria.

By the advice of Celli and others the government of his country is now enacting laws and taking such steps as are necessary to annihilate this recently dreaded little propagator and inoculator of these malarial protozoal microorganisms.

We find three chief varieties of the malarial parasite in man. The cycle of endoglobular life of one variety is forty-eight hours; that is, it requires forty-eight hours for the young amœbæ, after they enter the corpuscles, to pass through their process of growth, segmentation, and sporulation. In malaria it is the process of sporulation, with liberation of a new crop of sporules or amœbulæ in the plasma that produces the chill and fever. This type of fever, in which sporulation of plasmodia takes place every forty-eight hours, is called the tertian.

The quartian species of plasmodia requires seventy-two hours from the beginning to the end of its intracorpuscular life; that is, three days for the completion of the process of growth, segmentation, and sporulation.

The quotidian, or every-day chills and fever, is simply a double tertian; that is, two generations of the same variety of parasite in the same individual, one generation sporulating one day and the other generation sporulating the next day.

The third variety of malaria called the estivo-autumnal is the most peculiar, insidious, and deceiving, I dare say, of all the infections of the human body with which we have to deal. It is now beyond question that the clinical phenomena of this particular species of plasmodial life are so varied, so irregular, and so misleading in their manifestations, that frequently they deceive the most expert diagnosticians, and nothing but a microscopical examination of the blood can reveal the true nature of the trouble.

Mrs. C., aged thirty-eight years, had not been well for seven or eight weeks; she complained of weakness and nervousness, pain in the back of the head, numb, tingling sensations in the limbs, various paræsthesias confined mostly to the left side of the body, "bilious-like spells," with coated tongue, and irregular action of the heart. One night the patient was suddenly taken with a violent and persistent attack of muscular tremor and twitching of the muscles of both arms and hands; temperature and pulse were normal, and the mind was perfectly clear. Two hypodermic injections of one-quarter grain each of morphine with bromides were required before the clonicotonic convulsions of the arms and hands ceased. The patient had had a similar spell a week or ten days previously. The first interpretation of the symptoms was that they were hysterical. A microscopical examination of the blood, however, showed intense estivo-autumnal infection. In some microscopical fields nearly every corpuscle was found infected. The plasmodia were in the shape of small discs, small transverse rods, curved rods, S-shaped, triangular, and many other irregularly shaped forms, numerous gametocytes, pigmented leucocytes, and diminished hæmoglobinic tint of the red blood corpuscles, with innumerable free sporules in the plasma. The patient improved rapidly in a comparatively short time under rigid anti-malarial treatment.

Mr. S., age fifty-three, was confined to his bed for a number of weeks with severe pains in the region of the stomach and gradual loss of flesh. The pains were frequently so severe that the patient could not sleep for hours at night. The appetite was fair and the bowels were regular, yet, from the location and character of the pains, the emaciation and age of the patient, competent physicians suspected incipent malignant trouble in the stomach.

The patient finally recovered sufficiently to get up, but continued very weak and did not seem to improve. He stated that he had but little fever during his sickness. At the time of examination, several months after the beginning of his illness, the temperature was 97.5°, pulse 104, the appetite was good, but the patient was very weak. Examination of the blood revealed malarial plasmodia most abundant. The infected corpuscles were numerous, sporules innumerable in the plasma, crescents, and fully developed gametocytes in large numbers. The patient improved at once on anti-malarial treatment.

Mrs. M., married, no children, complained for over three years of attacks of vertigo, "weak spells," "nervous headaches," pains in the stomach radiating up over the chest, pains in the intercostal spaces, and in the lumbar regions. The patient became frequently prostrated from these pains and vertiginous attacks. The bowels were fairly regular and the appetite was good most of the time. She was treated for several years for dyspeptic vertigo, neurasthenia, etc. Examination of the blood showed hæmoglobin forty per cent., red blood corpuscles 2,880,000 per cubic millimeter. The patient was markedly anæmic. Further examination of the blood proved the fact that the anæmia was due to a destruction of the red blood corpuscles by the estivo-autumnal malarial parasite.

A diagnosis was made of marked anæmia with lumbar, gastric, and intercostal neuralgias, vertigo, and general neurasthenia due to chronic malaria. Chalybeate tonics, and anti-malarial treatment restored the patient to fairly good health after some months of treatment.

A man, aged forty-five years, was taken very suddenly one night during the month of July with severe cramping pains in the stomach and bowels, vomiting, frequent copious watery discharges from the bowels, and great prostration. The temperature was subnormal. The case resembled one of ptomain poisoning. Examination of the blood showed intense malarial infection. A diagnosis of choleraic pernicious malaria was made. Appropriate treatment was followed by rapid recovery.

A babe nine days old began to be restless. The restlessness was followed by severe crying spells, and the child began to lose flesh and fail in strength. The breast-milk was thought insufficient for nourishment and a preparation of milk, cream, and water was given in addition to milk from the breast. The baby continued to grow worse with an elevated temperature and abnormal fermentation in the bowels with green, thin, offensive discharges mingled with curdled milk. Laxatives and intestinal antiseptics were prescribed. On the sixteenth day the friends noticed several

attacks of "twitching of the hands and feet" which developed into a pronounced convulsion on the following day. Immediately following the convulsion the child had violent persistent clonic contractions of the muscles of the hands, arms, lower limbs, head, and neck, with a tendency to opisthotonos.

The general clonicotonic convulsions continued for ninety-six hours with no intermission—four days and four nights. The morning temperature was 100°, evening temperature 102° to 103° and as high as 104°. The child being too weak to nurse was given a rich artificial food, consisting of cow's milk, cream, and prepared food. Quinine was given during the earlier part of the sickness in doses of one-sixth, one-fourth, and then increased to one-half grain every two or three hours with no apparent effect. As bromides and sedatives did not improve the condition of the child, quinine was then increased to one grain every two hours, the little patient, less than three weeks of age, receiving twelve grains of quinine by the stomach in twenty-four hours. As I felt satisfied that the case was one of eclamptic pernicious malaria, the disease not yielding to this treatment, five to eight grains of quinine in addition were given per rectum two or three times in the twenty-four hours for several days. Under this treatment the convulsions gradually grew less and finally ceased so that by the twenty-fourth day the child was again nursing and is now a fat hearty baby eight months old. I may add that, some weeks previous to the birth of the child, the mother asked me to prescribe for her, at which time I made a microscopical examination of her blood and found it contained the estivo-autumnal germ. Quinine and tonics were then prescribed with apparent recovery.

In another case a little babe several hours after it was born began crying violently as if in severe pain; an action of the bowels gave little relief. The crying spells would recur every afternoon and evening about five, six, or seven o'clock and would continue for hours at a time. The usual remedies for "colic" gave no permanent relief. The crying spells continued to recur each evening and night until the mother and friends were fully satisfied that the babe was born with the "three months' colic." The temperature was normal; green discharges from the bowels and slight subconjunctival hemorrhages were among the symptoms. An examination of the blood of this babe microscopically revealed marked estivo-autumnal malarial infection, fully developed gametocytes, numerous infected corpuscles and innumerable sporules in the plasma. Quinine in good doses internally cured the so-called colic almost like magic. It was only necessary to repeat the treatment for several days each week for some time to prevent the recurrence of the attacks.

I wish to say here that, in this section of the country, in the so-called intestinal colic of babes under six months of age or older, where these little ones have intermittently prolonged spells of crying day after day and night after night for weeks at a time, quinine will give more permanent benefit in the great majority of cases than all the modifications of food that can be made, or any other single remedy or set of remedies named in our pharmacopœia. I dare say a careful microscopical examination of the blood of these little suffering patients will convince the most skeptical of the true etiological factor in many of these cases.

I will conclude with the report of the following case:

Mr. N., age seventy-seven years, complained for several months of shortness of breath, "wheezing in the lungs," cough, restlessness, and sleeplessness at night. The usual remedies prescribed for cough gave some relief. Some weeks later, however, the patient grew worse, dyspnœa continued and grew more distressing, and œdema of the lower limbs developed, the swelling extended to the knee. Examination of the urine showed a specific gravity of 1.022, acid reaction, urea .023 grams per cubic centimeter, or about eleven grains per ounce, chlorides, ten per cent. Albumin was present, but not abundant. Microscopical examination showed granular and hyaline casts. The temperature was normal. Infusion of digitalis and citrate of potassium, other diuretics, and heart-tonics with saline laxatives gave little relief. On careful examination of the blood intense estivo-autumnal infection was discovered. There were innumerable infected corpuscles, fully developed differentiated gametocytes, melaniferous leucocytes and plasma swarming with sporules. Rigid anti-malarial treatment, consisting of quinine, iron, strychnine, etc., with other arterial tonics, internally supplemented with subcutaneous injections of quinine bisulphate in twenty and thirty-grain doses every few days have improved the condition of the patient markedly and I trust in time will restore him to his usual health.

Rempicci, of the Roman Medical Clinic, studied three hundred and fifty cases of malarial infection and found out of this number eighty cases with renal lesions due to malaria. Bartels believes malarial infection to be one of the most active causes of chronic parenchymatous nephritis. But be that as it may, it can now be no longer doubted that acute and chronic nephritis with œdema of the lower extremities, marked anæmia, distressing dyspnœa, congestion of the lungs, and death is quite frequently due to this peculiarly insidious pernicious malarial germ.

As there is no further time to multiply cases I will simply state that, in addition to the clinical forms of this infection above described, we have the dysenteric, gastric, tetanic, hemorrhagic, apoplectic, hemiplegic, cardialgic, neuralgic, lethargic, comatose, algid, syncopal, articular, and many other symptomatic manifestations of the activity of this protozoan germ in the blood of the human body.

There are few fields in medicine so little studied that are so rich in facts, so interesting to the true investigator, and so productive of good results to the physician as a careful microscopical examination and close study of this protozoal life in the blood of man.

SUGGESTIONS IN INFANT FEEDING.

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NATURE has decreed that the food of all young mammals shall consist of certain definite elementary substances—fat, proteid, sugar, inorganic salts, and water. These substances, combined for the use of the young mammal, form what is known as milk, a food suitable for its growth and early development—a food which the young animal has a right to demand, and when it is not furnished in good quality and suitable amount, the animal fails to thrive. The infant demands the mother's milk. If this is not to be had, we must supply a substitute possessing at least approximately its nutritional elements. Average mother's milk contains 3.5 to 4. of fat, 1.5 of proteid and 7. of sugar. In selecting a food for an infant we must imitate nature, and if we are to do this with any degree of success we must know what the substitute contains. It is an unscientific and careless practice to order this or that food or this or that milk formula and not know the nutritional contents.

Cow's milk is the best available substitute. Average

cow's milk contains approximately 4. of fat, 4. of proteid, and 4. of sugar—more than twice as much proteid as mother's milk and of a different character, and about half the amount of sugar. The changing of the relative proportions of the chief nutritional factors in cow's milk so that they will correspond in amount to the fat, sugar, and proteid in mother's milk, has given rise to the term "modified milk," a term which has been the cause of no little confusion, for the reason that it expresses very inadequately what is accomplished when cow's milk is made acceptable for a baby.

Modified milk conveys to the mind the suggestion of a definite product, something the result of a fixed formula. I have repeatedly been asked at the Polyclinic and elsewhere for the formulæ of modified milk and of laboratory milk. If modifying or mechanically changing the proportions of fat, sugar, and proteid in cow's milk so that they corresponded to those of human milk, were all that is required in infant feeding, the matter would be most simple. A term which cannot be confused and which explains fully what we hope to accomplish in our milk manipulations is "adapted milk." The milk is adapted to the child's digestive capacity and requirements.

Pediatric writers and teachers, in their enthusiasm with percentage methods and milk formulæ, have been entirely too technical in this teaching, and have not greatly advanced the knowledge of infant feeding by the use of cow's milk among the profession at large. They have issued series after series of intricate formulæ to be used in definite amount at the various ages of infancy, but have devoted surprisingly little attention to the infant who is to be fed, or to the instruction of the physician as to how he is to judge of the child's food capacity, or how he is to meet the many phases of the infant's digestive peculiarities.

There can be no set formulæ for the various ages of infancy. For this to be possible, it would mean that all infants must be socially, financially, and physically alike, living in one climate, having but one season. Further, among infants living under like conditions, one will require stronger food than another of the same age and weight, one child will have a weak proteid and high fat capacity, another will have a low fat capacity and high proteid. One will thrive as well as the other when the food is properly adapted.

The teaching of set formulæ is dangerous for the reason that no distinction is made as regards food strength for the different months of the year. During the hot months the digestive capacity of every infant is lessened. All bottle-fed children under my care receive from 10 to 20 per cent. weaker food during July and August and early September than is given at other seasons of the year. They are given the same in amount as at other times, but of a weaker strength, particularly as concerns the proteid. Every mother of a bottle-fed baby is told he will gain but little, if at all, during the above period. She is also assured that the chances of summer diarrhœa by this precaution will be reduced to a minimum, over-feeding being one of the fruitful causes of summer diarrhœa according to my observations.

Many of the formulæ suggested are very difficult of comprehension, and others are so impracticable as to be impossible of use in a family. The impossibility of understanding some of the feeding schemes suggested, the impracticability of others, and the bad results attending the use of those which can be understood, have discouraged the practitioner in the matter of cow's-milk feeding.

In feeding a baby other things have to be taken into consideration than the adaptation or preparation of the milk. The social conditions, the financial, and the mental capacity of the mother must be passed upon. I have out-patient children whose mothers cannot afford to buy cow's milk; I have out-patient children whose mothers have not the time, or will not take the trouble, to manipulate cow's milk, cream, and milk-sugar if they can afford it; I have those who are not sufficently intelligent to prepare an adapted food if they have the means; others cannot afford ice, and have no ice chest if ice were given them. The children of the poor and the ignorant must be fed, and we must instruct the mother as to the best available means. If she can purchase cow's milk, she is advised as to its use; our instructions are to use it thinned, diluted with a cereal water to which sugar is added. This gives a weak fat food, the fat being supplemented, except during the hot months, by the use of cod-liver oil. If cow's milk is not within the means of the mother, condensed milk is substituted. A ten-cent can of condensed milk will supply food for from two to three days, and will keep sweet during this period. The child will live on it, and some thrive fairly well for a short time. The condensed milk is also supplemented with cod-liver oil. I have yet to see a child, however—and I have critically examined thousands of them—who had been fed exclusively on the proprietary foods or condensed milk, for a period of three or four months or more, who did not show some signs of malnutrition. They are usually undersized, rachitic, have poorly developed and flabby muscles, and show a loss of inhibitory control.

Given an intelligent mother or nurse, with means to buy milk and ability to prepare it, there is but one substitute for breast-feeding. Physicians must learn, in order successfully to feed infants, what cream and milk contain, and then in an average feeding case they must combine milk, cream, water, and sugar in such proportions that the relative strength of the fat, sugar, and proteid as found in mother's milk is maintained, regardless of the general strength. Thus, mother's milk contains about twice as much sugar as fat and about two and one-half times as much fat as proteid.

Beginning with the feeding of the child at birth, for the first three days one-half per cent. of sugar-water mixture is given; after the third day a milk mixture containing 1. of fat, .4 proteid, 4.5 sugar; after the tenth day 1.5 fat, .7 proteid, 5. sugar; after the twenty-first day 2. fat, .8 proteid, and 5. sugar. The increase, as will be seen, is very gradual, so that when the average child is six months old he will receive 3. to 3.5 of fat, 1. to 1.5 of proteid, and 7. of sugar. A very weak strength is given at first, which is increased if the child thrives. The baby is weighed every two or three days, and the stools are examined daily for signs of indigestion. The fat, proteid, and sugar are independently increased or diminished as may be indicated by the stools and the condition of the patient.

When this method of low feeding is brought into use at birth, it is with very few exceptions followed by success—in fact, I have had but two children whom I could not feed with cow's milk when I had an opportunity to control the preparation of the milk from the beginning of life. These two cases will be referred to again.

The most usual error is in beginning at birth with too strong a milk mixture, and in inattention to the case. In too many instances the nurse assumes charge and feeds the baby as she pleases. Indigestion, evidenced by colic, diarrhœa, and vomiting, result; cow's milk is said not to agree, and then begins a series of food changes, after each trial of which the child is a little worse off than before.

The milk used for an infant's food should be handled as little as possible. I prefer milk and

cream which has not been subjected to the centrifugal process.

For the preparation of food two bottles of the best milk obtainable are required daily. From the top of one bottle all the cream is removed. If milk of the best quality is selected, the entire gravity cream will contain approximately 16. fat, 3.2 proteid, and 3.2 sugar. All the cream must be removed, for the reason that that nearest the top of the bottle is much richer in fat than that which adjoins the milk. It is best for the mother or nurse to raise the cream at home. Cream purchased as such is often older than the milk with which it is mixed, and unless it comes from the laboratory its use is unsafe from every standpoint. The remaining bottle supplies the milk; full milk only is used. Before opening the bottle it should be thoroughly shaken so as to mix well the milk and the separated cream. The full milk contains approximately 4. fat, 4. proteid, and 4. sugar.

One pint contains 16 oz., with which every mother and nurse is familiar, and this measure of one pint is used as a basis of measure in our calculation.

	Fat.	Proteid.	Sugar.
8 oz. milk.....			
8 oz. water.....	=2.	2.	2.
16			
4 oz. milk.....			
12 oz. water.....	=1.	1.	1.
16			
2 oz. milk.....			
14 oz. water.....	=.5	.5	5
16			

Gravity cream contains—

	Fat. 16.	Proteid. 3.2	Sugar. 3.2
1 oz. cream.....			
15 water.....	=1.	.2	.2
16			
2 oz. cream.....			
14 water.....	=2.	.4	.4
16			
1 oz. cream.....			
2 oz. milk.....			
13 oz. water.....	=1.5	.7	.7
16			
2 oz. cream.....			
2 oz. milk.....			
12 oz. water.....	=2.5	.9	.9
16			
2 oz. cream.....			
4 oz. milk.....			
10 oz. water.....	=3.	1.4	1.4
16			
3 oz. cream.....			
2 oz. milk.....			
11 oz. water.....	=3.5	1.1	1.1
16			

Sugar is added in quantity from 5. to 5.5 as the individual may require. When more than one pint of the food is required for the twenty-four hours, multiples of the substances can be used.

Absolute percentage accuracy is not claimed here. The table is given to show practitioners the nutritional value of certain combinations of cream, milk, and water.

Sterilization and Pasteurization.—By sterilization we understand the heating of milk to 212° and maintaining this temperature for thirty minutes. By pasteurization we understand the heating of milk not higher than 167° F. and keeping it at this point for thirty minutes. Unfortunately, in New York City we are obliged to heat milk. I believe non-sterilization to be a dangerous teaching at any season of the year if the uncertain milk of the market is used. During the hot months all milk should be heated to at least 155° and kept at that point for twenty minutes. Milk is unquestionably rendered more indigestible by heating, but is nevertheless safer to use. It will keep sweet longer, and many harmful bacteria are destroyed.

We constantly meet children whose digestive powers have been so reduced by bad management that the digestion of cow's milk in sufficient quantity for the child to thrive is impossible. In these the trouble is usually with the casein. Is there any process by which milk may be treated so that the child may be assisted in the digeston of casein?

Two methods have their advocates. The *peptonizing* of milk, and the use of *cereals*. Peptonizing, in my hands, is without value except in those cases in which completely peptonized milk is introduced into the stomach by gavage, or into the rectum. If the milk proteid is peptonized it is converted into peptone, producing a bitter product which the child will not take. Partially peptonized milk is a term for an impossibility. We have peptone or we do not have it. If we do not have it, we have proteid, which is the cause of the trouble. I have tried various peptonizing processes in many children, and have yet to be convinced that it is of any value. Given a very delicate child, one of our difficult feeding cases, and we *cannot* give a stronger proteid by the aid of any peptonizing process.

Cereals.—Much has been written regarding the value of cereals as diluents of cow's milk, the theory being that the cereal causes the proteid to break up into finer, more flocculent curd, and the digestive juices can then more readily come in contact with the proteid particles. In a test tube this makes a very pretty demonstration, and a finer division is certainly produced; but the production of a finer division of the curd does not constitute proteid digestion. The difficulty in these cases of proteid indigestion does not rest in mechanical coagulation, but in a weak and in some cases an apparent absence of the protolytic ferments. During the past thirteen years I have fed a few thousand babies from all the walks of life during all seasons of the year. Cereal gruels have been extensively used as diluents, and they have been found useful in infant dietetics because of the nutrition that they furnish. Barley water, two tablespoonfuls of barley to the pint, contains approximately .7 per cent. of fat, 3 of proteid and 2. of soluble carbohydrates. By the use of cereals, however, I have never been able to increase the proteid in a case of proteid incapacity.

You ask how is a baby to be fed who cannot digest cow's milk proteid? Cow's milk as well as mother's milk contains two proteids—casein, the curd-forming element, and difficult of digestion, and lactalbumin, which is in solution and is comparatively easy of digestion. Mother's milk contains about 1. of lactalbumin and .5 casein; cow's milk contains about 3. casein and 1. lactalbumin. It is this large amount of casein, this disproportion of the two proteids in cow's milk as compared with mother's milk, which gives us the trouble. If we are to feed cow's milk to not a few delicate infants the casein must be removed. This is accomplished in the use of rennet or pepsin, and moderate heat. The milk is converted into curds and whey. The curd or coagulated casein is removed; the whey which remains contains about 1. of fat, 1. of lactalbumin and 4. of sugar. This gives us a food weak in fat, but with a proteid which is exceedingly easy of digestion. The weak fat is increased as soon as possible by the use of cream.

Signs of Faulty Feeding.—In some instances it is

almost impossible to differentiate just what is wrong with the food which is not agreeing with the child. In the great majority of cases, however, a fairly correct diagnosis is possible. The food may be too strong or too weak, either fat, proteid, or sugar may be in excess, or the relative proportions of fat, proteid, and sugar may not have been maintained. These various errors have a few symptoms in common if the case is of some duration. We are apt to see regurgitation of food, undigested stools, colic, and malnutrition. Individualizing symptoms, however, are often sufficiently pronounced to enable us to differentiate. If the milk mixture as a whole is too strong, a prominent symptom is loss of appetite, the child will not take the usual allowance, it is satisfied with one-half to one-third the amount, and if more is forced it vomits.

Fat in excess or fat incapacity almost invariably causes active peristalsis—colic and green stools result, sometimes a dozen or more a day, and we are told by the mother or nurse that every napkin removed is soiled a little. Excessive fat may produce regurgitation of sour whey in which the fat particles will be found floating.

Proteid in excess of digestive capacity is the chief cause of trouble in cow's milk feeding. If the proteid is properly adjusted the fat and sugar are not apt to give trouble. Proteid or casein indigestion produces colic. Habitual colic, almost without exception, means proteid indigestion. It is one of the most usual causes of habitual constipation. Sugar of milk alone is rarely the cause of trouble when given with any degree of reason. The digestive power of the weakest child for sugar is surprisingly good. If there is sugar in excess or sugar incapacity the regurgitation of sour watery fluid mixed with mucus may take place.

When the relative proportions of fat, sugar, and proteid have not been respected in the milk mixture, indigestion may result. Except in cases of special incapacity, there should be, as mentioned above, about twice as much sugar as fat, and about two and one-half times as much fat as proteid. I have found the digestion to be carried on much better under these conditions regardless of the general strength of the mixture; thus, if one were to give 1.5 fat, 1.5 proteid, and 1.5 sugar, the digestion of the proteid would not be as complete and with as little disturbance as when the fat and sugar are where they should be.

Difficult Feeding Cases.—The difficult cases are those in children who have been badly fed, usually for several weeks or months. They require an almost endless amount of patience on the part of the physician and mother. The story is that of a baby born at term, strong and well; the mother could not nurse him, and he was given cow's milk, always too strong; he failed to thrive, vomited, had colic or diarrhœa—one or both—and cow's milk was said not to agree. He was then put through a series of changes, including the use of condensed milk and the various foods, until we have a baby perhaps ten months of age weighing but a pound or two more than at birth, with all the signs of malnutrition. He sleeps badly, cries and worries a greater part of the time when awake; he regurgitates or vomits or refuses the food. He may be voraciously hungry, taking a large amount and throwing up part of it. He has never had a normal stool—they are composed of a greenish mucus mixed with curds; sometimes he has diarrhœa, sometimes constipation. We have a thoroughly miserable and unhappy baby for a patient.

A case which recently came under my care represents very well this type, and is also an argument against set formulæ. The baby was six months old and weighed ten pounds—he should have weighed fifteen. He never was nursed. Cow's milk and cream in the use of the materna were given, according to the directions on the panels, corresponding to its age. The mixture proved too strong, particularly in proteid, and the child suffered from colic, indigestion, and constipation. He developed rickets to a marked degree. About a month before coming under my care, an extra allowance of cream was added to relieve constipation, so that he received from a 5. to 6. fat, 2. to 3. proteid, and 7. of sugar. As a result of the excessive feeding, which, with too weak feeding, is equally a cause of malnutrition, various nervous manifestations were induced, among which laryngismus stridulus was prominent, and when I saw him he was having from eight to ten attacks of laryngismus daily.

The management of these extreme cases is as follows: A careful history is taken and recorded; the child is stripped, examined, weighed, and the findings recorded. The child was brought with the hope that a food might be suggested which would agree. What are we to do? Give the untried foods on the market or some other preparation of milk in the hope of striking upon something that the child can thrive upon? Not at all. The stomach is washed, whether there is vomiting or not, and for from twelve to twenty-four hours nothing but plain water or a dextrinized cereal water is given. If the case is one of apparent indigestion, whey perhaps will be given. Whatever the diet selected, written directions are given the mother or nurse for its preparation, and as to the time and quantity of its administration. The child must be seen every day, and the stools examined daily. He is weighed every other day; at first no gain will be made and the mother and nurse must be advised that none will be expected. Sometimes there will be a slight loss, which does not concern us. The worst cases of this type are usually given a dextrinized cereal water and kept on this for several days, and when the child's condition warrants the use of milk it is cautiously added, not one-third milk and two-thirds water, or even one-fifth milk and four-fifths water. From one-half to one teaspoonful of milk is added at each feeding, or perhaps every other feeding. If this agrees, in from twenty-four to forty-eight hours the amount will be increased to two teaspoonfuls, then to three, four and more. If whey is selected, it will be increased in strength; in the use of cream, one-half to one teaspoonful of gravity cream will be added to each feeding and increased as the conditions allow.

In assuming care of one of these difficult feeding cases, it should be impressed upon the parents that the child must be seen every day or two—under no other conditions will I assume charge of such a patient.

Recently I have been employing daily stomach washing in chronic indigestion with much benefit, regardless of the matter of vomiting. More food is taken, and it is digested better; it is often surprising to note the large amount of mucus removed from the stomach of an infant who is not vomiting.

I have infants under my care who receive a weaker food late in the afternoon and evening than in the morning. This suggestion will be found very useful in the case of evening colic. The child is well and happy during the day, but toward evening he becomes restless, cries a great deal, and perhaps has a severe attack of colic lasting an hour or two. Such attacks are to be explained by the fact that the digestive organs are tired after the day's work and weaker food will be taken without inconvenience. This is another point against set formulæ. In a few evening colic cases I have given an evening feeding

of one-third broth and two-thirds barley-water in order that the stomach may rest.

One of the most obstinate feeding cases under my care is an eighteen months old child living in a New Jersey town, who is fed two-thirds skimmed milk and one-third cereal water for four days, and then cereal water and broth for two days, when the skimmed milk is resumed. If the skimmed milk is continued longer than four days, vomiting and diarrhœa result. Full milk or cream cannot be tolerated in any form. Few children are so intolerant of milk as this one.

After a severe summer diarrhœa it often requires months before the child can take the usual strength of milk. Every fall we have a few cases at the outpatient service of the Babies' Hospital of infants who cannot be given milk at all until early in the winter. These children are fed on animal broths, gruels, scraped beef, white of egg, etc.

Milk Idiosyncrasy.—These cases are extremely rare. I have seen but two. The first was a healthy girl nursed by the mother until she was five months old. The mother wished to have the baby on the bottle once a day so as to relieve her of the close confinement. She was given a milk food preparation which was promptly vomited. In a few days another milk food was tried and promptly vomited, producing nausea and prostration which lasted for a day. The mother then came to me with her story, and a weak milk mixture was tried with such disastrous results that we desisted from further attempts at artificial feeding. When the child was seven months old a weak milk food was again tried with like results. Not until she was a year old could cow's milk be taken. The mother was assisted in her nursing by the use of barley-water and chicken broth mixture.

In the second case, bottle feeding was attempted one week after birth with such disastrous results that the child nearly lost her life. A very weak mixture was used—1. of fat, .5 proteid, and 4. of sugar. When three months of age a feeding of 2. of fat, .5 proteid and 4. sugar was given, with resulting nausea, vomiting, and prostration which continued during the remainder of the day, the wet nurse's milk not being retained. The child was exceedingly prostrated and presented the appearance of an infant with an acute gastro-intestinal infection. At the seventh month another milk feeding was attempted; this time 2.5 fat, .75 proteid, 6. of sugar was given. The child refused the food, however, and possibly two teaspoonfuls of the mixture were taken. She was nursed shortly after, all of which nursing was vomited in one hour and the remaining nursings of the day, three in number, were vomited with the exception of the last.

Nothing has been said concerning the milk used or its production. It is understood that the physician will always use the best milk on the market. Of late great advancement has been made in securing a better milk, for which the people and the profession at large have to thank the pediatrists of this country.

Apomorphine as a Hypnotic.—Douglas points out that while, as is well known, a tenth of a grain of apomorphine injected subcutaneously will produce vomiting, a thirtieth of a grain similarly administered is a prompt and efficient hypnotic. In mild insomnia and in furious delirium it has been found to produce sleep within twenty-five minutes The sleep is refreshing and restful, and no disagreeable after-effects follow. There is said to be no possibility of a drug habit being formed, as it becomes again a vigorous emetic if the dose is increased. There are no cumulative effects. The drug is therefore a safe one, deserving a widespread use.—*The Hospital.*

THE CLINICAL ASPECTS OF ACUTE INTESTINAL OBSTRUCTION.*

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A TOPIC of such great importance and general interest as the one to which I invite your attention this evening can hardly be discussed too thoroughly. In spite of the fact that the ground has been gone over by numerous speakers and writers, it is impossible to read a single paper or to hear the simple report of a case without seeing new aspects and finding oneself in unexplored country full of suggestions and possibilities. Because of the vastness of the subject, I shall confine myself to observations on its clinical side, not touching so much upon the etiology and pathology as upon the diagnosis and treatment of the conditions as they are found in practice; and I shall further limit myself to the discussion of the more acute varieties of intestinal obstruction in which relief is urgently demanded.

Death from obstruction of the bowels rarely if ever occurs as a result of the mere retention of feces, for numerous individuals have their regular evacuations as seldom as once a week, while instances of much longer habitual intervals between defecations are occasionally observed. On the contrary, symptoms of grave import appear almost immediately on the occurrence of acute obstruction, and unless relief is obtained the disease progresses to its fatal termination within ten days or less from its inception. The causes which contribute most to the mortality of this affection are three in number. First, the shock incident to the strangulation of a vital organ. And it must be recognized that in acute obstruction from any cause the condition of strangulation, or impediment to the circulation invariably exists at some point or points; and this is as true of ileus depending on mere fecal impaction as of the anatomical obstructions. It is the impaction or wedging of the mass tightly within the gut and not the stasis which does the harm. Secondly, there is sepsis from within the distended and congested gut even without the onset of peritonitis. Kocher has shown[1] that the distension above the obstruction causes damage of the intestinal wall, with the occurrence of little spots of ulceration and even gangrene, and that there is absorption of infectious material from within the injured viscera. The third contributing cause is, I feel sure from the observation of many cases, the embarrassment of the functions of the lungs and heart by the distension itself, with consequent exhaustion of the vital forces in an already weakened individual. Either of the first two causes may be fatal without the existence of the third.

Intestinal obstruction is certainly far from rare, though it does not seem common enough to give the average practitioner sufficient experience to enable him to recognize the gravity of the situation with the promptness which is usual in certain other important surgical diseases, notably appendicitis. On the contrary, it is decidedly rare for the surgeon to be called so early that there is the least doubt in his mind as to the advisability of immediate operative intervention.

A. Schreiber, in von Ziemssen's *Festschrift*,[2] tells us that one-third of all cases of intestinal obstruction in Germany get well without operation, but at the same time he says that the recoveries are probably from neuropathic ileus, not the true mechanical obstruction. Again, we are told that there are, according to statistics, 4,000 deaths a year from this cause in Germany alone. He rightly regards it as a misfortune that such a large proportion of disorders diagnosed as ileus get

* Read at a stated meeting of the New York Academy of Medicine, held May 2, 1901.

well without operation since it encourages dangerous delay in the genuine cases.

The increasing frequency of abdominal section for the relief of other conditions has undoubtedly been the cause of an increase in the number of cases of ileus; but while this form of the trouble is particularly serious, owing to the liability to multiple constrictions by bands and adhesions, it is, at the same time, apt to be early recognized and properly treated. A case which I recall is of interest. The patient was a young man, a student, who was sent to me by his brother, a physician, because of an acute non-perforative appendicitis. There was free fluid in the peritoneal cavity at the time of the section. At the end of three weeks he was discharged from the hospital apparently well, but two weeks later was attacked by severe abdominal pain with vomiting, the symptoms becoming greatly aggravated after the administration of calomel, which did not act. His brother at once diagnosed acute obstruction, and I operated again within twenty hours of the onset. A coil of about eighteen inches of ileum had been constricted at both ends by an adhesion which bound them together in the form of a volvulus. The gut was extremely tense, and its walls were thickened by inflammation, but there was very little distension above this involved coil. Reduction was followed by prompt recovery. Had the former operation not indicated pretty clearly the diagnosis in this case, I believe that irreparable harm would have resulted on account of delay and further attempts at a cure with the help of catharsis. The violence of the symptoms and the appearance of the bowel at the time of operation indicated that a few hours more would have rendered the condition an almost hopeless one. A more uncommon form of postoperative obstruction is reported by Rehn,[3] the disturbance appearing four months after laparotomy for pyosalpinx. Forty centimeters of gangrenous gut had to be resected on account of an obturation by a tightly rolled gauze compress. Rehn thought that this object had probably been left in the abdomen at the first operation, and that it had subsequently ulcerated into the intestinal lumen, but he could not be certain that it had not been swallowed. Recognizing the actual danger of obstruction from these secondary adhesions all diligence should be exercised to prevent this accident. The intestine should be handed little and with great gentleness, and we should avoid, if we can, drainage by irritating substances.

Deaver, in a paper read before the Cleveland Medical Society[4] calls attention to the fact that appendicitis is often mistaken for intestinal obstruction and believes that the employment of opium is mainly responsible for this error. Nowadays, when the operation for appendicitis is so common, it is my experience that the converse of this mistake is more often encountered. In either case operation is demanded, the only question being as to the location of the incision.

I am convinced, however, that true ileus is often due to appendicitis. I do not refer to the bands left over from previous attacks, but to the coexistence of both acute conditions. It has been my fortune to operate in several of these cases and I can testify to their seriousness. In several instances the appendix had been drawn over to the left side of the abdomen by adhesions to the small intestine, with kinking and complete obstruction. The early occurrence of fever or other signs of sepsis, together with the discovery of a very sensitive place in the abdomen, should make the diagnosis of appendicitis probable even in the presence of ileus.

Before this audience it is scarcely necessary to describe or even enumerate the various forms of intestinal obstruction, though it may not be amiss to remind you of one or two points in the diagnosis of the condition. Tight strangulation in the small intestine occurring suddenly is accompanied by intense colicky pain, with nausea and vomiting, the ejecton of the stomach contents being often violent or projectile. Collapse comes on early. An enema given for diagnostic purposes will indicate by the quantity of water which can be retained that the trouble is not in the colon.

It may be necessary to empty the large intestine by enema before applying this test. An adult colon will hold from two to four quarts of water. The nearer the stomach the strangulation the more urgent is the need for speedy relief. A strangulation in the large intestine is not immediately accompanied by such violent vomiting, but there are tenesmus and griping pain with the discharge of mucus and, if there is intussusception, of blood or bloody mucus. It should not, however, be overlooked that in elderly individuals constricting neoplasms of the colon are far from rare and that acute obstructive symptoms from this cause with the passage of blood by the anus may simulate intussusception. Hiccough and the frequent regurgitation of intestinal fluids without nausea are common in the later stages of ileus and should be regarded as particularly ominous. Volvulus of the sigmoid with the constriction of the loop in the left iliac region may simulate a lesion in the right side of the abdomen because the most distended portion of the loop may occupy this position. In volvulus the loop distends very rapidly and to a far greater degree than the intestine above it, for the reason that its contents are actually imprisoned while the gut above has a partial vent through the stomach. This distended coil is the first to be paralyzed and will show no peristalsis, while the intestine above is still active.

In administering an enema careful observation is necessary in order that the expulsion of flatus be not overlooked or misinterpreted. It has not infrequently happened that air introduced with the enema has been expelled afterward by the patient and that the nurse has reported the passage of flatus. Air may also enter the rectum on the insertion of a tube unconnected with the syringe while the body of the patient is in the partially inverted posture, on the same principle which causes the ballooning of the gut during proctoscopy or of the vagina during examination in the Sims position. It is, therefore, recommended that the administration of enemata be superintended by the physician himself. The passage of foul gas is an indication that the complete obstruction has been overcome and is of far greater moment than the appearance of feces. In the chronic or partial obstructions which do not come strictly within the field of this essay griping pains with frequent nausea are the cardinal symptoms, together with visible coils of distended gut showing peristaltic action which is increased by abdominal palpation. A history pointing to chronic trouble obtained at the bedside of one suffering from an acute attack is of great importance in diagnosis and in the outlining of treatment as well.

It should be possible to make a working diagnosis of acute ileus without the appearance of marked distension and without the discovery of a distinct mass or tumor in the abdomen.

Fecal vomiting is such a late sign and of such a grave prognostic import that to wait for this symptom practically dooms the patient. Irving Snow[5] gives the history of a case in which even this symptom was treated by methods other than surgical because of temporary relief following enemata. The patient was a little boy three years old who had received a contusion of the abdomen, but who seemed at first

to have suffered no serious injury therefrom. His bowels had moved in an apparently normal manner, but three days after the accident he began to vomit incessantly and to complain bitterly of great agony in the abdomen. He was first seen by the reporter on the sixth day of the illness and on that day there was fecal vomiting. Injections caused intensification of the abdominal pain, but later there was a passage with little fecal matter and considerable gas. The distension subsided somewhat, but the stercoraceous vomiting continued. The second day after this peristalsis was visible and tympanites recurred. Two days later the fecal vomiting reappeared and an olive oil injection was given. It was followed by another small stool and flatus. Death came, without operation, on the twelfth day of the illness and autopsy revealed a strangulation by a Meckel's diverticulum. Oil, probably introduced by the enemata, was found in the intestine above the constriction. Snow says that the entire absence of tumor, induration, or tenderness made the diagnosis of intestinal obstruction improbable, and it was not made until the post mortem revealed the true state of affairs. Here we have to do with what amounted to a series of acute obstructions with intervening periods of partial relief. It illustrates the occasionally treacherous character of the apparent improvement noted after the employment of therapy other than operative. In discussing this case Christopher related the history of a recurrent intussusception operated upon with success by Henrotin. While the abdomen was open an attempt was made to effect reduction under the eye by means of rectal insufflation with air. The intestine below the strangulation became stretched to such a degree that it was evidently in danger of bursting should any greater strain be put upon it, but the intussusception was not in the slightest degree affected.

Sudden abdominal cramp-like pain with vomiting and no fever should be treated by an enema and, in the adult, by a *small* dose of morphine (Treves).[6] If permanent relief does not follow, the case becomes a very suspicious one, and, taking everything into consideration, will probably be safer with operation than without it. The progress of the symptoms will indicate the degree of urgency, but a further exhibition of opiates or the employment of cathartics will probably add elements of danger. This is, of course, a general rule to which there are a few exceptions. For example, if the patient is known to be habitually constipated and has not had an evacuation for some days, further attempts to empty the colon by means of various enemata may be considered proper. If the large intestine is empty, however, and the enemata do not bring away gas, we have probably to deal with an obstruction. Ischuria and great dryness of the mouth are of diagnostic value.

The medical treatment of intestinal obstruction of the acute kind is safe until the diagnosis is made, but no longer. By this I do not mean that an exact knowledge of the variety of obstruction present is necessary, but simply that the case should be recognized as one of acute ileus; after this the earlier the disease is treated by operation the better are the chances for recovery. Treves[6], Kocher[1], Gibson,[7] Maylard,[8] and many other surgical writers agree upon this point and have brought important statistics to bear upon it. Yet every year some new medical treatment for this eminently surgical disease is exploited. It is certainly conceivable and probably true that in volvulus and intussusception of recent formation, in which no adhesions exist, the stopping of intestinal motion may prevent further entanglement and will, perhaps, help the parts to return to their natural positions. Treves[6] points this out very clearly and gives as an additional reason for the administration of small doses of morphine the fact that the condition of shock is greatly reduced thereby. However, he fully realizes the disadvantages of continued treatment with this drug, especially on account of the dangerous masking of the symptoms. Atropine has also been highly recommended, but it increases the dryness of the mouth, always a distressing symptom, and I would add that if the drug is to be used in considerable doses, it is very apt to cause delirium, which it may be difficult to distinguish from that due to sepsis.

Some interesting recoveries following the employment of atropine have been recently reported. Batsch[9] has made use of this form of treatment in a number of cases. A woman twenty-eight years old, after confinement with instrumental delivery, had the symptoms of acute obstruction of the bowels with great distension and the vomiting of greenish-yellow masses. There was no fever and neither stool nor flatus. On the morning of the third day 2 mg. of atropine were administered, but in the evening there had been no relief and the patient went into collapse. A dose of 5 mg. was then injected and the patient was delirious all night, but the following morning considerable gas was expelled and recovery took place after another injection of 5 mg. The same author reported three later cases. A woman aged sixty, with obstructing symptoms for eight days, and two days of fecal vomiting, received 2 mg. of atropine morning and evening without avail. She was then prepared for operation, but was first given 5 mg. atropine, and after sleeping had a large soft stool. Recovery took place without operation. A man thirty-five years old had a sudden abdominal pain in the morning and stercoraceous vomiting by evening. The usual methods of relief were tried and the next morning he received 5 mg. of atropine. There was immediate relief of the symptoms with movements and the passage of gas. A woman of forty-five had obstipation with severe pain and vomiting. Atropine 5 mg. was administered for two days hypodermically with subjective improvement. Then fecal vomiting occurred and an operation was performed. A loop of intestine was found strangulated in the pelvis by a parametric band. The patient recovered and Batsch believed that the atropine had something to do with the fact that the loop of intestine had not become gangrenous. Marcinowski,[10] Ostermaier,[11] and others report similar experiences.

The drug seems to be recommended for two divergent reasons; first as an antispasmodic in strangulation by mechanical agencies, and second as a tonic in paralytic obstruction. I have had occasion to employ this treatment in one case on which I had operated on March 12th of this year. The patient had acute obstruction with peritonitis due to numerous bands following an appendicitis, which had not been operated upon. The bands were relieved, but the peritonitis continued, and the obstruction incident to that disease coming on, atropine was given to the verge of delirium, but without avail. My impression of this treatment is that it should be used, if at all, in those cases of ileus which are, in reality, exacerbations of chronic obstruction, to tide over the immediate emergency and prepare the patient for a radical operation at a future time; or, as one might say, in an interval. At any rate, I question the propriety of the employment of any treatment other than surgical when there has been stercoraceous vomiting. All the cases which I have observed in which this symptom had existed, showed on operation conditions

which it is inconceivable could have been relieved by other than mechanical means.

From the pen of E. Vidal[12] comes a surprising suggestion. He believes that there are probably antitoxic substances in the healthy intestinal wall which, if introduced into the system of an animal suffering from sepsis, due to absorption from the bowel, may counteract the effect of such absorption, even, perhaps, in cases of intestinal obstruction. He has made extracts with serum and with glycerin of the macerated mucous membrane of the gut of the pig, and has apparently found by experiment that in animals it acted as a direct antitoxin. Two trials with this form of therapy in the human subject were of doubtful value, but Vidal intends to carry his researches further.

It appears to me that if we are to expect anything at all from the animal extracts, their application should be strictly limited to those cases in which operation has already been performed, but in which the symptoms have not subsided, and the outlook remains grave. It should never supplant surgery.

Enemata in the attempted reduction of a suspected intussusception may be at first permitted. Little should be hoped for, however, unless that portion of the colon below the splenic flexure is alone involved, and the invagination is one in which the intussusceptum, or inner tube, is composed of bowel normally situated *above* the constriction. In reversed intessusception, enemata must obviously fail to reduce, and the diagnosis of this type of the trouble is impossible.

As to electricity and massage in acute cases, the serious manner in which these proceedings are recommended by a few recent writers would be actually laughable did it not mean that some practitioners will undoubtedly use them with probable tragic results. If an obstruction other than an obvious fecal impaction or obturation by a foreign body should be treated by massage or kneading of the abdomen, the danger of directly causing a perforation would be so great that a cure would have to be ascribed purely to good fortune, and this very cure should be deplored because of the pernicious example.

To illustrate the operative treatment of what might be called non-surgical obstruction, I will refer to J. Lewtas,[13] who cites the case of a patient who was operated upon twice within seven months, the condition found being in each instance a spastic contraction of about six inches of intestine, the affected part being no larger than a lead pencil. Above the contraction the gut was distended, as is usual in ileus. The treatment consisted in forcing the mass above the spasm through the contracted part. The patient recovered promptly after each operation. The trouble could not have been diagnosed without exploration.

From the 12th of August, 1893, up to the present time, I have operated upon thirty-four patients for intestinal obstruction. With the exception of four of these, acute ileus existed at the time of the operation, and the individuals were, in nearly every instance, in poor condition. There were six cases of intussusception, five being acute, with two deaths; four of volvulus, with three deaths; eight cases of constricting tumors of the colon, including the cœcum and the sigmoid, of which six were in the stage of acute obstruction, with two deaths. Obstructions due to appendicitis, which had not been operated upon, existed in four cases and all the patients died. Obstruction after the operation for appendicitis, due to adhesions, existed—two cases, with one death. There were two patients with intestinal obstruction in whom adhesions were found about the ascending colon, but no diagnosis was made; both died, and there was no autopsy. There were three cases of multiple adhesions due to old peritonitis, with three deaths. A case of complete obturation by a gall stone terminated in recovery. A patient with strangulation of the small intestine through a slit in the mesentery, died. A child with an intestinal hernia, through a rent in his rectum, died. A woman with obstruction due to adhesions about an ectopic gestation recovered. A case of gangrene in a loop of intestine reduced from a femoral hernia resulted fatally.

The percentage of recoveries is, on the whole, encouraging (forty-one per cent.). Besides these, I have had the opportunity of directing the treatment of a number of other cases which were operated upon in my service.

From this experience, I have formed certain ideas concerning the operative treatment of acute ileus which, with your kind indulgence, I will submit. (The complete report of the work will form the subject of another paper.)

The stomach should be washed out before operating and, preferably, before beginning the administration of the anæsthetic.

In the most desperate cases no general anæsthetic should be employed.

A small incision should first be made in the right iliac region, and if it is at once obvious that the key to the difficulty is situated here the wound should be enlarged and the operation proceeded with; but if this exploration proves negative, a long median incision should immediately be made.

If a strangulation exists the patient must not leave the table until it has been relieved.

The possibility of the existence of more than one obstruction must be ever present.

Enterostomy or colostomy should be performed only when there is the greatest danger that the patient may die if the operation is prolonged. I would, however, make one exception to this rule, and that is in cases of acute ileus from chronic obstruction in the large intestine with enormous distension. Here it is best to perform colostomy as a means of temporary relief with the hope of something more radical in the future.

In making an artificial anus, one must be certain that the opening is *above* the occlusion. Gibson[7] directs attention to this axiomatic rule and cites cases in which the error was committed.

Gangrenous intestine should be at once resected.

When there is great distension of the small intestine a sufficient number of small incisions opposite the mesentery should be made for the purpose of evacuating as much as possible of the gaseous and liquid contents of the gut *before* searching for the obstruction. Treves[6] thinks that the mortality of the operation for the relief of ileus will be reduced fifty per cent. by the emptying of the gut, but he advises that this be done after the relief of the strangulation. Maylard[8] says that it should be done beforehand. Kocher[1] agrees with the latter opinion and points out that the greatest danger in ileus is in absorption from the gut.

About four years ago, before having heard of systematic enterotomy being performed by any other surgeon, I began treating the distended intestine in this manner, both in cases of true obstruction before searching for the lesion and in the distension of peritonitis, and I placed the method before the New York Surgical Society on October 12th, 1898, when it received considerable adverse criticism.[14] I have continued to practise this treatment in suitable cases and have remarked nothing but good which could be attributed to it. I have never noted a leak at the points of suture of the little openings.

There is rarely, if ever, any advantage to be gained

by the administration of cathartics after the strangulation has been relieved, and this is especially the case when there has been a copious discharge of intestinal contents through punctures or incisions.

I am convinced that exhaustion due to delay and the persistent employment of purgatives is to blame for by far the majority of deaths which have come under my observation.

Surgery and surgery alone can logically promise relief in acute intestinal obstruction. The fear of operation, unreasoning as it is, must answer for many an opportunity missed, many a life lost. The time is short during which even operative measures will be of avail, and the hours are precious. Exploration risks little, but delay may render surgery unavailing. It is a fact admitted by the most sanguine advocates of the medical treatment that there are, unquestionably, many causes of obstruction which from their anatomical nature render anything short of operation valueless, and the only reason which can be given for procrastination is in the hope that the particular case in hand may prove to be one of those curable by other means.

When a patient has recovered after internal medication, or massage and electricity, it is certainly illogical to jump at the conclusion that an operation would have had a less fortunate result. Every recovery without surgery signifies that the disease was not a surgical one; while practically every death after operation means that medicine has failed and that surgery has finally been invoked to make the best of a bad case.

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REMARKS ON THE SCIENTIST, THE PRACTITIONER, AND THE ANTITOXIN TREATMENT OF DIPHTHERIA.

By ADOLPH RUPP, M. D.,
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The Scientist and the Practitioner.—The object of this article is to review and criticise some frequently repeated opinions on the antitoxin treatment of diphtheria which appear from time to time in lay and medical journals, besides some opinions that have reached me from various sources through letters written by medical men. Besides being of some historical interest, the article may be helpful by stimulating reflection, and possibly, it is hoped by the writer, will contribute a little toward a better knowledge of the facts that are subjects of assertion, contribution, and argument.

Antitoxin was discovered, tested, and proposed as a remedy for diphtheria by scientists, Behring and Roux. Originally it was claimed that antitoxin was as harmless as normal or physiological salt-solution; and, furthermore, if the remedy were applied within the first or second day of the disease, the mortality rate of the disease would be about five per cent. This was an ideal consummation devoutly wished for, and the remedy was adopted with enthusiastic avidity by a very large majority of influential clinicians, and received the ready financial support of philanthropists and the state. Very soon, too, indifference, and a lively opposition toward this new treatment made itself felt. The opposition is composed of eminent clinical teachers and scientists, and a considerable number of practitioners, all in good standing.

In passing judgment on the merits and demerits of the antitoxin treatment of diphtheria, and the discussion thereon, the particular work of the scientist should be distinguished from the work and functions of the practitioner. This is oftener taken for granted than borne in mind and acted on. As a social unit the medical practitioner is more closely bound to his fellow-beings, and is of much more immediate importance to them, than the scientist is or needs be. The practitioner treats patients, and is thus called on to solve problems that are particular and concrete, and which never as such became a part of the special and specific calculations the scientist or laboratory worker is occupied with. The scientist or laboratory worker is busied with set problems, inspired by abstractions, and guided by pre-arranged experiments. The net results that emanate from the scientists' observations, judgments, and representations often become necessaries for the practitioner to utilize in unraveling the particular disease complexes of individual patients. First, last, and all the time, the practitioner deals with individual patients, and not with clear-cut disease conceptions or entities only.

Like the scientist the practitioner, too, must theorize, but he starts from problems with the presentation of which he has nothing to do. In our day the physician and surgeon, as a rule, are not scientists. At their best they translate scientific realizations into practical possible utilities. Unlike the practitioner, the scientist does not fix his attention on the anarchy of disease as it exists in individual patients; but he busies himself with disease conceptions and the various biological phenomena inside and outside of bodies which give his conceptions a local habitation and a name. The scientist is the practical idealist. The practitioner the utilitarian realist. The former is no idle or fanciful dreamer, nor is the latter a mere crass empiric, who lives only from hand to mouth. In our day a true practitioner must be able to appreciate and put to good uses the well-established teachings of the scientist. In doing this he places confidence in the senses and the intellect of the scientist; but this faith is limited and kept alive by the activities of his own senses and intellect. Nor is this all. The inexpert common sense of the laity—men, women, and children—must be reckoned with to complete the circle of a happy realization of matured fact. The clients of the practitioner have sensitive emotions and wills of their own. These must be dealt with by the practitioner, and they are quantities and qualities altogether foreign to the subjects on which the scientist works. And on these accounts, in many senses, the practitioner, as such, will do wisely not to forget Sydney Smith's advice: "We should be careful how we squeeze out of human life more ecstacy and paroxysm than it can well afford."

Opinions for and Against the Antitoxin Treatment of Diphtheria.—Much has been said by all sorts of men and women about the blessings and utilities of the antitoxin treatment of diphtheria. Biological scientists like Prof. E. Haeckel, who know diphtheria and what antitoxin has done for it only from what they have heard others say, have pronounced in its favor. University presidents and writers on the progress of culture, who are credited with omniscience, have rated the remedy very highly, and singled it out as illustrating the progress of science and human

achievement. Text-book writers and some clinical teachers have allowed their enthusiasm for the remedy such unbounded swing as to give the appearance that no doubt as to its efficacy (of the antitoxin treatment of diphtheria) exists. And Prof. William Oster of Johns Hopkins University, with considerable feeling and a self-satisfied sort of tact has printed the following pronouncement in the New York Sunday *Sun* (February 3, 1901): "Strange as it may seem, much opposition arose to this new method of treatment (serum-therapy), not alone from the lay portions of the community, but even from the ranks of the profession itself. The opposition was due, in part, to misconceptions of the principles involved in the new doctrine, and in part to the falsely philanthropic prejudices of the pseudo-scientific sections of both parties." This pronouncement is as unfair as it is unreal. It is simple cajolery on the one hand, and a dêceptive diagnosis on the other. Grave mistakes for a serious professor to fall into! Especially so when writing in a lay journal. It is, or ought to be, a well-known fact that many highly respectable professional men, professors as well as busy practitioners, who oppose not serum-therapy as such, but the contentions asserted in its favor, have a fair and true conception of the principles involved in the new treatment. Many men who oppose the present antitoxin treatment of diphtheria are also opponents of the whims of the antivivisectionists. But why should the Hopkins professors say that Kassowitz, Ebstein, Winters, Herman, and many others do not understand the theoretical principles involved? Are the following words written to me by a New York pædiatric professor full to the brim of a comprehension of the principles of serum-therapy? The professor says: "Personally I think antitoxin has done everything for diphtheria. Every one in private practice must admit this. The results and practice in hospitals also show marvelous results in services by men whose work is of the first order." My friend is enthusiastic, but not more so than Prof. Osler in his article in the New York *Sun*, and his statement of the case is about as true to the facts. If such strong statements could be established by everyday and historical experiences, then all opposition to them would be nothing less than criminal perversity. But there is much on the scientific side that must first be settled before such statements can be called well founded scientifically. And there are men of the first order, who stand at the head of hospitals, who have turned an indifferent ear to the claims of enthusiastic believers, and others who have opposed them and continue doing so, and it is difficult not to be tempted to doubt the fair-mindedness of a man who will assert that all who are in private practice must admit that antitoxin has done everything for diphtheria.

By way of rebuttal, I shall begin by quoting from the letter of a young physician who has just finished a year's service at the Willard Parker Hospital. The doctor says he knows diphtheria only as he has seen it at that hospital, and under antitoxin colors. He writes, "I may say, after one year's service and observation at the Willard Parker Hospital, I am fully convinced of the utter worthlessness of the antitoxin treatment of diphtheria, and that its use is almost inhuman." Why inhuman? Because he found the cases there treated did badly. He also told me orally, what others have said elsewhere, that the cases treated with 1000-unit doses did better than those that had been given larger, 4000-unit, doses. This young physician did not enter the Willard Parker Hospital prejudiced against the new remedy. His negative convictions grew as his observations increased. Neither is he blind to the character of the cases that are sent to the Willard Parker Hospital. He is ready to make allowances for the seamy side of the run of cases there. It should not be overlooked that the doctor was with the cases he studied day and night, and not for a few minutes at a time once in twenty-four hours. His is not the only conviction that has taken on negative coloring at the Willard Parker Hospital.

Dr. Horace Manders, who cannot be accused of being prejudiced against or of misconceiving the principles of the new treatment of diphtheria, says in his book ("Ferment Treatment of Cancer and Tuberculosis," London, pp. 59-60): "It has been said that nothing very much is to be gained by this treatment either in mild or in very severe cases, and there may be some truth in this as regards the former; but I am inclined to think that such severe cases run their course very rapidly, and that the period in which antitoxin treatment would have any power is exceedingly limited and probably gone before it is attempted; again these fulminating cases have no doubt been invaded by a far greater dose than the so-called lethal dose." The disease distinctions made in this paragraph fit the therapeutical limitations taken into account, and more or less ease and satisfy the doubts of at least some practitioners. Such disease differences and therapeutical limitations are rarely dwelt on by "believing enthusiasts," as Osler terms men like my pædiatric friend quoted above. And it is for the disease differences and the therapeutical limitations that many of us who doubt are looking in order that we may be able to prognosticate our cases rationally on a scientific basis, when remedies are of no avail, whether those remedies belong to the "new treatment," or to the old human empirical kind. Diphtheria as a disease conception, has always been one of great latitude in so far as the question of severity and mortality is concerned, and with the appearance of the Klebs-Löffler bacillus on the scene its horizon was not narrowed but considerably widened. The bacillus is claimed by scientists as being, next to the tetanus bacillus, the most virulent that afflicts us. And yet scientists must admit that it is rather a capricious pest, because its virulency varies like the mortality differences of epidemics vary from the greatest benignancy to appalling virulency. For these natural variations, scientists, of course, are not to be blamed. Blame, however, attaches to keeping the fact in the background as though it were not of first rate importance. When the bacillus, for reasons that are still unknown, is tame its toxin is also tame, and the disease it induces in a susceptible individual is also tame. Furthermore, the clinical question of individual susceptibility is also a (clinically) immediate unknown quantity. What have we, even from present day scientific knowledge in connection with clinical empiricism, to expect in the way of curing diphtheria with antitoxin—a remedy the strength of which is measurably fugacious? Nothing but possibilities, and those quite uncertain. Let me quote another writer, J. Pierce Brown, M.B., L. R. C. P. E., who has seen diptheria as a general practitioner, and who is not unfamiliar with the disease from a specialist's point of view, and who says: "Toxins and antitoxins monopolize the attention of the medical world, and yet the exact status of the one and of the other in regard to propagation and prevention of disease it may take another half century to fully and absolutely define." (Said in the preface of his excellent treatise on Diseases of the Nose and Throat.) Such are some of the characteristic opinions for and against the treatment of diptheria with antitoxin at the present time.

The antitoxin question, as a therapeutical and a professional question, has nothing to do with prejudices pure and simple against antitoxin or serum. They are tried, and they are judged. And trying and

judging is a complex psychological problem, not of the individual only, but also of the crowd. The majorities of the day are not stable quantities. Minorities of to-day may be the majorities of to-morrow. The tide is turned by facts or supposed facts. We all want facts, and the secret of their relation and interrelationship.

Antitoxin began a glorious and promising career with what are, from present-day standards, comparatively small doses. A Health Board medico told me the other day that no curative effects can be hoped for from 1,000-unit doses. Now, "enthusiastic believers" give 60,000 units in just such cases where formerly 6,000 units used to accomplish the desired effect. Dosages now vary, not so much according to any certain or fixed standard developed by disease processes in the patient, and made evident by clinical phenomena, but rather according to the subjective ideal of the administration and what constitutes scientific necessities and demands. Uncertainties of bacterial virulency and uncertainties of toxic infection have as much to do with the synthesis of these ideal and arbitrary demands and necessities as the uncertainties of individual immunity have. Only in the laboratory everything is fixed, measured, and certain, and these laboratory factors are beyond question and doubt. But the certainties and assurances of the laboratory become in the human body probabilities at best, and often only problematical possibilities. Antitoxin and the philosophy of the scientists in its favor as applied to the treatment of diphtheria in human beings, is practically a rapidly vanishing possibility, and for the following reasons:

1. It is now almost generally admitted that the diphtheria antitoxin antagonizes only the diphtheria toxin; and

2. It is now almost generally admitted that the amount of toxin in a person suffering from diphtheria is an unknown quantity, and,

3. It is now almost generally admitted that the phenomena of diphtheria in the (clinical) sense are induced by bacteria and their toxins other than the Klebs-Loeffler bacillus, and

4. It is a demonstrated fact that many cases of clinical diphtheria are not specifically Klebs-Loeffler in character, and that a great many Klebs-Loeffler diphtherias are barren of all clinical evidences of diphtheria; therefore,

5. It may be asserted that on so-called scientific and clinical grounds (the uncertainties of individual resistence in the human subject, the unknown quantity of the disease toxin, the known diminishing quantity and quality in the antitoxic serum, and the arbitrary dosage given by different administrators), as well as for clinical reasons (the impossibility of giving the remedy early enough and before the toxin can do its harm, for antitoxin is powerless against damage already wrought), that antitoxin is practically a remedy of very limited utility, and that the enthusiastic believer aims his variously loaded syringe at a vanishing possibility.

359 W. Thirty-fourth Street.

A Case of Small White Kidney.—N. H. Brazil reports a fatal case in a boy of fifteen years. Clinically, the most noteworthy feature was the combination of œdema, pallor, and highly albuminous urine, characteristic of the large white kidney, with the cardiac hypertrophy and high tension pulse associated with the small red one. Pathologically, the case is of interest, as the author has been able to find only one other entirely unequivocal instance recorded of small white kidney.—*The Medical Chronicle.*

On the Treatment of Bright's Disease.—James Tyson believes that the tendency with all of us is to do too much in the way of treatment. The treatment of acute Bright's disease is most easily disposed of, the measures including especially absolute rest and depletion by purgatives, and occasionally by local blood-letting favored by warmth and moisture. Not so easy is the treatment of chronic Bright's. This disease is not inflammatory in any sense. The kidney is far more frequently anæmic than hyperæmic. One of three predominating local conditions exists. Either the tubules of the kidney are more or less choked with their desquamated, degenerated epithelium, which distends them and compresses the blood-vessels around and between them, cutting off their nourishment; or they are already destroyed and replaced by connective tissue, or a combination of these two conditions exists. The result is that secretion is interfered with and toxic matters accumulate in the blood. Nature, fortunately, always tries to restore her damaged organs and impaired functions, and we must help her as far as possible. The kidneys must have rest, hence the diet, including drink, must be properly selected. Proteid foods should be restricted, the degree being dependent on the severity of the case. Rice, potato, the various starches, and white bread with butter are perfectly allowable. When digestion is good, there may be added peas, beans, spinach, asparagus, and the like, as well as fruits in liberal quantities. Fats are allowable when they can be digested. In bad cases, all meats, even poultry and fish, must be forbidden. In mild cases, they should be restricted. The composition of poultry and fish is the same as that of red meats, the only difference being in the smaller amount of red blood in the white meats. A fatty and farinaceous diet, with vegetables and milk, is sufficient for health. Beef tea, bouillon, and beef extracts should not be used. Diluted milk is better than skim milk. Alcohol, strong wines, and malt liquors are disallowed. It is doubtful if light wines diluted with water are harmful. The functions of the skin and bowels should be promoted. Warm clothing, warm seasons, and warm climate are advisable. Alkaline mineral waters and solutions of alkalies are beneficial. The frequent use of the vapor bath has met with the happiest results. The author knows of no drugs which directly reduce an albuminuria. Hard work and violent exercise are harmful. Massage is valuable. Iodide of potassium should be tried in cases of contracted kidney. It should be given in small doses, from three to seven grains in adults, and discontinued when its specific toxic effect is produced.—*Therapeutic Monthly.*

One Hundred Successive Mastoid Operations.—E. W. Pyle reports a series of cases the main features of which are summed up as follows: The children, numerically four less than the adults, furnished three times as many acute cases; the adults three times as many chronic cases as the children; illustrating that the greater number of mastoid inflammations, sooner or later, demand surgical interference. Thirty-seven cases of subperiosteal accumulations and eleven adults giving evidences of having had cortical perforations, showed clearly the insufficient efforts nature had made to repair, as they had finally to succumb to operative necessities. Forty-five acute cases furnished thirty-three per cent. of the intracranial complications, mostly in children, and all the patients lived. Fifty-five chronic cases furnished sixty-six per cent. of the intracranial complications, and four patients died; illustrating the value of normal periosteums and the phagocytic property of the white corpuscles to resist pathogenic invasion, and specializing the imporance of prophylactic treatment. Four cases were operated upon, perhaps too early and ill-advisedly, but beyond the possibility of a doubt ninety-six would have been vastly benefited by earlier operative procedure.—*Archives of Otology.*

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE ORGANIZATION OF NATIONAL MEDICAL ASSOCIATIONS.

AT a time when the American Medical Association is contemplating a radical change of organization which may add to its efficiency as a medico-legislative body, the recent report of the Constitution Committee of the British Medical Association has a significant and suggestive interest. Both bodies are now very evidently too large and too unwieldy to serve their useful purposes. With such extensive membership scattered over wide sections of territory there is a need for concentration of energies along rigidly systematic lines.

In the parent society across the Atlantic such a necessity has been felt for a long time, and with our own organization an equal urgency for change is being equally manifested. The reform measures, whatever variety they may have in detail, must look towards despatch of business, concentration of collective energy, and descriminative representation of local and sectional interests. The accomplishment of such ends requires much hard work, and much deliberation and consultation, on the part of committees having the matter in charge.

In all national organizations representing large distributive and often conflicting interests much of the really good and useful work which should be performed goes for naught for want of proper arrangement, direction, and focalization.

A fundamental difficulty in all attempts at change of plan of work has been the separation of the executive and purely business interests of the organizations from the distinctly scientific ones. In the short time allotted to general meetings it has seemed to be impossible to reconcile these conflicting conditions. Occupying the greater part of a week each year it is not to the convenience of the delegates to have the sessions prolonged, as continued absence from home means additional loss of money. The real problem is the proper division of the time and not its extension.

The establishment of scientific sectional meetings in the American Society was an important innovation, and its immediate acceptance was an indication of its adaptability to the wants of the large majority of attendants. The formation of a governing council was also a proper move in the same direction.

With all this there is still need for many radical changes before the now ponderous medical body can carry out its higher and broader aims. All this is so well conceded that the means to the end are constantly open for discussion, as seen by the recent labors of the British committee. Its report is ripe with suggestion and broad in scope, and it may not be uninteresting to refer in detail to some of the points urged as applicable to our home organization. Although on a somewhat different plan from our own, it resembles it in sufficient particulars to enable parallel conditions to be met, especially such as pertain to the proper representation of local interests.

In some particulars the American Association has the advantage in the matter of disciplinary representation, as only members of recognized local societies are eligible as delegates. A proposed change in the constitution of the British organization is to make such requisite obligatory. This having been accomplished, the central purpose is to work only through elected delegates representing equally-apportioned membership in the local bodies. In this respect the plan of representation is similar to ours.

Regarding the purely executive functions of the British Association, it may be fairly said that they are more systematic, exact, and comprehensive than those which pertain to the American organization. Although there is a Central Council of Control, there are also two distinctly business branches of the British Association which have independent legislative powers on the different questions submitted to them. But such arrangement would hardly apply to the American system of organization, especially with the wide separation of districts to be represented and the difficulty of ready concentration.

What is more to the point of improved organization is the admirable division of extra committee work under special instruction from the council. In fact, by such means and through the regular standing committees all the real detail work of the Association is to be transacted, leaving for formal acceptance or rejection by the council or general session only such propositions as may be regularly recommended for final confirmation. By such means only can the complicated business of any national organization be properly disposed of and the requisite time saved for the important discussion of strictly scientific subjects. The methods of management of detail can be easily effected through the official organs, which, as weekly editions of official transactions, can keep the entire membership informed on all minor matters requiring elaborate preliminary reports.

THE SCIENCE OF CAMP SCAVENGING.

So much attention has been called within the past few years to the importance of flies as agents in the conveyance of certain diseases, that literature bearing on the subject, and especially practical suggestions for the destruction of the pestiferous insects will be welcomed from any quarter. Dr. L. O. Howard, some few months ago, published a pamphlet in which he showed that the musca domestica was probably responsible for a very large amount of sickness, and further advised that measures which he indicated should be adopted for its suppression. The amount of evil wrought by the dipterous insects in the Spanish-American war, in the campaign in the Philippines, and in the South African struggle,

is a question which would seem to be rapidly leaving the realm of conjecture and day by day to be approaching the region of established fact. Dr. Victor C. Vaughan and the other members of the Commission appointed to enquire into the causes of diseases and especially of typhoid fever in the United States army during the late war, expressed in their report their strong belief that flies were one of the dominating factors both in the origin and spread of enteric fever. Dr. M. A. Veeder, one of the first exponents of the theory in this country, wrote an article in the MEDICAL RECORD some two years ago, setting forth in the clearest possible manner this view of the matter.

Macrae and Haffkine, in India, came to the conclusion that flies should be looked upon in the light of poisonous agencies of the worst kind during cholera epidemics, and Dr. H. H. Tooth, speaking of his experience in the Transvaal campaign, declares his conviction that flies have played a leading role in disseminating typhoid fever among the British soldiers. Dissenters from the theory must allow at least that a case founded on strong circumstantial evidence has been brought against flies, so strong, indeed, that is not quite complete in all its links, yet sufficiently convincing to warrant the waging of a war for their suppression.

Dr. G. V. Poore, in *The Lancet*, May 18, while disclaiming any deep knowledge as an entomologist, gives some practical common-sense advice with regard to keeping military camps comparatively free from flies. He says that flies multiply at a prodigious rate, and given a temperature sufficiently high to hatch the eggs, their numbers are limited only by the amount of food available for them. Linnæus is credited with saying that three meat flies, by reason of their multiplication would eat a dead horse quicker than would a lion. According to Packard the house fly makes selection of horse dung by preference for ovidepositing, and as each female lays about 120 eggs, and the cycle of changes from egg to fly is completed in less than three weeks, it seems probable that a female fly might have over 25,000,000 descendants in the course of a summer. Other varieties of flies are said to multiply still more rapidly.

As flies multiply on and in organic refuse of every kind, it is obvious that the sooner such refuse is placed where it cannot serve for the feeding and hatching of flies, the more likely is the plague of these insects to be lessened. The most commonly available method for the bestowal of organic refuse is burial. But the egg-laying of flies in dead carcasses commences at the very instant of death, or even before death in the case of very enfeebled animals. It is obvious, therefore, that there must be no delay in the burial of organic refuse and that the burial of animals and excreta is quite as important as the burial of human beings. After a great battle it may not be possible to follow this advice, but nevertheless there can be no harm in insisting that the instant burial of all organic refuse must be the aim of those who are called upon to guard the public health, whether military or civil.

Dr. Poore urges the burial of fæces and organic refuse in shallow trenches well covered with earth, no particle of fæces or paper to be left uncovered. Thus there will be no offence to eye or nose, no putrefaction is possible, the fæces are beyond and reach of dipterous insects, and if there has been no delay in their collection and burial, they cannot have been used for ovideposition to any great extent, so that the soil will not become infested with "grubs." The ground beneath which the refuse is deposited should, when the work is done, have the appearance of a well-prepared garden bed, and will need a little attention until it is covered with herbage of some kind—grass, cabbage, cereals, onions, mustard and cress, lettuce, spinach, or what not. With a little care, in a hot climate, one may have a green covering of grass or of mustard and cress in a week, which will at least give off oxygen to the air, even if it do not serve as an anti-scorbutic diet for man and beast—a diet which may supply that something which is lacking in tinned and salted provisions.

In advising the immediate collection of all organic refuse and its instant covering with earth, Dr. Poore claims that he is making no new recommendation, but that in the Scriptures this method is advocated. That grand old sanitarian, Moses—who may be called the father of sanitary science—had had experience of a plague of flies in Africa, and was no novice in the matter of the management of camps. He found it necessary to be most explicit in his directions for the treatment of excreta. These directions are given in Deuteronomy XXIII, 12-14: and in the revised English version there is an interesting change in the passage. The old version runs thus:

"Thou shalt have a place also without the camp, whither thou shalt go forth abroad.

"And thou shalt have a paddle upon the weapon; and it shalt be when thou wilt ease thyself abroad thou shalt dig therewith and cover that which cometh from thee."

The new version says: "Thou shalt have a paddle among thy weapons," and as a variant for paddle gives "shovel" in the margin. The passage, therefore, means that a shovel for burying excreta immediately is a necessary implement in every camp.

Dr. Poore's suggestions for the disposal of excreta and camp refuse would appear to be both practical and effective, and should involve little or no more labor than is expended upon the present haphazard way of depositing the germ-bearing material in places adjacent to the camps, and providing a happy hunting and breeding ground for flies.

The fact has been borne upon the minds of the government and military authorities of this country and Great Britain that in military camps sanitary arrangements must be carefully supervised if a fearful mortality is to be avoided. There can be no doubt that defective sanitation—much of which was avoidable—has been the cause of death of thousands here and in South Africa. The question is whether experience will teach.

THE PREVENTION AND CURE OF TUBERCULOSIS.

IN a recent communication to the *St. Louis Courier of Medicine*, Dr. Beverley Robinson of this city very truly says that "no problem before the medical profession to-day is of greater interest than that of the proper disposal of our consumptive patients." The vital question is of two-fold significance—how we can prevent the spread of the dire disease and how we can best care for the afflicted ones. In

spite of the now well recognized fact that tuberculosis is a limitedly communicable disease, the matter of greatest importance, as intimated by Dr. Robinson, is to lessen the susceptibility of certain individuals having hereditary predisposition. This is the point repeatedly taken by the MEDICAL RECORD in its effort to strike a middle ground between two extremes of opinion. The seed must have a proper soil. Without the latter, the tubercle bacillus is innocuous. If it were otherwise every other man, woman, and child would become infected. The bacillus in populous communities is widely disseminated and the susceptible individuals are the ready victims. While we strive to isolate the stricken victims in sanatoria, we guard in a great measure against the spread of the seed and at the same time help to cure the patient. But it can be easily seen that behind all this are the countless number of waiting victims who need only the opportunity of every-day infection.

Says Dr. Robinson: "Take the poor in our large cities and towns; are they not the ones most frequently affected, and for whose welfare we should be most concerned, since they are in much larger number? Let our legislatures, then, see to it that in the tenements the air supply is sufficient and good, let sunlight penetrate dark, ill-smelling rooms, let cleanliness be obligatory. Enforce proper oversight of food and water supply, and soon, very soon, tuberculosis will diminish greatly.

"Of course, tuberculous patients should not be permitted to expectorate on floors or carpets, either in their homes or in places of public resort; but neither should healthy people be permitted to indulge in an unseemly, barbarous habit of that sort. It is opposed to decency, it shocks the senses of all refined persons—that is enough. Let it be interdicted on this ground, but not because contagion may be rife in every sputum that becomes dried and wafted in the air. It seems to me that the former idea makes an appeal to every one who desires progress in refinement and civilization; the latter idea merely raises questions and antagonisms, and why? Because, when thoroughly sifted, the proof is often lacking to make it absolutely demonstrable.

"Now, then, should we build sanatoria throughout our land, equip them with every modern improvement, make a large outlay of private or public funds, only after a shorter or longer period of rest, nursing, medical care, to send back these same persons either cured, improved, stationary, or worse, to conditions and surroundings which are the source and origin, in my judgment, far more of the widespread pest of humanity than the *microbe* whose inoffensiveness is demonstrable when the causes which breed it and make it important cease to exist?"

The Relation of Nourishment to Sex Production.—M. Camille Flammarion communicates to the Paris edition of the *Herald* the results of some experiments in radiculture at the Juvisy Observatory. Experiments made with silkworms tended to show that those kept under dark-colored glass ate less than those kept under light-colored glass, and also that under the darker glass the percentage of males produced was greater than under light glass. M. Flammarion thinks that his experiments coincide with the theory that a preponderance of male births occurs when there is a diminution in the quantity and quality of nourishment, supposing that sex can be influenced by external circumstances at all.

News of the Week.

Physical Examination of Passengers at Honolulu.—After the appearance of the plague at Honolulu a rule was established that all Chinese arriving at that port should be subjected to a physical examination before being permitted to land. It is reported that the officials there have recently extended the order to embrace Japanese as well, and that several men and women of that nation, first cabin passengers on steamers touching at Honolulu, have been examined in spite of their energetic protests. The Japanese Government has taken cognizance of the matter, and has lodged a protest at Washington against this system of medical inspection at Hawaii, declaring that it is incompatible with friendly intercourse between the two peoples.

The Yellow Fever Experiments in Havana have resulted in a third death, that of Miss Clara Maas, an American nurse at Las Animas. She had previously been bitten several times by supposedly infected mosquitos, without result. Eight persons were inoculated in this series of experiments, but only six took the disease, so the mortality was 50 per cent. These experiments have been carried on by the Yellow Fever Board, and have had nothing to do with the tests of Dr. Caldas, who is making his own experiments with a man inoculated with his serum and subsequently bitten by infected mosquitos. The result in this case seems to have promptly and effectually disposed of the claims of Bellinzaghi and Caldas as to their serum. The man was taken ill about four days after being bitten by the infected mosquito, and the Yellow Fever Board, consisting of Drs. Havard, Gorgas, and Agramonte of the U. S. Army, and Finlay and Guitéras of Havana, have unanimously agreed that the disease is yellow fever. The work of Dr. Caldas is being merely supervised by the Yellow Fever Board, which refused to join in his tests, owing to the secrecy observed by him in regard to his work.

What Sanitary Science Has Done for the Country.—The Census Bureau has issued a bulletin giving the mortality statistics during the year 1900 in the states and territories and in the principal cities where accurate records are kept. The total number of deaths reported for the year was 1,039,094, as against 841,419 for 1890. There was a decrease in the general death rate in the registration area of 1.8 per 1,000 population, a decrease of almost 10 per cent. The average age at death in 1890 was 31.1 years; in 1900 it was 35.2 years.

A New Lamp for Phototherapy.—Dr. Sophus Bang, an assistant of Dr. Finsen in Copenhagen, has invented a special electric lamp, giving a feeble light, but extremely rich in chemical rays, for phototherapeutic uses. Dr. Bang uses metal instead of carbon poles. The bactericidal power of this lamp is said to be ten times that of the ordinary arc lamp hitherto employed by Finsen in the treatment of lupus and other affections.

Smallpox in New York State.—According to the mortality bulletin of the New York State Board of Health, for July, there were just 100 deaths from smallpox in the State during that month. Of this number eighty deaths were in this city, five in Yonkers, and fifteen in other parts of the State. Seventy-two of the deaths occurred at the smallpox hospital on North Brother Island.

The British Association for the Advancement of Science, better known simply as the "British Association," will meet this year in Glasgow on September 11–18. At the close of the meeting many of

the members will make a geological tour of the Highlands.

A Colorado Marriage Law.—A bill has been offered in the Colorado Legislature to regulate marriage in that State. If the measure becomes a law it will not be possible for any couple to marry until after having submitted to a medical examination, and having been certified as sound in mind and free from tuberculosis, cancer, syphilis, and some other of humanity's woes. The examinations will be conducted by a board of examiners, which is to sit ten days in each month, and any one marrying without a license based upon the board's clean bill of health will be subject to heavy penalties.

The Malaria Expedition in Africa.—A report has been received by the Liverpool School of Tropical Medicine from Major Ross, regarding the work of the malaria commission at Freetown, Sierra Leone. The purpose of the commission was to extirpate, as far as possible, the malarial mosquito, and to study the results of extirpation upon the prevalence of malaria. In his report Major Ross says that seventy-four men are constantly at work draining away the pools where anopheles breed. Within ten days after work was begun several of the worst streets in the town, formerly full of anopheles puddles, had been leveled and drained. Another gang of seven men, with carts, was engaged in destroying mosquito larvæ in water receptacles in the houses, and in carrying away tin cans, broken bottles, old buckets, etc., in which the insects breed. They were clearing about forty houses daily, and carried away about ten cartloads of old pots every day, of which about one-third formerly bred mosquitos. This was regarded, however, as only preliminary work, the greatest task being to dissipate the pools of water left in the dried-out beds of streams after the rainy season closes, and which are the most prolific of all hatching places for mosquitos.

A Hospital School.—Dr. John M. Dodson, of the Rush Medical College has established the Hospital School for Nurses and Delicate Children, in which experiments looking toward the mental and bodily improvement of deficient children by dietetic measures will be carried out. The experiments will begin early in October and will continue at least one year. The children will be divided into two groups. In each group of invalids will be one normal child. A test of the mental and physical powers of the children will be made at the beginning, and these tests repeated at regular intervals, so that data may be secured regarding the effect of certain foods on mind and body.

Tuberculosis Experiments.—Volunteer subjects of experiments to test the communicability of bovine tuberculosis to man are presenting themselves in all parts of the world, and if the question is not definitely settled within a very short time it will evidently not be through lack of suitable material.

Bogus Dental Degrees in Germany.—The authorities are about to prosecute some 250 men found to be practising dentistry under bogus diplomas in Germany. The government has heretofore spasmodically dealt with single cases, but it is difficult to convict, because it has been unable to prove fraud, especially when the accused avoided using the title of dentist. Many of these offenders obtained their false diplomas in this country, it is said, from certain members of the former Board of Dental Examiners in Illinois.

An Unauthorized Tuberculosis Experiment.—A clergyman has been arrested in Liberty, N. Y., on complaint of the village Health Board, and held under bonds by the Grand Jury on a charge of violating the village health regulations. He owns an extensive piggery, and the cause for his arrest is the fact that he has been collecting the refuse from the tables of a sanatorium for consumptives and feeding the same to his swine.

Hydrophobia in Paris.—According to the *Herald*, the authorities of the Pasteur Institute in Paris have issued a warning regarding the ever-increasing number of cases of rabies in that city, and insist upon a vigorous application of the muzzling law. Professor Metchnikoff says that there are more stray dogs in Paris than in Constantinople, and severely reproaches the police for their neglect to apply the law, which gives them power to insist on a muzzle or a leash.

A Woman Health Inspector has been appointed by the Board of Health of Orange, N. J. Several women's clubs have urged the appointment of a woman inspector, intimating that the salary of such would be paid by them. The inspector is Mrs. Elizabeth M. Devine, and her official salary is one dollar per year.

A Tuberculosis Scare in London.—The London correspondent of the *New York Times* says that the latest tuberculosis scare in that city concerns the manufacture of a popular woolen fabric, largely worn in men's sporting clothes, and rough wear suits generally, which is made in little, ill-ventilated, single-room cabins, by peasants among whom consumption prevails. It is believed that the cloth sent from these huts is full of whatever bacteria are generated or developed in them.

The Latin-American Medical Congress.—The first congress, at which a permanent organization was effected, was held in January of the present year in Santiago de Chile. The second will be held in Buenos Ayres, April 3–10, 1904, at the same time as the fourth Pan-American Medical Congress. The committee on organization of the congress consists of Dr. Emilio R. Conti, *President;* Dr. Robert Wernicke, *Vice-President;* Dr. Gabriel Carrasco, *Treasurer*, and Drs. Gregorio Araoz Alfaro and Nicolás Repetto, *Secretaries*.

Smallpox Among the Winnebagoes.—An inspector sent to investigate the epidemic of smallpox among the Winnebago Indians in Wisconsin reports that the disease prevails to an unusual extent, there being over eighty cases in three towns occupied by them. The health officers are powerless to enforce isolation of the sick, and in consequence the disease is spreading widely.

An Isolation Hospital for Orange.—The authorities in Orange, South Orange, and West Orange, N. J., are discussing a plan for the erection of an isolation hospital for joint use of the three places in case of an outbreak of contagious disease.

Obituary Notes.—Dr. Alfred S. Dana of Yonkers, N. Y., was killed while attempting to drive across the Harlem Railroad tracks at Bronxville on August 22. He was a graduate of the Medical Department of Columbia University in 1874. Dr. C. J. Nordquist of Mount Vernon was killed on the same crossing several years ago.

Dr. Thomas J. Turner, Health Officer of Coldwater, Mich., died at Mackinac Island on August 20. He was a retired naval officer, having entered the navy in 1853, and was Fleet Surgeon on Admiral Farragut's ship *Hartford* at the battle of Mobile Bay. Later he served as Medical Director of the United States Navy until retired in 1882. At one time he was detailed by the Secretary of the Navy as Secretary of the National Health Board, and he also acted as the head of the Bureau of Hygiene.

Obituary.

THOMAS MASTERS MARKOE, M.D.,

NEW YORK.

Dr. Thomas M. Markoe of this city died on Monday of this week at his summer home in East Hampton, L. I., at the ripe old age of eighty-two years.

Dr. Markoe was born in Philadelphia on Sept. 13, 1819. He was graduated in arts from Princeton College in 1836 and in medicine from the College of Physicians and Surgeons, this city, in 1841. For several years in his early career he was Professor of Anatomy in Castleton Medical College, Vt. In 1852 he accepted the chair of Pathological Anatomy in the medical department of the University of the City of New York, which he held until 1854. In 1860 he was elected adjunct Professor of Surgery in the Medical Department of Columbia University (College of Physicians and Surgeons), in 1872 he succeeded to the full chair, and in 1879, on its division, he became Professor of the Principles of Surgery. At the time of his death he was Emeritus Professor of Surgery in the same institution.

Dr. Markoe served in various capacities throughout the Civil War. At the outbreak of hostilities he was appointed by Governor Morgan a member of the special corps of volunteer surgeons, being stationed at Fortress Monroe. In 1862 he was one of the Board of Examiners of Contract Physicians and Surgeons, and in 1863 was Visiting Surgeon to the New York Soldiers' Depot. In 1864 he was ordered to Fredericksburg, and subsequently to other posts where he had active service in the field and brigade hospitals.

For nearly sixty years Dr. Markoe was a prominent and commanding figure in the medical life of this city and at the time of his death was among the last of a generation of practitioners whose names add luster to the medical history of New York. He was closely identified with the New York Hospital for over half a century. He entered there as an interne in 1839, before his graduation in medicine, was appointed curator of the pathological museum in 1842 and from 1852 to 1892 was in active service on the attending surgical staff. In 1892 he was retired at his urgent request, and was made a consulting surgeon. He early won success in private practice, although his fees for the first year, as he used to tell his pupils for their encouragement, amounted only to something like $92. A few years after graduation he became associated with Dr. Edward Delafield, remaining in partnership with him for sixteen years, and subsequently formed a partnership with Dr. Francis Delafield. In addition to his long connection with the New York Hospital, Dr. Markoe served at various periods as attending surgeon to the Nursery and Child's Hospital, the Mount Sinai, Bellevue, and Roosevelt Hospitals, and later as consulting surgeon to the Mount Sinai, Woman's, Roosevelt, Orthopædic, St. Mary's, Vassar, and Nursery and Child's Hospitals, and to the Northern Dispensary. He was also a member of the Academy of Medicine, the County Medical Society, the Pathological Society, the Surgical Society, and the Society for the Relief of Widows and Orphans of Medical Men, and of a number of clubs, and literary, artistic, and musical associations. He was the author of a very practical work on diseases of the bones, and of occasional journal articles, but he was not a prolific writer, devoting himself preferably to didactic and clinical teaching, in which he had few rivals in his day.

As a man, Dr. Markoe had a most charming personality; he was affable to strangers, devoted to his friends, and kind and considerate to all, high or low, with whom he came in contact, either professionally or in business relations. To his private pupils, of whom there was a long succession during his days of active teaching, he was always a friend and a counsellor, aiding them in every possible way in their pursuit of knowledge, and in their post-graduate career sympathizing with them in their trials and rejoicing in their triumphs. As an operator, he was conservative rather than brilliant, though by no means devoid of originality in his methods. Outside of his professional life he was a man of deep culture, a lover of books, a connoisseur of pictures, and a musician of no mean ability. He was a man of conscience and of devotion to duty, and one of those through whose lives the world is enriched and an example is set for succeeding generations. He gave two sons to the profession he loved so well, both of whom are practitioners in this city.

Correspondence.

FINLAY'S MOSQUITO THEORY BEFORE AND AFTER ITS OFFICIAL INVESTIGATION.

To the Editor of the Medical Record:

Sir: In view of a remark in Dr. Reed's recent address, published in the issue of the Medical Record for August 10th, stating that I might be said "to have disproved my own theory," I beg to recall the essential points of my mosquito theory of yellow-fever transmission, as it stood three years ago, before there had been any thought of having it *officially* or otherwise investigated. The readers of the Medical Record will thus be in a position to determine whether it is likely that I should have been lured by erroneous experimental results to draw such accurate conclusions as mine must now be acknowledged to have been. I would also call attention to the fact that, while recording my earliest ideas on some particular points, Dr. Reed completely ignores several important modifications which I found it necessary to introduce by reason of accumulated experience with those very experiments which he now impugns, when he might easily have informed himself about those modifications by consulting the three or four articles which I have written and published in this journal since May, 1899.

The essential points referred to may be summed up in the form of propositions, as follows:

1. The Culex mosquito R. D. (C. tæniatus Meigen, C. elegans Ficalbi, Stegomyia tæniatus Theobald, but not the C. fasciatus Fabr. for the C. mosquito has no white bands on its proboscis) is the particular species of gnat which I have always pointed out as the one by which yellow fever is normally transmitted in Havana.

2. Since 1898, I formulated the principle that, in order to account for the fact that only the C. mosquito appeared to be capable of transmitting yellow fever, it was necessary to consider that particular species as the only one (in this country) which had pathogenic susceptibility for the yellow-fever infection. The germs would multiply in the body of the insect and finally invade its salivary and venom glands, so that they would be discharged with the secretions of those glands along the track of the wound and into the capillary vessel entered by the sting when the insect attacked its next victim (see Medical Record, May 27th, 1899).

3. I had satisfied myself, as a result of my long-continued experiments with contaminated mosquitos applied (one or two at a time) not later than from two to five days after the insects had bitten a patient with yellow fever, that it was useless to attempt to contaminate these mosquitos from mild cases. I concluded: (*a*) that this procedure, in the summer season, *sometimes* develops a mild attack, similar to some of the experimental cases recently elicited by the more perfect methods adopted by Dr. Reed and his colleagues; (*b*) much oftener, however, (in the proportion of six or seven to one) the aforesaid procedure fails to develop any perceptible pathogenic effects, even though the subsequent histories of the inoculated persons had left no doubt in my mind but that most of them had thereby acquired a complete or a partial immunity, enabling them to withstand subsequently severe exposures to the yellow-fever infection, either without becoming themselves infected, or contracting only such mild forms as some experts are loth to recognize as genuine yellow fever.

4. Since 1891 I had been convinced, from a careful study of Melier's report on the St. Nazaire epidemic, that by extending the interval between the contamina-

tion of the mosquito and the inoculation of a non-immune to more days or weeks, instead of the two to five days' limit which I had adopted, I should run the risk of developing a severe or a fatal attack, such as I was particularly anxious to avoid (see MEDICAL RECORD, January 19, 1901).

5. In view of some belated cases of yellow fever which had come under my notice and were difficult to reconcile with the limit of thirty-five to forty days during which I had been able to keep my mosquitos alive, I was induced to suggest that the issue of an infected mosquito (developed from eggs which had traversed the infected cloaca) might, possibly, be also capable of reproducing the disease (see MEDICAL RECORD, May 27, 1899). The necessity for this additional factor, however, has now, in a great measure, disappeared since Dr. Carroll's success in keeping the infected mosquitos alive during periods of seventy and seventy-one days. It is, nevertheless, a point which deserves to be further investigated, notwithstanding the negative result in Dr. Reed's only trial, and also in one of my own.

Dr. Reed's persistence in discrediting my positive experimental results, as explained in Proposition 3 (*a*), is all the more extraordinary from the fact that the experiments made by his colleagues and himself, upon those lines, with mosquitos which had bitten a person with a *severe* or fatal form of the disease only a few days before the inoculation, have been very few in number, and all of them during the winter season. The influence of the season is being just now exemplified by the greater virulence of the attacks produced by inoculations which, in winter, under similar circumstances, would probably have been attended with mild results. Two unexpectedly severe cases, which ended fatally with black vomit, have thus occurred at the Experimental Station, and furnish a warning not to place too much reliance upon previous results obtained in a different season, and evidently justify my former reluctance to experiment, on my sole responsibility, with mosquitos, whose contamination had been allowed to reach its fullest development.

There are yet many important points to be accurately determined before any one of us can consider himself in a position to discredit the others' work.

CHARLES FINLAY, M. D.

HAVANA, August 20, 1901.

THE PROPAGATION OF YELLOW FEVER.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: While admitting the great value and interest of Dr. Reed's paper upon this subject, in a recent issue of the MEDICAL RECORD, his experiments ought to be verified by the careful work of others before his conclusions are unhesitatingly accepted, and sweeping changes made in our quarantine laws. Is the present theory that mosquitos are the sole agency in the transmission of yellow fever impregnable? The history of the successive investigations is not such as to inspire great confidence in any of the conclusions that have been reached. Confining ourselves to the work of our own Army and Navy Departments, we find that Surgeon-General Sternberg, after disproving the work of all previous investigators, announced the bacillus x to be the cause of yellow fever Surgeons Wasdin and Eddings of the Marine-Hospital Service, as the result of their experimental work in Cuba, stated unequivocally that "there exists no causal relationship between the bacillus x of Sternberg and this highly infectious disease." The true cause, according to them, is the organism discovered by Sanarelli, the B. icteroides and infection takes place by way of the respiratory tract. Dr. Reed of the Army Department, after experimenting upon two pigs, alleged that this particular organism was only a variety of the hog cholera bacillus, and that it was one of the secondary organisms which invade the body in the last hours of life, which, of course, the naval surgeons would not admit. And now Dr. Reed cannot find the bacillus icteroides at all, either in the blood of the living or in the bodies of the dead. The result of his search for this organism in twenty-one cases during life and eleven autopsies was entirely negative. But the naval surgeons have yet to be heard from, and if we go further afield, we find already other investigators, such as Durham and Myers of the Liverpool School of Tropical Medicine—one of whom lost his life studying the disease in Brazil—challenging the theory of Dr. Reed. Where is the scientific certitude in all this that would compel us to change our views?

That the bite of a mosquito, by mechanically conveying disease germs from the sick to he well, is one of several modes of infection may readily be granted. As Manson observes, in connection with bubonic plague, "One can understand how lice, fleas, bugs, and perhaps flies, might act as carriers of the virus from person to person, inserting it with their bites. Yersin found that the flies in his Hong Kong laboratory died in great numbers, their bodies being crowded with the specific bacillus." Relapsing fever and other diseases may also be conveyed by insects, and perhaps eventually we shall find that smallpox, scarlet fever, etc., may be conveyed in the same manner. Indeed, in the writer's opinion, which, of course, is heterodox, other suctorial insects beside the mosquito are capable of conveying even the germs of malarial fever. We do not, then, dispute the assertion that the mosquito is one agent in the transmission of yellow fever; it is the claim that she is the sole agent, and that, if we can only guard ourselves from her bites, we have nothing to fear, that one stumbles against. In accordance with this theory, the connection between yellow fever and defective sanitation is denied. Why, then, do epidemics generally begin in the filthy streets of seaport towns? In a South American seaport, where the writer lived for a couple of years, cases of yellow fever were seen now and then; but though the place swarmed with mosquitos of every species under heaven, certainly of great variety, no epidemic occurred until some time after the outbreak of a political revolution. Several battalions of soldiers then came to the city for its defense, and were quartered in barracks where the sanitary arrangements were as bad as they could possibly be. Political prisoners were confined in cells beneath the city walls, and as they were never permitted to leave them for any purpose whatsoever, the stench became so abominable that everyone as far as possible kept away from the neighborhood. A severe epidemic of yellow fever soon broke out, and every day there were many deaths from this disease. Surely, in this instance, the connection between the epidemic of yellow fever and bad sanitary arrangements cannot be denied. There was some other factor beside the first yellow fever patient and the mosquito. On the other hand, it is puzzling to know that in the days when no defensive measures whatever were taken against mosquito bites, if yellow fever patients from an infected ship were disinfected and all fomites removed, they could be treated on shore in general hospitals with entire safety to others. Surely the wards of such hospitals contained mosquitos, the Culex fasciatus among the rest, and they bit infected patients, and the germs reached their proper development within them, and then they bit other people, just as it is claimed for their descendants now. How, then, did non-immunes, in contact with such patients, escape infection?

Until we are positively sure there is absolutely no other way by which the disease is spread, the necessity of dealing with the origin of the disease is surely as important as dealing with one mode of transmission. One of the hot-beds of yellow fever is Cucuta, in South America. The natives there assert that yellow fever was not known among them until some years ago, when two men, sick with the disease, came there from another part of the country and died. In accordance with Spanish custom, their bodies were interred in vaults for two years; at the end of that time, no one claiming the remains, they were disinterred and the bones scattered upon waste ground. Shortly afterward, an epidemic of yellow fever broke out, and since then the disease has always prevailed with more or less severity. This, to be sure, is only a "traveler's tale," without any scientific evidence, so far as I am aware, to support it, but it may serve to illustrate the point that to leave the source of contagion untouched, and to discard all safeguards except the mosquito netting, may be a perilous course.

The matter wears another aspect if the Culex fasciatus serves as a necessary intermediate host, essential to the full development and activity of the yellow fever germ, whatever that may be, so that if we could exterminate this particular mosquito, the disease would die out without other measures being taken. Then yellow fever would resemble in its origin, and ought, we think, to resemble in its course, malarial fever, filariasis, and other parasitic diseases imputed to the agency of the mosquito. Indeed, Dr. Reed lays stress upon this analogy supposed to be existing between malarial and yellow fevers. But malaria is confined to definite localities, where it always prevails; it never sweeps over a continent in frightful epidemics; it is generally chronic in its course, often causing permanent lesions in the system; one attack does not confer immunity. In short, for diseases having similar origin, there could hardly be greater divergence. The analogy with malarial fever, so far as the course of the disease is concerned, breaks down at every point.

Even as to the similarity in origin, we are by no means on sure ground. Yellow fever can easily be conveyed from the sick to the well by direct blood inoculation, so the Culex fasciatus is not an indispensable intermediary.

There is considerable doubt whether malarial fever can be conveyed in this way, notwithstanding certain recorded experiments that seem to prove that it can be. The latest English medical writer on this subject says: "It is doubtful, judging from our knowledge of the double cycle of the life of the sporozoa, whether man or animals can be infected with malaria by injections of malarial blood" (Christy, "Mosquitos and Malaria," 1900, p. 60). If the law enunciated by Grassi can be established, "no mosquito, no malaria," then the analogy breaks down absolutely. Anyway, a great deal is being assumed upon the strength of a doubtful analogy, for an organism no one has ever yet seen.

In these days of rapidly changing views, the work of no investigator, however eminent, should be held absolutely conclusive unless it has been verified by many others working on independent lines, and still less should changes be made in the quarantine laws. Fortunately, in this instance, little or no harm will result to the public, the changes being more apparent than real, for under cover of destroying mosquitos that may be lurking in the clothing and bedding of the sick, the same effective measures will be taken as heretofore to prevent the propagation of yellow fever by fomites.

EDWARD M. MERRINS, M.D.

NEWARK, N. J.

OUR LONDON LETTER.

(From our Special Correspondent.)

ABOUT CONGRESSES AND MEETINGS — THE MEDICO-PSYCHOLOGICAL ASSOCIATION—THE LUNACY REPORT—LONDON HOSPITAL NEW LABORATORIES—THE HUGHES-BENNETT LABORATORY AT EDINBURGH UNIVERSITY—RECENT DEATHS.

LONDON, August 9, 1901.

YET another Congress! And one more! The British Dental Association met on the 3d and sat for three days. There was a large attendance of members from all parts of the country, and numerous visitors from America and the Continent were present. The retiring President, Mr. George Brunton, in his valedictory address, referred to the loss sustained by the association in the death of Sir E. Saunders and the other supporters who had died during the year. The report referred to the difficulty of obtaining further legislation when the pressure on Parliament is so great, indirect advertising, and the absence of complaints as to the using of the title "dentist." The report went on to say that efforts on behalf of soldiers and sailors had induced the naval and military authorities to consider the dental necessities of our forces. Accordingly four dental surgeons have been sent to South Africa, selected, together with proper equipment, by the executive of the association. "Although this is but a small step, the report says, "we must look upon it with such satisfaction as one always does when the thin end of the wedge finds its way into an opposing mass."

The report was adopted, and it was decided to hold the next annual meeting in North Wales, Mr. Harding of Shrewsbury being appointed President-elect.

Mr. S. J. Hutchinson succeeded Mr. Brunton in the chair and delivered the presidential address. He offered a hearty welcome to visitors and went on to say that the Association of Dental Faculties in America was trying to do a meritorious work in levelling up the standard of education so that at least a minimum might be assured. State examination boards, he said, had been formed, insuring a standard examination all over America, which was the only qualification to practise, so that holding a diplome gave no authority to practise unless supplemented by passing a State examination. Such a plan he considered ought to work well, but he did not see a definite provision to enforce preliminary education and examination as required of English students. He felt sure that in any movement for reciprocity England would have the support of most gentlemen holding high positions in America, either educational or professional, in making the curriculum efficient in arts and sciences as well as in dental education. The education department and other branches of the public service were becoming alive to the importance of attention being paid to the teeth; but he regretted that the London School Board had not availed itself of the opportunities it had to provide for the children under its care. On the other hand, the War Minister had taken a step which he hoped would eventually lead to a dental department of the R. A. M. C. He then drew attention to the new dental hospital as the embodiment of all the newest improvements in hospital construction, and as containing every appliance for the treatment of suffering from the teeth, as well as a magnificent dental school fully equipped for successful teaching.

In the afternoon a reception was held in the new hospital by the Dean and professional staff. In the evening the President and Mrs. Hutchinson received the members and lady friends at the London University, South Kensington, this being the first occasion on which the University has lent its new quarters for a social entertainment.

The other Congress to which I alluded as one more (but there are yet others) is the pharmaceutical conference held this year at Dublin, Mr. Druce, M.A., being President. His inaugural address was delivered on the 30th ult., and I am assured was as remarkable for its rhetorical power as for its wealth of scientific information. It consisted very largely of a review of the progress during the past century of the sciences connected with pharmacy. Botany, as the President's particular occupation, claimed a high position in his review, but he showed great familiarity with the other branches of science involved. There was a reception at the Museum of Science and Art the evening before the address, and after it there was a luncheon at the Mansion House.

The sixtieth annual meeting of the Medico-Psychological Association may be regarded as a sort of congress too. It was held at Cork under the presidency of the resident physician of the asylum there, Dr. Oscar T. Woods. About sixty members representing the specialty from all parts of these islands attended the meeting, and a number of papers connected with the subject of insanity were read and discussed..

The fifty-fifth annual report of the Commissioners in Lunacy was issued as a blue book on Saturday. The total number of lunatics on January 1, 1901, was 107,944. That is an excess of 1,333 on the number on that date in 1900. In 1899 the increase was 1,525; in 1898 it amounted to 3,114. There is, therefore, considerable variation, but a generally increasing number of persons are brought under the notice of the Commissioners.

A considerable addition has been made to the London Hospital and School by a new building, which serves as a mortuary, post-mortem room, and pathological laboratory. The last is on the first floor and has a distinct entrance. There is quite a large laboratory, a bacteriological room, a chemical and a research laboratory with rooms for the director, his assistants, and others. The equipment seems complete, and the arrangements are all of the most recent description.

Mrs. Cox has made a worthy tribute to her father, the late Professor Hughes-Bennett, in presenting to the Edinburgh University, where he taught from 1848 to 1874, a laboratory for experimental physiology. Few memorials could be more appropriate. Hughes-Bennett, though so great a clinical teacher, was an experimental physiologist, and he made his science the basis of his teaching. By the bedside he was very practical, and men are living in all parts of the world who owe much to him. But their number, alas, is rapidly diminishing, for it is more than a quarter of a century since he died, though his works still follow him, and Edinburgh will now have a constant memorial of one of whom she is still proud.

Among recent deaths that of Carsten Holthouse is noteworthy, and seems to carry us back into the last generation; for he had nearly completed his ninety-first year, being born in October, 1810, and dying July 18, 1901. He enjoyed good health till about two years ago, but he had retired from practice several years before that time. He became consulting surgeon to the Westminster Hospital in 1875, having given the best years of his life to its service. The Medical School of that Hospital really owes its existence to him; for, though previous efforts had been made to establish it, they were quite unsuccessful until he took it in hand and brought it prosperity. His writings on hernia and on ophthalmic surgery were of considerable value. He was a sound surgeon and a well-informed man. It was a pleasure to meet him.

Dr. J. St. Thomas Clarke of Leicester, died suddenly on the 2d inst. Last year he was the victim of an attack by a lunatic, who fired four shots at him with a revolver and wounded him in the lower spinal region. After some weeks he recovered sufficiently to give evidence before the magistrates.

Two notable provincial physicians died on the 21st ult. One was Dr. R. C. Shettle of Reading, who was physician and subsequently consulting physician to the Royal Berkshire Hospital. He retired in 1897. He was sixty-seven years old. The second was Dr. E. S. Morley of Blackburn, J.P., who was born in 1828. His name is known as a great authority on athletic sports, in which from youth to age he was an enthusiast. He was a younger brother of the politician.

Another medical magistrate, Dr. J. S. Slater, J.P., Mayor of Evesham, died after only three days' illness on the 25th ult., aged fifty-four.

Book Reviews.

How to Cook for the Sick and Convalescent. By Helena V. Sachse. Philadelphia: J. B. Lippincott Company, 1901.

Fortunate the invalid whose friends consult this book. Convalescence is at best a dreary season, rendered doubly so from the monotony of the food prescribed by the physician and conscientiously prepared by nurses and caretakers. Who does not sympathize with the child who, after long weeks of tedious feeding, suddenly sat up in bed and exclaimed, "Not another mouthful of nourishment will I take. I want my dinner!" This could scarcely have occurred had Miss Sachse's book been taken as a guide. Even the "slops" of invalid diet are here made varied and palatable, and when the patient is in condition for viands of a higher plane, capricious indeed must be the appetite that could resist the witchery of the preparations of egg, of oysters, fish, chicken, sweetbread, mushrooms, and other delectable dishes mentioned. Such delicate feasting must have pleased even the fastidious Theodore Child, and ought to wheedle even a pessimistic and melancholic invalid into eating and living in hope of the next meal. A preliminary chapter so classifies the recipes that it is easy to turn to those containing no starch or sugar, or no starch but a little sugar, etc.; gives measurements and a list of the necessary cooking utensils. The author states that she has carefully tried all the recipes given, and that they have been successfully used in six hospitals. She gives brief but valuable instructions as to the preparation and serving of the food, ending with the sensible advice, "Garnish the dishes, but be sure they taste as good as they look."

Diseases of the Intestines. By Dr. I. Boas, Specialist for Gastro-intestinal Diseases in Berlin. Authorized Translation from the First German Edition, with Special Additions by Seymour Basch, M.D., New York City. With 47 illustrations. New York: D. Appleton & Company, 1901.

In this volume we find the most recent ideas concerning the diseases of the intestines commonly met in general practice and treated by a master hand. Many things such as intestinal parasites are wisely excluded from the text, while great stress is laid upon affections which are common in office practice, such as chronic constipation, intestinal ulcers, rectal troubles, and intestinal neuroses, about all of which too little has been written.

The author urges the examination of the fæces as a much-neglected art, though so valuable in diagnosis. His plans of treatment are eminently conservative, and his pathology and physiology are given with ample comprehensiveness. We know of no book on the subject which will be of greater aid to the practitioner.

In the introduction, the anatomical and histological aspects of the subject, along with the physiological and physiologico-chemical, are carefully described.

In the first part, the methods of taking a history, examining a patient, his fæces, urine, and stomach-contents are all practically and scientifically treated. Then he teaches us what, in his vast experience, has been found most efficient in treatment of the intestinal diseases—diet, hydrotherapy, massage, electricity, lavage, enteroclysis hygiene, and drugs all being thoroughly considered.

In the second part he describes the special diseases *in extenso*. Acute and chronic intestinal catarrhs, constipation, ulcers, neoplasms, stenoses, appendicitis, and neuroses, together with rectal diseases, sum up a most interesting and painstaking exposition of the subject.

The translator has added many points on appendicitis which are commonly taught in America, and which differ materially from the continental opinions. In Europe, he states, the disease is considered as a much less serious one and quite amenable to treatment other than surgical, and in his additions to the text he quotes many of the leading American surgeons who are, as a class, decidedly in favor of operative interference.

In thus combining the experiences of continental and American authorities the author and the translator together give us a very broad view of the subject, and make it better adapted for American readers.

A Textbook of Diseases of the Nose and Throat. By D. Braden Kyle, M.D. Second edition; illustrated. Philadelphia: W. B. Saunders & Co., 1900.

A student's textbook of diseases of the special organs should aim to point out the interdependence that exists between general systemic diseases and those of the special parts under consideration. Furthermore it is essential to such a work to clearly show the relation between diseases of one certain special organ and those of its neighbors. In this way the student will come to look upon the special organs not as entities, but as parts of a mechanism all whose workings must be investigated when any of its components are disordered. Viewed from such a standard of essentials, the present volume does not satisfy. It is simply a portrayal of the pathological conditions to be found in the nose, throat, and larynx, with considerations on their diagnosis and treatment. The picture presented of the individual nose, throat, and laryngeal lesions is accurate and clear, and strengthened by numerous excellent illustrations.

The Syphilis of Children in Everyday Practice. By George Carpenter, M.D., London New York: Wm. Wood & Co., 1901.

This is a handy book that will prove of value to the general practitioner and those not engaged in the specialty of venereal diseases. The volume is pregnant with facts, gathered from extensive experience with infantile syphilis. The descriptions are terse and clear. The illustrations are numerous, but almost too schematic.

Cliniques Médicales Iconographiques. Par MM. P. Haushalter, G. Étienne, L. Spillmann, Agrégés de la Faculté de Médecine de Nancy, et Ch. Thiry, Ancien Interne des Hôpitaux de Nancy. Paris: C. Naud, 1901.

This is an atlas, as distinguished from a treatise, of medicine, and as such is, of course, somewhat limited in its scope, since not all maladies, especially the non-surgical, possess external characteristics sufficiently pronounced to be capable of iconographic representation. There are many such, however, as we are reminded by reading the table of contents of this and the succeeding numbers of the series, and if all are depicted as are these in the fasciculus before us the work will be almost indispensable to the student and for consultation to the medical practitioner. The work will contain sixty-two phototype plates with nearly 400 pictures of about 300 different patients, and will be published in eight parts. The first fasciculus contains seven plates depicting progressive muscular atrophy, both myopathic and myelopathic, in its various types, accompanied by a descriptive text. The pictures are well executed and will enable one to recognize without difficulty the different forms of paralysis described. The text accompanying each plate consists of a brief report of the cases pictured, with a short general description of the disease in question. The atlas when completed will doubtless be a most useful supplement to any general medical treatise, especially to treating of diseases of the nervous system or of the skin.

A Manual of Diseases of the Nose and Throat. By Cornelius Godfrey Coakley, A.M., M.D. Clinical Professor of Laryngology in the University and Bellevue Hospital Medical College; Member of the New York Academy of Medicine, etc. Second edition, revised and enlarged; illustrated with 103 engravings and four colored plates. New York and Philadelphia: Lea Brothers & Co., 1901.

The first edition of Dr. Coakley's Manual received favorable notice in these columns. The present edition brings the various topics up to date and a new chapter is added on the general subject of "Affections of the Upper Respiratory Tract in the Infectious Diseases." The author stated in the preface of the first edition that he "had selected among the multiplicity of medicinal and operative measures those which in his judgment were the best." This is in our opinion one of the very best features of the Manual, for works of this kind are often padded with details of methods of treatment which have been tried and abandoned and are matters only of historical interest. While such facts may have their proper place in elaborate treatises, they are not suitable in a work designed for general practitioners. Their very number is apt to be confusing, so that the matter of therapeutics of the various maladies is not clearly set forth. We congratulate Dr. Coakley that a second edition of his Manual has been called for in so short a time.

The Medical News Pocket Formula for 1900. By E. Guin Thornton, M. D., Demonstrator of Therapeutics, Pharmacy, and Materia Medica in the Jefferson Medical College, Philadelphia. Third revised and enlarged edition. Philadelphia and New York. Lea Brothers & Co., 1901.

This little pocket edition seems to come out with the regularity of a year book of treatment. By the addition of new drugs in many prescriptions the formulæ have been brought well up to date. It is questionable whether as much reliance can be placed on formulæ put together by one man exclusively to cover all forms of disease as upon those carefully selected from the works of specialists and recognized authorities in the various branches with the name of the originator given.

Progress of Medical Science.

Boston Medical and Surgical Journal, August 22, 1901.

The Management of Delirium Tremens, with the Report of a Case.—V. A. Ellsworth believes that neither hypnotism nor alcohol should ever be resorted to, since the former depresses the heart's action, and the latter acts as a depressant and continues the toxic condition. Out of 500 cases the author has had only two deaths, and these patients were in a state of collapse when he first saw them. He attributes his success (1) to the perfect freedom he allows his patients, that is, in not hampering their movements in the least; (2) to his keeping the room thoroughly ventilated, giving freely of cold water and good nourishment at short intervals; and (3) last, but not least, to his allowing no alcohol whatever.

On the Effect of Alcohol.—H. G. Beyer considers that the most recent researches have proved that alcohol has no nutritive value, but that, on the contrary, it causes an abnormal destruction of the protoplasmic constituents of the body. From his experience with sailors in the tropics, he has never seen any reason for recommending that alcoholic drinks be served out in regular rations. He has reduced alcohol to the rank of a drug, and prescribes it only for its temporary stimulant effect in cases of extreme fatigue. An army of five battalions of infantry and 2,300 coolies was ordered to move to the north coast of Atjeh, the expedition lasting five months. Alcohol rations were stopped, money being given instead. The operations were done under a tropical sun in a country full of malaria; the expedition was a complete success, and press, officers, and soldiers recognized the fact that it was in part due to the moderation with which they had indulged in alcoholic beverages. The endurance which this small army had shown had never been equaled in the history of tropical warfare, and had, up to that time, been believed impossible by most of the highest military officers in the Dutch East Indian Army.

Treatment of Delirium Tremens.—J. Frank Perry says that he has failed to find a sovereign remedy, but has to vary drugs to suit the cases. The heart is sustained with strychnine and nitroglycerin, and possibly digitalis, strophanthus, sparteine, or cactus grand. When the delirium tremens sets in, the one purpose to be attained is to get the patient to sleep as soon as possible. Of the many popular remedies, chloral hydrate, alone or combined with the bromide of potassium, holds the first place. There is, however, a small number of persons for whom its use would be hazardous because of its depressing effect on the heart. The author uses small doses at intervals of from fifteen to thirty minutes. In some cases chloral is absolutely inert. Musk is efficacious, but very expensive. Apomorphine, hyoscine, and morphine are fairly serviceable. The first can easily be pushed too far, but when intelligently used often acts admirably. Hyoscine is capable of injury and morphine is uncertain. When the delirious patient is once asleep he must not be disturbed, although he may not rouse for twelve or fifteen hours. When he wakes he must be treated by alcoholic substitutes (ammonia, camphor, hyoscyamus, valerian, capsicum, ginger, etc.) and heart tonics, and nourishment must be pushed to the utmost. At the end of twenty-four hours he will be literally a new man.

The New York Medical Journal, August 24, 1901.

Sulphuric Ether in the Removal of Ceruminous Plugs.—E. L. Meierhof has tried the various solvents used to facilitate the removal of ceruminous plugs, but has found none so good as undiluted sulphuric ether, poured from a small bottle or a suitable pipette into the external auditory canal. The ether acts in a few seconds, partly dissolving the cerumen from its attachment to the canal, so that with the most gentle syringing the plug is promptly removed. No dizziness nor other ill effect has followed this use of ether. For those who might hesitate at first to employ pure ether in the ear, a mixture of equal parts of ether and alcohol might be used, with perhaps the same effect.

A Case of Actinomycosis Hominis.—Gustav Fütterer reports a case, and gives points in the differential macroscopical diagnosis between actinomycotic and tuberculous peribronchitis. The actinomycotic peribronchitis appears in fresh infections on cross-sections of small bronchi, in the form of sharply defined sulphur yellow rings, with clear round outlines against the unchanged parenchyma of the lung. The lung substance is rarely affected, and then late. The youngest as well as the oldest peribronchitic areas have the same sulphur-like color, while in tuberculous peribronchitis the color is very variable and, until there is caseation, gray or reddish gray. The tuberculous peribronchitic areas project above the surrounding lung tissue; they have an uneven surface and irregular outlines; they tend to spread peripherally, instead of spreading centrally and closing the lumina, and an early infection of the surrounding lung tissues is the rule. The tuberculous infection usually affects the apices first, but actinomycosis prefers the lower portion of the lungs. The author describes the supposed course of the disease in the case reported.

A Case of Angiosarcoma of the Nose.—Stanley S. Cornell reports the case of a woman suffering from stenosis of the left nostril, which had been developing for two years. No discharge had appeared, except bleeding, as if a lump in the nostril were picked; there was neither pain in the nostril, nor reflected pain in the facial regions, and no involvement of the eye. Examination showed a bluish gray bulbous growth entirely filling the left nostril. It was intensely vascular, and a considerable flow of arterial blood followed the insertion of a probe to the extent of one-eighth of an inch. The growth was removed by operation, and examination proved it to be angiosarcoma, and extremely vascular. The cells were mainly spindles, mixed with round cells (of connective tissue) and leucocytes. The surface was covered with epithelium—in most places several layers in thickness. Beneath this layer the fibrous tissue organization was marked. The patient is doing well, breathes clearly through the nose, sleeps with closed mouth, uses no nasal douche, has no discharge from the operated nostril, and is subject to no pain in any region of the head.

Philadelphia Medical Journal, August 24, 1901.

Peliosis Rheumatica.—T. Avery Rogers reports in detail a case of this disease in a woman nineteen years old. The case tends to uphold the theory that the cause of the disease in some instances is a systemic infection from the presence of a pyogenic focus. Three months prior to the attack the patient had a mammary abscess, which was lanced, and from which she made an uneventful recovery; the wound opened and discharged slightly two or three weeks after the attack of peliosis, from this the author concluded that the suppurative condition was an etiological factor in the production of the peliosis.

The Intimate Action of the Silver Nitrate Injections in the Treatment of Phthisis.—Thomas J. Mays bases his treatment of phthisis by the hypodermic injection of silver nitrate over the vagi, on the hypothesis that pulmonary phthisis is largely primarily a neurosis in which the vagi participate, and that direct stimulation of these nerves favorably influences the pulmonary condition. He concludes that the mechanism of the silver nitrate injections is of such a nature that it arouses the vagi from a feeble to a more vigorous action, in this way creating an antagonism to the disease which diffuses itself throughout the ramifications of these nerves.

Medical News, August 24, 1901.

Carbolic Acid in Burns.—Otto L. Muench advocates the application of pure carbolic acid to burned surfaces, having used the same with most excellent results in cases of small burns of the first degree, in a case of scalding involving the chest, neck, and shoulders of a twelve year old child, and in a case in which the "entire head, face, neck, and hands were one burn." The application of the acid stops the pain by producing local anæsthesia of the peripheral nerves, and its escharotic action is neutralized by coagulation of the albuminous effusion, this latter completely excluding the air and preventing infection.

Further Notes upon the Diagnostic Test of Tuberculin.—Edward O. Otis reports sixty-two tests made to determine how many cases of known syphilis react to tuberculin and also the reliability of the test in suspected or incipient tuberculosis. In thirty-six cases of syphilis tested with tuberculin there were undoubted reactions in seventeen per cent.; in twenty-six cases of suspected or proved tuberculosis, there were reactions (including abortive ones) in thirty-one per cent.; in eight cases showing tubercle bacilli in the sputum there were reactions in fifty per cent.; of three cases showing tubercle bacilli, two did not react; seven, five, and ten milligrams were used respectively in two of these cases; two, five, and eight in the third, giving only a local reaction. The author offers no explanation for these unexpected results. In eighteen cases of suspected tuberculosis there were six reactions. He concludes that while confidence in the test is apt to be shaken by the failure to obtain reaction in a case of tuberculosis not far beyond the incipient stage with tubercle bacilli in the sputum, the possibility of error in such investigations must not

be lost sight of. No injurious result need be feared from doses up to ten milligrams.

Strangulated Hernia of the Bladder; Ruptured Sarcoma of the Testis Mistaken for Strangulated Hernia.—Thomas H. Manley, reviewing the literature of vesical hernia, concludes that the condition is not uncommon, three cases having come under his own observation. There do not appear to be any characteristic symptoms of vesical hernia and its presence as a complication does not seem to cause special discomfort. He reports in detail one case on which he operated successfully. In this case there were all the symptoms of strangulation. Operation revealed a vesical diverticulum slipping out through the crural ring, becoming distended and provoking inflammation at the point of constriction, the pent up urine producing excessive irritation with reflex pain over the entire abdomen. The author advocates operation in these cases without a transfer to hospital to avoid the violence of transportation. The chief features of his operative technique are: (1) A large incision involving laparotomy; (2) free division of the constriction from without inward; (3) deliberate, methodical, and complete treatment of any important complication at once. He reports a case of ruptured sarcoma of the testis which had been clinically diagnosed as strangulated hernia.

A Study of Burns, with a Plea for Their More Rational Treatment.—Frederic Griffith believes that burns should be treated in accordance with general surgical principles. Their pathology is that of local inflammation with the resultant complications, two degrees of severity being recognized; burns of the first degree involve the skin only, all others belong to the second degree. Early death and internal complications following burns are due to the direct action of heat; later effects follow from infection of the burned area. The amount of contraction and subsequent deformity is determined by the condition of the granulations during healing, irritation causing larger granulations and consequenty greater contraction. The local treatment of burns should be directed to the prevention of irritation. The wound should be cleansed of the burned tissues as thoroughly as possible; hydrogen dioxide being used to wash away débris and render the parts aseptic, and rubber tissue in strips should be laid on the wound to prevent contact with the absorbent dressing. Splints, to secure relaxation and retention of the burned part, are of great importance. The internal treatment is stimulative until reaction takes place, when it becomes supportive. Opium fulfils the indications for pain, internal inflammations, and diarrhœa; the bowels and kidneys must be kept open, the former by enemas only, and attention must be paid to signs of internal complications.

American Medicine, August 24, 1901.

Peculiar Nervous and Urinary Manifestations Following Grippe in the Aged.—O. P. Kernodle concludes, from a study of tabulated cases, that aged persons suffer more violently from influenza than those in youth and vigor; the manifestations are more marked and profound in the aged, and never entirely disappear; nephritis and urinary disturbances are more pronounced and lasting, and there is a more decided tendency to recurrence, resulting in death; owing to the worn out and deteriorated physical condition and lowered nerve resistance, the results are more grave, the assaults more violent and profound, and the death rate much higher in persons over fifty years.

Indications For and Against Total Removal of the Human Stomach.—George Childs-Macdonald considers that the advisability of total removal of the stomach depends upon the diagnosis, age of the patient, state of the blood, the heart, preëxisting conditions, metastasis, and proper preparation of the patient. The operation is performed for carcinoma of the stomach. Unless in patients of extreme vitality he would make the age limit fifty-five in men, sixty in women. A high percentage of white blood cells would be unfavorable for surgical interference; while a fair proportion of red cells and hæmoglobin would indicate the opposite. Absolute integrity of the heart must be present for a favorable prognosis. The prognosis is more favorable, other things being equal, in persons leading an active life than in others. Nonabstainers, beer drinkers, tobacco and drug habitués are unfavorable subjects. Any evidences of debilitating or exhausting process other than primary cancer and excessive emaciation should be contra-indications. As to the condition of the stomach, the most favorable indications for operation are a moderately dilated viscus with a freely movable tumor to the right of the median line. The preparation of the patient should include absolute mental and physical rest in bed for six or more days. The proper functioning of the bowels, liver, and kidneys must be attended to, food should be administered by mouth and rectum to the extent of the patient's assimilative power, and the function of the skin must be promoted by warm baths daily. The stomach should be well washed, and a rectal injection given on the morning of the operation.

Journal of the American Medical Ass'n, August 27, 1901.

Cæsarian Section as a Method of Treatment for Placenta Prævia.—William J. Gillette says that the cases operated upon are as yet so few in number that no accurate deductions can be drawn from them, but he thinks it must be granted that cæsarian section, if generally adopted for placenta prævia, will reduce the fearful fœtal mortality, which we now have, to at most ten per cent., and when ninety-three consecutive cæsarian sections in the hands of three men (Reynolds, Leopold, and Evarts) can be done without the loss of mother or child, we have reason for our faith that it can be done without increased danger to the mother over what she must incur by any of the older methods. When the uterus does not contract firmly, thus rendering further hemorrhage and sepsis probable, or when the patient is unable to stand additional shock, the Porro-cæsarian section is the only procedure warranted.

Leucocyte Counts in Hemorrhage.—George Douglas Head reaches the following conclusions: 1. In dogs a diminution in the number of white blood cells in the circulating blood immediately follows a profound hemorrhage. 2. This inital leucopenia is followed sooner or later by an increase in the number of leucocytes in the circulating blood. This is the so-called post-hemorrhagic leucocytosis of all writers. 3. This leucocytosis of hemorrhage continues for at least seven days, and in some cases much longer. The writer believes that what he has demonstrated in dogs is equally true for human beings, viz., that immediately following hemorrhage there is a decrease in the number of leucocytes in the circulating blood. He says that this has been heretofore overlooked because hematologists have failed to make their counts soon enough after the bleeding took place.

Uric-Acid Inflammation of the Middle Ear, Membrana Tympani, and Mastoid.—Cornelius Williams believes that nine-tenths of all the inflammations of the middle ear and mastoid as observed in the Northwest, are due to uric-acid poisoning. They occur in summer and winter, but most frequently in late winter and early spring, and in persons of all ages. Those affected, according to his observation, are always persons who eat nitrogenous food in excess of their requirements. The adults are meat eaters almost to the exclusion of vegetables, and the babies are bottle fed. There is usually a distinct history of gout or rheumatism or of intestinal disorder due to fermentation or putrefaction. Ice and local measures can be freely used, but cases do better with than without the salicylates. Powdered opium is best for the relief of pain, but if the mastoid should become involved, it should be opened at once.

Tuberculosis of Animals in Some of Its Relations to Human Tuberculosis.—D. E. Salmon reports several cases which he considers prove conclusively that bovine tuberculosis is communicable to man. The question has been asked, if bovine tuberculosis is dangerous to man and is increasing, how is it that phthisis is decreasing? The conditions of life and of sanitation may be so improved as to counteract the increasing danger of infection, but apart from this, tuberculosis of the lungs is usually contracted by inhaling the infection, while if the disease is communicated through the food, it would probably take some other form, as tabes mesenterica, tuberculous, meningitis, etc. It is plain, from statistics, that in some countries where bovine tuberculosis is very frequent, there is also great frequency of tuberculosis in children. Admitting the subordinate rôle played by digestive infection in human tuberculosis, and that in England there is but one such case to nine cases of all forms of tuberculosis, still the matter is one deserving the most careful consideration of the sanitarian.

The Antenatal Treatment of Hæmophilia.—J. N. Ballantyne reports a case in which a woman with a distinct hereditary history of hæmophilia, shown in the form of postpartum hemorrhage and profuse menstruation and in the procreation of hæmophilic male infants, was treated during pregnancy with ten grains of chloride of calcium daily, with arseniate of iron and strychnine, from the sixth month to labor. She passed through confinement without hæmorrhage and was delivered of a male infant without hemophilia. This may have been a mere coincidence, but there is a chance that it was the result of treatment. It may be taken for granted that the chloride of

calcium reached the fœtal tissues, as undoubtedly the other medicines did also; in the second place, there is evidence that chloride of calcium is beneficial in hæmophilia after birth; and in the third place there is the extraordinary power of recovery possessed by the fœtus. If the *vis medicatrix naturæ* be greatly exaggerated in the fœtus, is it not possible that even the hereditary maladies may, if properly influenced, show a tendency to cure during ante-natal life? May it not be that medicines acting upon the organs and tissues, while these are still in the stage of construction, are more efficacious than when they act upon structures which are, as it were, set aside for health or disease?

The Lancet, August 17, 1901.

Atypical Empyema in General Practice, with Illustrative Cases and Critical Notes.—C. C. Baxter Tyrie reports a number of cases illustrating the varying behavior of pleural effusions. He explains the sudden deaths that occur as follows: Untoward disturbance of a patient results in a generalization through the pleural sac of a previously localized pressure. As a result of the attendant pulmonary collapse a previously impaired respiratory capacity of four-fifths or three-sixths is suddenly reduced to one-fifth in an already debilitated subject. Further, an appreciation of the great sensitiveness of the cardio-inhibitory center in the medulla, and the countless afferent paths from the thorax available for transmission of unauthorized stimuli, establishes the absurdity of advancing such anatomical and physiological absurdities as "twisting of the vessels," and so on.

Experiments with the Danysz Rat Bacillus.—E. Klein and Herbert Williams give the results of experiments undertaken with the view of ascertaining whether the culture of the rat bacillus is capable of causing death to a large percentage of rats fed on it. In the laboratory, the feeding experiments with cultures produced death in only thirty-three per cent. in between eight and fourteen days. Of rats fed on mice which had died within forty-eight hours after being subcutaneously injected with virulent culture, none died. Of six rats fed with similar material from guineapigs, four died from the disease in eleven, twelve, fifteen, and eighteen days respectively. Experiments in feeding on a large scale were carried on in a dock warehouse, but the results were wholly negative, and therefore the expectation of the medical health officers of a wholesale destruction of rats by Danysz rat bacillus as a preventive measure against plague cannot be considered as likely to be realized.

The Comparative Virulence of the Tubercle Bacillus from Human and Bovine Sources.—Mazyck P. Ravenel concludes from the results of experimentation: 1. That the tubercle bacillus from bovine sources has in culture fairly constant and persistent peculiarities of growth and morphology by which it may tentatively be differentiated from that ordinarily found in man. 2. That cultures from the two sources differ markedly in pathogenic power, the bovine bacillus being the more active for all species of animals tested, possibly excepting swine. 3. That tuberculous materials from cattle and from man correspond closely in comparative pathogenic power, in all test animals, to pure cultures of the tubercle bacillus from the respective sources. 4. That it is a fair assumption from the evidence at hand, and in the absence of evidence to the contrary, that the bovine tubercle bacillus has a high degree of pathogenic power for man also, this being especially manifest in the early years of life.

A Case of So-called "Fœtal" (or Congenital) Rickets.—Henry Ashby describes the case of a child which, at the age of fourteen days, had sustained fractures of the right humerus and radius, and of the left humerus, ulna, and femur, although there was no history of anything like violence. There was marked craniotabes, and the ribs also were abnormally soft. The child was well nourished and apparently born at term. The fractures mended well, but at six weeks the right femur fractured. At nine months the infant had cut two teeth, was bright and intelligent, without any signs of rickets or deformity of the bones. The author connects the condition of the infant's bones with the fact that the mother was forty-six years of age, had become more or less debilitated with child-bearing, and had suffered from illness during the greater part of the pregnancy. The case suggests rickets, but a certain amount of caution is required in asserting that it was true rickets, in the absence of a post-mortem examination and of a careful examination of the bones by modern methods.

British Medical Journal, August 17, 1901.

Neutral Red in the Routine Bacteriological Examination of Water.—William G. Savage, from an examination of fifty waters, using neutral red for detection of the colon bacillus, concludes that a positive reaction, while not absolutely diagnostic, points strongly to the presence of this organism, and a negative reaction renders its presence highly improbable. The test is of great value in the routine examination of water; it is easily applied, and with reasonable care errors can be avoided.

The Fallacy of the Permanganate Disinfection of Wells (Hankin's Method).—M. L. Dhingra considers that Hankin's method is fallacious in theory, defective in technique, and impossible in application. It is based on the assumption of a distinct relationship between the chemical composition of water and the number of microbes, which probably does not exist in nature. Further, there is not a single reliable experiment in support of this method; it has failed in practice after a prolonged trial. Permanganate neither diminishes the number of vibrios nor shortens cholera outbreaks.

Chronic Brass Poisoning.—William Murray recognizes a chronic poisoning in persons who work in raw brass quite distinct from the acute brassfounder's ague, and urges the adoption of preventive measures by legislation. The disease, when first seen, closely resembles consumption; later, the symptoms of chronic copper poisoning are present. Authorities do not agree as to the ultimate cause of the disease, some attributing the symptoms to the copper, others to the zinc, present. The poison, whichever it may be, enters the body in the form of fine dust by the respiratory and digestive tracts. The writer has successfully employed pure phosphorus or phosphoric acid in the treatment of this condition.

Port Sanitary Administration and the Control of Plague in the Port of Bombay.—P. Targett Adams gives a detailed account of the method of procedure relative to the departure of vessels from a plague-infected port. Briefly, three medical examinations are made of crew and passengers; those permitted to embark are stamped (on the forearm with aniline ink) with the date and place of examination; no article is allowed to be taken on board until it is disinfected and stamped; every person going on the ship must show a stamped permit from the port health officer, and when the ship is ready to sail, there is a final examination, and all stamped permits, luggage, etc., are examined and compared with the lists kept at the disinfecting station. The sanitary condition of the ship is inspected. While the author believes that the plague is in many instances conveyed by rats, he thinks there are many other modes of transmission, some even yet unknown, and urges that every avenue be guarded.

Münchener medicinische Wochenschrift. August 6, 1901.

Two Cases of Carbolic Acid Gangrene.—Fischer describes two cases in which the application of a weak carbolic acid solution to slight injuries produced local gangrene, and, as the patients were brothers, he assumes a family idiosyncrasy for the drug. Both men were young and had never suffered from any previous illness, and the application of a moderate amount of a solution, subsequently determined by litration to contain only 1.7 per cent. of the acid, caused gangrene of the fingers, making amputation necessary.

The Treatment of Motor Aphasia after Cerebral Disturbances.—Vidal recommends a system for training the articulating power of aphasics, the essentials of which consist in an analysis of the patient's speech, or attempts at speech, and systematic drilling on the sounds or their elements that are defective by means of direct study and imitation of the movements of the teacher's organs of speech, and practice before a mirror. Ordinary motor aphasias yield quite readily to this form of treatment, but when, in addition, there is amnesia the difficulties are much greater, since the loss of memory makes progress very slow.

The Treatment of Sarcoma with the Röntgen Rays.—Carl Beck reports very favorable results in a case of melanosarcoma treated by means of the *x*-ray. The growth developed on the outer side of the left ankle of a man of thirty-six, apparently originating in a birthmark. Extirpation of the growth, as well as removal of secondary glands in the groin, was followed by relapse on two occasions, amputation being refused by the patient. After the second operation sarcomatous nodules appeared on the inner aspect of the calf, and as amputation at this late stage did not promise much, after a third excision the sarcomatous focus was exposed to the *x*-rays, first for ten, then twenty, thirty and forty-five minutes at a time, at intervals of two to three days. At the time of writing, nine weeks after the operation, there was no recurrence, and while it is too early to draw positive conclusions, it seems likely that, particularly in instances such as some breast cases, where the whole of the neoplasm

is not accessible to the knife, this method may with advantage be used to supplement the surgeon's efforts.

A Crystalline Immunization Product.—H. Buchner and L. Geret supplement their former observations on this body by reporting on the results of investigations undertaken to determine more accurately its nature. It appears that the first stated belief that its presence indicates a specific reaction is unfounded, and that the so-called "globulites" are purely inorganic, consisting of borium sulphate. The borium is contributed by the pepton solution, which contains enough of the element to produce the reaction, though the amount is so small that it escapes all but the most delicate tests. The formation of globulites, therefore, indicates merely that the serum tested has already been subjected to preliminary treatment by the injection of pepton or of blood. Further observations on the local reaction, produced by introducing pepton solution in sterile tubes beneath the skin of animals, the result being the precipitation of globulites, presumably through the intervention of the leucocytes in setting free sulphur, leads the authors to the conclusion that these cells are the producers of the ordinary immune bodies.

Deutsche medicinische Wochenschrift, August 8, 1901.

The Differential Diagnosis Between Appendicitis and Typhoid.—R. Mühsam comments on the difficulty which is occasionally experienced in distinguishing those two diseases, and describes a case in which operation for supposed appendicular disease revealed a healthy organ. The patient was a middle-aged man, who was suddenly taken with chills and severe abdominal pain. At the time of coming under observation there were localized pain and tenderness at McBurney's point, moderate temperature, and slow pulse. There was no rigidity of the recti and no dulness. Under expectant therapy the pain increased greatly, and restlessness developed with rise of pulse and temperature. There was neither enlarged spleen or roseola, and it was assumed that typhoid fever could be excluded; but on operation and inspection of the appendicular region, the only evidence of disease was found to be a small blood-stained area on the surface of the colon, at which point the intestinal wall seemed greatly thinned. The mesentery and mesocolon contained large numbers of bluish, swollen lymphatic glands. The ulcer was invaginated and sewed over; further search for similar areas was unavailing, and the wound was closed in the usual way. The patient did not suffer in any way from the results of the operation, and after the disease had run the usual course of typhoid fever of moderate severity, he recovered. Inasmuch as the Widal and diazo reactions did not develop till several days later, it is difficult to see how the diagnosis could have been established, though a blood count, which might have been of use, was apparently not made.

The Effect of Alcohol on Uric Acid Excretion.—R. Roseman mentions various other investigations of this question, which have had rather inconclusive results. A research of his own was carried out on a healthy adult unaccustomed to the drug. The experiment extended over a period of thirty days, first ten days under normal conditions, then ten days, during which large amounts of water were drunk, with the idea of discounting any objection that a possible subsequent increased elimination of uric acid might be due to diuresis produced by the alcohol, and finally ten days, during which 75 c.c. of alcohol were taken daily in 1,500 c.c. of water. This dose at first produced distinct symptoms of intoxication, but tolerance was soon established. The results showed that the average daily amount of uric acid excreted during the normal and water periods did not differ appreciably from that eliminated on the alcohol diet. In the course of another experiment, conducted on a fasting individual, there was observed a total absence of uric acid from the urine for a period of two hours, a hitherto unrecorded observation on human urine. This was perhaps, however, due only to idiosyncrasy, but a distinct increase in the amount excreted was not obtained in either set of observations, and it seems that alcohol does not very greatly affect the amount of uric acid disposed of. Although this conclusion is at variance with the prevalent belief that gouty subjects, on an alcoholic diet, suffer an increase in the amount of uric acid given off, the author believes the problem is too complicated to be solved by a single set of analyses, and that clinical experience is the more reliable guide.

French Journals.

Typhoid Pleurisies.—According to A. Kichel, the bacillus of Eberth can exist in the lungs of typhoid patients, and by means of the lymphatics of these organs it can be carried to the pleura. From one standpoint, this pleurisy is not a typhoid pleurisy, but it is pleurisy in a typhoid patient. These pleurisies are almost always accompanied by effusion. The duration is variable. In some cases the affection terminates at the end of a fortnight; in others it lasts six weeks. Generally, it has a rapid development and tends to a natural cure. It rarely passes to the chronic stage or to suppuration. The clinical forms are multiple. As to the nature of the liquid, it may be serous, hemorrhagic, or purulent; its tendency is to become hemorrhagic. The diagnosis almost always calls for great care. The prognosis of the general disease is not sensibly altered by the development of pleurisy. The treatment is not special, varying according to the nature of the case; thoracentesis or pleurotomy may be demanded.—*Gazette des Hôpitaux*, July 30, 1901.

Contribution to the Medico-Legal Study of Imbecile Prostitutes and Vagabonds.—Paul Garnier and Wahl conclude that imbecility is a frequent cause of vagabondage and of prostitution. These unfortunates should be isolated from the general public both for their own sake and for that of society at large.—*Gazette des Hôpitaux*, July 30, 1901.

Some Points of Hygiene and of Pathology in Hot Countries.—Vincent calls attention to the three kinds of rays which emanate from the sun, viz., chemical, light, and heat. He points out the different effects of these rays. Prisoners brought from their dark dungeons and exposed to the bright sunlight, reflected from a white wall, not infrequently become blind. Sunstroke is caused by the direct action of the sun's rays, while heat stroke is caused by an overheated atmosphere. The treatment of both these affections consists in the application of ice to the head, cold applications to the body, fresh air, and rythmical tractions of the tongue. The writer then speaks of the food value of sugar. It has been reported that among soldiers who, in very hot countries, were allowed to have as much sugar as they desired heatstroke was extremely rare. Sugar has not, as a stimulant, the inconvenience of alcohol. It builds rapidly up muscular energy, without having a later depressing action. Sugar is easy to carry, and can be kept in good condition with a little care.—*La Tribune Médicale*, July 17, 1901.

Acute Delirium Considered Clinically, Pathologically, and Bacteriologically.—Roubinovitch characterizes acute delirium by its extreme gravity and rapid development. This affection is observed in the course of, or following mental troubles. Sometimes it is primary. Among the determining causes are alcoholic excess and violent emotions. Among the prodromal symptoms are cephalalgia, general malaise, loss of appetite, constipation, nightmare, insomnia, and extreme irritability. These symptoms last for some days. There are two phases of the disease, the one of excitement, the other of collapse. As to its pathology, there have been noted hyperæmia of the meninges, œdema and active congestion of the brain, and venous cerebral congestion. There have been reported congestion of the intestinal mucosa, as well as ulceration, diffuse fatty degeneration and pigmentary atrophy of the hepatic cells, hemorrhages into the renal glomerule, and muscular degeneration in various parts of the body. The microorganisms found in these cases have been varied. Bacteriological researches tend to demonstrate the toxi-infectious nature of acute delirium.—*Le Bulletin Médical*, August 3, 1901.

Treatment of Typhoid Fever by Cold Injections.—Lemoine states that although the present treatment of typhoid fever consists in the administration of cold baths, nevertheless there are cases in which, from one reason or another, it is impossible to pursue this routine. In such cases which have come under his care he has substituted injections of cold water which are perhaps more of the nature of a douche or irrigation than an injection. The injection, like the bath, is given every three hours—or, indeed, every two hours if the temperature rises rapidly to a high degree. The water used is of a temperature of 18° to 20° C. (64.5° to 68° F.). The quantity used each time is two litres, and is allowed to flow into the bowel gently under light pressure. The water is boiled before using. The effects are two-fold, viz., lowering of the temperature and disinfection of the intestine. The nervous symptoms are much relieved, and the patient preserves a good appetite. The rectal sound is introduced to a distance of twenty cm. Every injection is followed by an evacuation of fecal matter, and the stools are rare in the intervals. It is to the disinfection that the writer attributes the fact that, in general, patients treated in this way have a lower temperature than those treated by baths. He believes this method has not been sufficiently tried to give valuable statistics as yet. In thirty-two cases he has had only one death, a mortality of three per cent. —*Le Nord Médical*, August 1, 1901.

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Sixty-ninth Annual Meeting, Held at Cheltenham, July 30, 31, August 1, 2, 1901.

(Continued from page 310.)

SECTION OF TROPICAL DISEASES

First Day—Wednesday, July 31.

THE proceedings of the section were opened by Mr. JAMES CANTLIE, the Vice-President, who explained that the President was now in Africa, conducting experiments looking toward the extermination of mosquitos in those regions where pernicious malarial fever barred the advance of civilization. He then read the

President's Address.—Major RONALD ROSS had taken as the subject of his address a review of the advances made during the past year in our knowledge of tropical diseases.

Yellow Fever.—To America, he said, belongs the credit of discovering one mode of infection at least, physicians in that country having for some time past sought an experimental verification of the theory of Finlay and others in regard to the propagation of yellow fever by mosquitos. The experiments had been conducted with scientific accuracy, and no doubt remained as to the soundness of the conclusions reached, in spite of the absence of a parasitological basis for the theory. Great heroism had been shown by those subjecting themselves to tests. In addition to the death of Dr. Jesse W. Lazear, in Cuba, there was to deplore that of Dr. Walter Myers, who had died from yellow fever while studying it in Brazil. Should the pathogenic organism of yellow fever prove to be a vegetable organism, it would suggest the not improbable view that suctorial insects may transfer vegetable as well as animal parasites. Some epidemiological facts suggest infection by gnats in Malta fever and perhaps leprosy, and by other vermin in relapsing fever, typhus, and some skin diseases.

Ankylostoma Duodenale.—Annett's confirmation of Giles' life-history of these dangerous and widespread parasites throw a vivid light on the route of infection adopted by them.

Malta Fever.—Wright has shown by his observations on the serum reaction in Malta fever, that it exists in India, Hong-Kong, the United States, the West Indies, and Brazil.

Malaria.—Numerous observers have maintained the advance in our knowledge of malaria. In the British possessions, several have made isolated efforts to deal with malaria, but the country generally has done little. British workers, however, have closely studied details of the malaria question in various parts of the world. Many experimenters have succeeded in direct cultivations of the parasites—in anopheles. Manson has reported the infection of healthy persons in London by mosquitos brought from Italy, and the preservation in health of others in a mosquito-proof house in the Campagna. Nuttall and Shipley, Christophers and Dutton, have closely examined the anatomy of mosquitos. Nuttall, Cobbett, and Strangeways-Pigg have made interesting researches on anopheles in England. Until we know, however, why individual anopheles so often resist infection, as they do in England, negative experiments with culex cannot be entirely convincing.

Beriberi.—Owing to the similarity in symptoms, Major Ross suggested, it is possible that cases supposed to be beriberi are really due to arsenic poisoning.

In speaking of the work of the future, he said that researches are urgently required in connection with (1) tropical fevers; (2) the flora and fauna of the intestine in tropical bowel complaints; (3) the question whether European children in the tropics suffer as frequently from malaria as the children of natives. Measures should be taken looking to the extermination of mosquitos in tropical cities.

Stone in the Tropics.—Mr. P. J. FREYER of London opened the discussion on this subject, confining his remarks to an account of his personal observations in India. The geographical distribution of stone in India would throw light on the cause of urinary calculi. He was not dealing, he said, with the phosphatic variety, which probably has its source in disorders of the urinary tract, but with the oxalate of lime and uric acid calculi which originate differently.

Surgeons in India did not often see cases of prostatic enlargement, because the natives ignored surgical assistance. The prevalence of urinary calculi among the inhabitant of the plains bordering on the Indus and the Ganges, might doubtless be traced to the use of the lime-impregnated water of these rivers. It was supposed that, in the great heat of summer in the infected districts, crystalline deposits resulted from extreme concentration of the urine, while the comparatively severe winters induced impaired liver action. Dietetic errors could not be invoked as a cause of stone in India. Wheat, barley, and other cereals were much eaten in the districts where stone exists, which exonerated rice from the charge of causing it. Mohammedans eat flesh in both Eastern and Western Bengal, but stone prevails in the latter area and not in the former.

Litholapaxy is the operation to be used par excellence. Lateral lithotomy gave a mortality of thirty per cent. in 1882. The statistics published in 1895 are the following: Out of 147 suprapubic lithotomies, 42.17 per cent. deaths; 7,000 perineal lithotomies, 11.45 per cent. deaths; 10,079 litholapaxies, 3.96 per cent. deaths. It is a mistake and unfair to assert that the greater simplicity of life of the native Indian than that of the European causes more recoveries after operation. The natives of India suffer from kidney disease quite as much as do Europeans at home.

Surgeon-General HARVEY, Director-General Army Medical Service, India, testified that litholapaxy had in India replaced lithotrity at several sittings. The poorer natives were alarmed by operation, and two patients had been known to disappear, after one or two sittings, still carrying fragments of stone. Three out of twenty-two cases operated upon by him by lithotrity had died. The whole world was indebted to Mr. Freyer and Colonel Keegan for their demonstrations of the value of litholapaxy.

Dr. PATRICK MANSON endorsed Mr. Freyer's opinion as to the removal of stone, but did not agree on the subject of etiology. The drinking of lime water he did not believe a causative of uric acid or oxalate of lime calculi. Stone is rare in some calcareous areas in Great Britain, and very common in certain granitic districts, as Aberdeenshire. Stone is prevalent in granitic Canton. It is known that a nucleus causes calculi in the forms due to foreign bodies and to the ova of Bilharzia, and a study of the nucleus may explain the geographical distribution. A parasitic cause is suggested by several facts.

Lieutenant-Colonel GILES thought the waters of the Indus and the Ganges were not limy, as the Himalayas are chiefly composed of gneiss and schist, but probably very like to the drinking waters in other parts of India.

Dr. SIMON of Singapore had met but few cases of urinary calculi during twenty-five years in the Malay Peninsula and in the Straits settlement, and these were imported.

Captain MILNE had found stone in India in non-calcareous districts, and thought it rare in some limy areas.

Dr. LEONARD HILL said that in Pakhoi, China, stone was absent, but was very prevalent in Canton, two hundred miles away. In Ning-Po it was almost unknown while common close by in Hang Chau.

Dr. MOFFAT had seen only one case in Uganda, and

that was a phosphatic calculus formed around a foreign body. The district had no limestone.

Mr. James Cantlie of London said that the great condition of success in litholopaxy was a perfect instrument, especially in the tropics, where caoutchouc rapidly spoiled. New instruments were hard to get, and this formed an objection to litholapaxy in remote parts of the globe. In large towns the operation was most desirable.

Professor T. M. Sandwith of Cairo considered that a nucleus was the chief cause of calculus, and in Egypt this was the ova of Bilharzia in the majority of cases. Nile waters is full of lime, and is taken unfiltered by the Egyptian peasants, which may possibly account for the frequency of vesical calculus.

Mr. Freyer, replying, endorsed Mr. Cantlie's remarks as to the necessity of obtaining good instruments. Rubber, he thought, was preserved by frequent use, and would last as long in the tropics as elsewhere if used as often.

Dust as the Vehicle for the Germ of Cerebrospinal Fever.—Major W. J. Buchanan said that in a previous paper he had reported forty-seven cases of this disease occurring among prisoners in the Bhagulpur jail, and now adds thirteen more to the list. Fifty-seven of these cases were among prisoners working at "dusty" occupations, such as brick, field, and road work on the one hand, or wheat grinding, rice husking, etc., on the other. Only four of the cases occurred during the wet season, and these were grain-cleaners, the dust from whose work is not affected by the rain. Skilled laborers in spinning and weaving did not have the disease. Direct infection could be eliminated. Prisoners working in a shed at rice husking were provided with respirators, and the shed was thoroughly disinfected. No case has come from the shed in seven months, whereas eight cases came from it last year. The conclusion reached by Major Buchanan was that the germ of cerebrospinal fever, a diplococcus, is frequently disseminated by means of dust. This fever may justly be included among the continued fevers of the tropics.

Lieutenant-Colonel Giles referred to the recurrence of cerebrospinal fever in an Indian jail after thorough cleansing and disinfection.

Four Cases of Liver Abscess Treated by Trocar and Cannula and Syphon Drainage (Manson's Method).—Mr. James Cantlie had treated twenty-eight cases by Manson's method, with twenty-four recoveries. Four of these cases were described. Of the four fatal cases two were the first he treated, one was operated on, but not treated afterward, and the fourth was comatose and operated on only for the relief of symptoms. The four cases were intrahepatic abscesses, and all had suffered from dysentery. The best operation for these deep-seated liver abscesses is tapping by the trocar, and the introduction of a large tube and syphon drainage. A superficial abscess may be opened by any operation, but the cutting or free method is not to be advised in the case of deep abscess in the upper part of the liver, pressing upward toward the chest. Transthoracic operation is uncalled for, and both that and laparotomy are unjustifiable in the tropics, where, except in the large centers, the surgeon often has to work without assistants.

Mr. P. J. Freyer preferred incision to trocar and cannula, which he has quite abandoned.

Dr. G. P. Jordan of Hong-Kong operated by incision, having given up the trocar and cannula. Rubber drainage tubes have a tendency to be compressed by the ribs, so he substituted silver.

Dr. Chisholm of Sidney operated by incision, because in Australia pus in the liver is usually secondary to hydatids, but he welcomed a simple method of operating for simple abscess.

Dr. Manson advocated the useof trocar and cannula, and thought that British surgeons were somewhat too fond of heroic operations.

Capt. W. R. Baltye said that severe hemorrhages had been known to follow puncture of the liver by the aspirator-needle, and thought that with an open wound such bleeding could be more easily checked.

Second Day—Thursday, August 1.

Notes on Anti-Malarial Measures now being taken in Lagos.—Sir Wm. Macgregor, in opening the discussion on malaria, said that the colony at Lagos spends one-seventh of its revenue in combating malaria and dysentery. Every means was being taken to educate the people in regard to malarial infection, and to its prevention by means of gauze netting, the destruction of the breeding places of mosquitos, and the use of quinine. The majority of Government officers take quinine, two and one-half to five grains daily, as a prophylactic; no man should be sent to a malarial country who will not take quinine. It is a question how to protect the native, since one cannot give quinine to the whole population. Muslin cuts off too much air, mosquito netting mildews and rots, but a metallic gauze of galvanized wire netting is good and not dear. To diminish the number of mosquitos is fraught with difficulties. In inland towns the long dry season destroys the larvæ, and malaria is infrequent. It is not practicable to separate Europeans entirely from the natives.

The Prevention of Malaria in Hong-Kong.—Dr. J. M. Young confirmed the fact of the etiological relation between anopheles and malaria in and about Hong-Kong. There were two varieties of anopheles, the *A. costalis* and *A. sinensis*. Clearing long grass and undergrowth, draining, etc., were efficacious remedies, as no mosquito will fly farther than one hundred and fifty yards. Dragon-flies, tadpoles, and small fish are supposed to be the enemies of mosquitos, and experiments have been tried with them in Hong-Kong. Culex larvæ destroyed the anopheles larvæ when placed together in the same pool.

Inoculation of Malaria by Anopheles.—Captain C. F. Fearnside reported experiments in one of the most malarial jails in India, the Central Prison of Rajahmandri, Madras Presidency. About seventy per cent. of the mosquitos fed on malarial persons became infected, and seven out of the eight persons bitten by these mosquitos had the fever. Parasites of the estivo-autumnal and tertian varieties had an inoculation period of from twelve to twenty-five days. Native Indians, he said, will not use mosquito-proof houses or netting, and segregation, the general use of quinine, and the destruction of the anopheles present the greatest difficulties.

Notes on Cyprus Fever.—Dr. George A. Williamson said that Cyprus fever and Malta fever are often confounded, but the chief fevers in Cyprus are malarial of the tertian and quartian types and their doubles. Drainage, and other sanitary measures have greatly diminished the prevalence of the pernicious type.

Malarial and Filarial Diseases in Barbados, W. I.—Dr. George C. Low had found no anopheles and no malaria in Barbados, but culex and filarial diseases were common. The water supply in the houses was good, and could the pools and tanks about houses be done away with, it was likely that filariasis would disappear.

Dr. Edward Henderson reported the tertian as the type of malarial fever existing in Shanghai. It was hopeless to expect that preventive measures against malaria would be adopted throughout China; still Europeans should set a good example to the Chinese.

Dr. Manson thought that different measures of prevention applied to different places, and that no one measure should be exclusively adopted. Quinine could be given generally in small communities, but not in large ones; the natives could not be made to take it. Dr. Young

reported the destruction of anopheles larvæ by culex larvæ, but this occurred only when food was scarce. If we could ascertain why anopheles lived in certain places and not in others, and why certain diseases prevailed in certain localities, we could fight the mosquito with natural instead of chemical and mechanical methods, just as vine diseases are being treated in France and orange diseases in the United States. No one plan is perfect, but nothing should be decried which diminished the disease, even if it did not eradicate it.

Col. POYNDER thought the natives of India hopeless pupils in preventive measures, for they would even drink water which they had been told would cause cholera.

Mr. CANTLIE recommended the "Swatow mosquito lamp" used in China to get rid of the mosquitos within a net.

Note on the Entrance of Ankylostoma Embryos into the Human Body by Means of the Skin.—Professor F. M. SANDWITH of Cairo said that it was known that this parasite could enter the system through the mouth, but Dr. Looss has discovered that the embryos can enter the body by the skin, chiefly by the hair follicles. While conducting experiments in the laboratory of the Cairo Medical School, a drop of pure culture of embryos fell on his hand, and examining the drop a few minutes later he found that only empty embryo sheaths and a few sluggish embryos remained, the embryos having entered the skin. Local burning and redness followed, with symptoms of ankylostoma infection. Experimentation on a leg an hour before its amputation showed that the embryos entered the hair follicles, and pushed into the hair papillæ, nearly destroying the root sheath. From this point they entered the true skin.

Lieutenant-Colonel G. M. GILES, having seen Dr. Looss' specimens, could bear out the statements of Professor Sandwith, but it still remained to be shown how the ova infect the intestines in the numbers they do. The soil, especially in the tea gardens of Assam, is impregnated with these ova, and the coolies with unwashed hands eat their food, and probably take in and swallow many ova.

Dr. MANSON thought the embryo entered the hair follicle merely for shelter, but advised further research on the subject.

Causation of Typhoid Fever in India.—Dr. ANDREW DUNCAN of London first presented some of the theories that have been upheld concerning typhoid fever in India: (1) The vicarious theory of Martin, according to which insufficiency of action follows hepatic activity, inducing vicarious abnormal activity of the intestinal glands, terminating in suppurative enteritis. (2) M. Colin's transformation theory; primary paludal infection may be transformed into enteric fever, or enteric fever may be spontaneously developed from any acute febrile state. (3) Surgeon-General Moore regards no fever as specific; typhoid fever is merely a phase of fever, enteric spots merely a petechial eruption. (4) Sir Joseph Fayrer holds that climatic and telluric conditions play as large a part as fecal poisoning in the etiology of this disease in India. (5) Surgeon-General Gordon of Madras at one time advanced the theory that enteric fever did not exist in India. (6) Sir Anthony Horne holds that there are fatal cases of fever in which at the autopsy any intestinal ulcerations found should be considered typhoid. Dr. Duncan gave the factors of enteric fever in India as: (1) The yearly advent of many soldiers and others at an age most liable to the disease; (2) favorable environments for its propagation and spread. The soil of many parts of India is contaminated with Eberth's bacillus, which soldiers imbibe in the native drinks. Flies contribute to the spread of the infection. As regards prevention, the stools should be burned and the urine must also be dealt with, as it contains bacilli longer than stools. Inoculation, as introduced by Wright of Neltey, is a success, as shown by the statistics in India: In South Africa, Egypt, and Cyprus, the evidence of the prophylactic power of Wright's inoculation fluid is also apparent.

Lieutenant-Colonel A. CROMBIE believed typhoid fever to be less prevalent among natives than among Europeans. Its prevalence varied according to locality and people, it being common among the Ghoorkas, for instance, and not in Madras and Lower Bengal. As regards the Widal reaction, three natives of Bengal, under thirty years of age, living in London, and three over forty, similarly placed, were examined; those under thirty gave a well-marked reaction, although in good health and with no history of typhoid. Those over forty gave no reaction. Dr. Crombie believed that in India there are fevers running a twenty-one days' course which are not typhoid. In South Africa, seventy-five per cent. of cases returned as typhoid gave the Widal reaction. As to Wright's inoculations, among three hundred patients convalescent from fever in South Africa, sixty per cent. had been inoculated once and ten per cent. twice. One patient had the disease two months after a second inoculation, and moreover second attacks of typhoid fever were not uncommon.

Captain BALTYE stated that, in order to test the spread of typhoid, servants were made to rinse their hands in water in a common basin, but even after several days no Eberth's bacilli were found. A harmless organism may become pathogenic under such conditions as the presence of decomposing matter would engender.

Lieutenant-Colonel POYNDER thought typhoid fever a disease of youth in India, which might account for the absence of the Widal reaction in the men mentioned by Dr. Crombie, who probably had had the disease in their youth.

Professor SANDWITH, of Cairo considered the Wright inoculation method to be very incomplete as yet; when it is tried, the blood should be systematically examined. Of twelve nurses who went to South Africa three had typhoid fever, but none died.

Third Day—Friday, August 2.

Maladies of European Children in Hot Climates.—Lieutenant-Colonel A. CROMBIE, whose experience was gained in Calcutta during a long residence, thought that among the civil population the sick rate of European children is lower in India than in the United Kingdom. As to the death rate, however, that of soldiers' children in Britain is but 18.31 compared with 41.09 per thousand in India, where illnesses are therefore more fatal.

	Admission rate				Death rate				Case Mortality per cent.	
	Britain	India	Britain	India	Britain	India	Britain	India	Britain	India
Eruptive Fevers	94.9	68.9	26.0	..	1.27	1.82	..	0.55	1.3	2.7
Malarial Fevers	1.7	97.3	...	95.6	0.0	2.18	..	2.18	...	2.2
Other Fevers ..	4.2	18.0	...	14.8	0.0	0.55	..	0.55	....	3.0
Tuberculous Disease	2.3	3.1	...	0.8	0.98	0.73	25	....	43.2	23.5
Debility, etc ..	18.0	38.4	..	20.4	0.98	2.36	..	1.38	5.4	6.1
Other General Diseases	27.3	17.8	10.5	...	1.73	3.45	..	1.72	6.3	19.3
Diseases of:										
Nervous System	9.3	10.0	....	0.7	2.80	5.82	..	3.02	30.4	58.2
Respiratory "	134.9	68.0	66.9	....	4.46	6.91	..	2.45	3.3	10.2
Digestive "	103.5	96.2	7.3	..	3.71	13.09	..	9.38	3.5	13.4
All Diseases ...	507.3	527.1	....	19.8	18.31	41.09	..	22.78	3.6	7.8

When the cases of malaria are omitted as not being common to both Britain and India, the admission rate in India is reduced to almost 100 per 1,000 less than in the United Kingdom. Even including malaria the admission rate for soldiers' children in India is only 19.8 per 1,000 in excess of the admission rate in Britain. Measles in 1899 occurred almost as frequently among

European children in India as at home, but was more fatal in India. Scarlet fever is rare. Respiratory disorders are less frequent but more fatal than in Britain. Pneumonia is, next to cholera, the most formidable disease met with in practice in India. Diseases of the digestive system are not so frequent in India, but about six times more fatal. Dysentery is difficult to define, being often confounded with rectal catarrh; hence the cures by various specifics so often heard of. Children in India do not have liver abscess following dysentery. The term "other general diseases" in the table above, includes whooping cough, mumps, anæmia, and immaturity at birth. Rickets is uncommon among the natives, perhaps because they so generally nurse their children. Simple continued fever claims many victims. Tuberculous diseases are uncommon among children in India. Tabes mesenterica is rarely seen among natives, and of recent years European children have had it less frequently. On the whole, while European children in India enjoy a certain relative degree of immunity from some of the diseases of childhood, the death rate and the case mortality from all diseases excepting tubercle is higher among them than in the United Kingdom.

Dr. Edward Henderson had for thirty years treated many children in Shanghai, a sub-tropical climate, where the climatic changes are always well marked, and the summers are seasons of tropical heat. The effect of tropical heat on the European constitution is usually unfavorable, children suffering more than adults. During hot weather, diarrhœa, dysentery, and infantile cholera prevail, and after a hot summer anæmia and loss of tone are apparent. Heat causes enfeeblement of the nervous and muscular systems, and through these the digestive organs. It probably favors the development of the specific germs of certain diseases, and also causes decomposition of foodstuffs. Tropical heat, when long continued, causes the too rapid growth of children at the expense of general development. The cycle of nature, both animal and vegetable, is shorter in the tropics. Maturity is sooner reached, and decline hastened. At from four to seven years European children should be sent to Europe and kept there until growth is fairly completed. In the treatment of diarrhœa, drugs play a subordinate part. Milk should be stopped for several hours, and then beef juice or egg-albumen in water given, and brandy used, in some cases. Water must be freely given for thirst. Calomel in divided doses is the best medicine. Bottle-fed infants suffer from cholera more frequently than the breast-fed. Milk decomposes so easily in the tropics that it needs constant attention, and the native dairyman is not to be trusted. A wet-nurse should be provided if the mother cannot nurse her infant. The "diarrhée sudorale" of the French, in which the skin acts excessively, should be borne in mind, and the excessive perspiration should receive attention. Children should sleep on Canton matting and have a punka in the nursery, care being taken that they are sufficiently clothed and have the abdomen covered. Intestinal worms, especially lumbricoides, which are more common than in England, may cause or aggravate bowel troubles. They may exist for a long time without causing trouble. Bowel antiseptics which arrest fermentation and the astringents which pass through the stomach unchanged to act on the intestines are of great value in the treatment of diarrhœa.

Dr. Manson asked Dr. Crombie for a definition of dysentery, and for information upon the increase of diphtheria, trismus neonatorum, and hypertrophic cirrhosis of the liver in India. He agreed with Dr. Henderson regarding the advantages of breast milk and the necessity for a wet-nurse.

Major W. H. Burke endorsed Colonel Crombie's opinions regarding the rarity of typhoid fever among natives of India. He had treated many cases of this disease among Parsees, and also among what may be called the scions of noble houses, sons and relatives of native chiefs; the Parsee has no caste prejudices and the Rajah is above them. This seemed to bear out Colonel Crombie's deductions. On the other hand, he thought there was at present an immense amount of tuberculosis among natives in Bombay, and he considered that Colonel Crombie had not dwelt sufficiently on the unhealthfulness for European children of the rainy season in India, nor on the functional weakness of the liver among European children in India

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SECTION OF OBSTETRICS AND GYNECOLOGY.

Second Day—Thursday, August 1, 1901.

When and How to Operate on Uterine Fibroids.—Dr. William Duncan of London opened a discussion on this subject. He said that while very divergent opinions were held as regards the liability of fibroids to kill the patient, there could be no difference of opinion as to their deleterious effect on health in many cases. They had been shown to cause fatty heart, and this was a common cause of death after operations. If a woman with a fibroid became pregnant there was a serious risk of abortion, rupture of the uterus, and cerebral hemorrhage from disease of the blood vessels. Parturition was dangerous in these cases, especially when the fibroid was situated low down near the cervix. In many cases fibroids even of large size caused no trouble, and when this was the case they should not be interfered with; it was wrong, therefore, to recommend that all fibroids should be operated on. The conditions indicating operation were: (1) Hemorrhage, (2) pressure symptoms, (3) rapid growth, (4) a complicating pregnancy.

1. When there was hemorrhage he advised that the cervix should be dilated and the uterine cavity explored, and if there was a submucous fibroid or a polypus it should be removed. This should always be done before more radical operations were undertaken, otherwise a uterus might be removed containing a polypus which could easily have been dealt with by simpler means.

If after dilatation a large submucous tumor was found, what should be the treatment? He did not approve of morcellement, for if this was done and the patient subsequently became pregnant he thought there was danger from thinning of the uterine wall. The removal of the appendages had fallen into disuse, and it had been found to be better for the woman to remove her uterus and leave the appendages rather than to remove appendages and leave uterus. Apostoli's electrical method in his hands had proved a complete failure. He advocated hysterectomy. Abdominal myomectomy was the operation "par excellence" for subperitoneal fibroids, but where there was more than one tumor he preferred hysterectomy and considered the latter *the* operation for most cases. Panhysterectomy or the intraperitoneal operation might be done; fixing the stump in the wound was to be condemned. On the whole he preferred subperitoneal hysterectomy, suturing the broad ligament carefully, and he would reserve panhysterectomy for cases in which the cervix was involved by the growth. He did not practise vaginal hysterectomy for fibroids. His statistics showed 127 cases with 4 deaths.

2. Pressure symptoms affected the bladder, rectum, and sacral nerves. Sometimes one could push the tumor up and relieve pressure symptoms. When that was not possible hysterectomy was the only thing to be done.

3. When there was rapid growth it was due to cystic or malignant degeneration and always called for hysterectomy.

4. In cases of complicating pregnancy, it was not necessary to interfere if the fibroid was in the upper part of the uterus. When it was in the lower part there were three courses open, namely: (a) To empty the uterus; (b) to perform immediate hysterectomy; (c) to allow the patient to go to term and then perform cæsarean section

and hysterectomy. He would try (a) and if that failed do (b).

Technique of operations for fibroid tumors. There were two dangers: (1) Shock with heart failure; (2) tympanites from intestinal paralysis. For (1) he gave nutrient enemata every four hours, with liq. strych. hypodermically. For (2) if no flatus was passed for twenty-four hours a long rectal tube was introduced, and this was followed by a turpentine enema. He tied off the ovarian and uterine arteries before cutting the peritoneal flaps and found that there was then less hemorrhage. Oozing points in the cervix were tied with catgut and the peritoneum was stitched with fine silk by Lembert sutures. He used to cut out a wedge from the cervix and suture the muscular tissues with silk, but had abandoned that and now never sutured the cervix. In cases of burrowing in the broad ligament, after enucleating the tumor he closed the cavity by continuous pure silk suture. He sutured the abdominal wall in three layers with silk. He always left the ovaries unless they were obviously diseased.

Dr. Cuthbert Lockyer of London read a paper on a case of cystic fibromyoma in a single woman of twenty-three years. Myomectomy was performed and his patient recovered. The tumor resembled a six-months' pregnancy and there were uterine contractions, but not ballottement. The tumor was presenting at the os, which was dilating; it was removed by morcellement and the uterine cavity was washed out and packed. Microscopical examination showed the tumor to be a fibromyoma.

The President said that he would like to hear opinions on the occurrence of degenerative changes in fibroids.

Mr. Alban Doran said that small, hard fibroids causing no pressure symptoms or hemorrhage should not be removed: the success of any operation did not mean its justification. Fibroids which were increasing, causing pressure symptoms, or causing metrorrhagia (to which he attached much more importance than to menorrhagia) should be removed. For shock he used liquor strychniæ also sparteine. He could not speak well of Apostoli's method—it led to adhesions and so increased the danger of subsequent operation. In pregnancy, with the fibroid in a lower part of the uterus he would operate at once and not wait for full term, but when the fibroid was in the fundus he would leave it alone. He had done twenty-nine cases since January, all by the retroperitoneal method, with one death. To prevent the ligatures working into the bladder he made a large anterior flap. He sutured the peritoneum over all raw surfaces, including the ovarian stump. He strongly advocated the ligature of the uterine arteries without transfixing the peritoneum, and thought it was better to divide the arteries and see spouting before applying the ligatures. Transfixion of the broad ligament with pedicle needles was apt to lead to injury to a vein and subsequent thrombosis. He did not find that removal of the ovaries produced such bad results as some described.

Mr. Christopher Martin of Birmingham advised operation when the fibroid was rapidly growing, cystic, or sloughing, and when there was pressure on the bladder or hemorrhage in a woman under forty years of age. He had operated on seven cases of sarcoma of the uterus in which the history showed that malignant degeneration had attacked an old-standing fibroid. In operating on submucous tumors, he divided the uterus anteriorly, after stripping up the bladder to the peritoneal reflexion, and in that way found that he could remove a large mass, afterwards sewing up the incision with catgut. He approved of myomectomy in certain cases, and preferred panhysterectomy when the cervix was diseased. The great cause of shock was exposure of the intestine, and this was obviated by the Trendelenburg position. In the after-treatment of operative cases he gave fluid in fair quantities by mouth or rectum and raised the foot of the bed. His statistics showed forty-seven abdominal hysterectomies for fibroid with one death; eight for sarcoma with two deaths; thirty-three vaginal hysterectomies for fibroid with two deaths.

Dr. Hawkins Ambler of Liverpool thought that heart degeneration was an indication for operation. The Trendelenburg position prevented stasis in the pelvic veins and so prevented shock. Atropine was useful for shock, also nutrient enemata containing forty grains of carbonate of ammonia, as advised by Kelly.

Dr. Alfred Smith of Dublin agreed with Dr. Duncan as to indications for operation, but made an exception in the case of a large tumor in a single woman when the mere size of the tumor was a trouble. He used the same technique as Duncan. In very anæmic women he practised a long preparatory treatment with arsenic and iron, also did preliminary curetting.

Dr. Campbell of Belfast had found that too large flaps of peritoneum allowed blood to accumulate underneath them, forming an hæmatocele.

Dr. Garrett Anderson of London had seen many cases of fibroid before the days of operation, and felt sure that cerebral hemorrhage sometimes resulted from the continued bleeding leading to changes in the blood vessels. She had also seen several cases of malignant degeneration of old fibroids.

Dr. Mary Scharlieb of London did not believe in Apostoli's method; she thought it caused adhesions, and that, as a rule, fibroids were found to be free from adhesions. She also thought that degenerations were more frequent than usually supposed; and had found that in cases of fibroid there was nearly always disease of the appendages, and sometimes pyosalpinx. She had removed a fibroid tumor from a girl of fifteen.

Dr. Stanley Boyd of London said that mere increase in the size of the abdomen in cases of fibroid in single women, by reason of its mental effect in some cases, justified operation. Bilateral section of the cervix to get at sub-mucous tumors was better than dilatation in some cases. She had had good results from morcellement after dividing the uterine wall.

Mr. Bowerman Jessett of London said that if tumors were growing after the menopause early operation was indicated. He had seen ten cases of sarcomatous degeneration, but believed carcinomatous degeneration was rare. He had known tumors diminish in size after pregnancy.

Dr. Aust Lawrence of Bristol had given a prolonged trial to Apostoli's method, but had abandoned it.

The President said Apostoli's treatment might be put aside. The best method of operating was the retroperitoneal, tying the vessels individually. He did not approve of starving patients after operation.

Dr. Duncan, in reply, said he did not approve of Apostoli's method. He liked to make big flaps, and then to cut off the excess, so as to avoid a dead space. He preferred the retroperitoneal method to both panhysterectomy and vaginal hysterectomy.

Ectopic Gestation.—Dr. Smith of Dublin reported a case of successful laparotomy for abdominal pregnancy, with removal of the fœtus, placenta, and gestation sac *en masse*. The fœtus was a female at full time, but dead. There was no trace of ovary or tube in the sac. The main blood supply was from the left ovarian artery.

Dr. Stanley Boyd read a paper on "A Case of Twin Pregnancy, Extra-uterine and Intra-uterine."

Dr. Hastings Gilford read a paper on ovarian pregnancy. He referred to four previous cases and gave notes of his own case.

Third Day—Friday, August 2.

The Diagnosis and Treatment of Metritis and Its Relationship to Malignant Disease.—Dr. John Campbell of Belfast opened a discussion on this subject. He said

that the following conditions might be mistaken for metritis:

1. Early pregnancy. The best distinguishing marks were the flattened form of the uterus in metritis as compared with its globular form in early pregnancy, and the difference in consistence; in metritis the cervix and body were about equal in consistence, whereas in pregnancy there was marked softening of the body, the cervix at first remaining firm.

2. Cancer. The hard nodules formed by the nabothian follicles and resembling cancerous nodules, disappear on pricking. He thought that the friability of the suspected tissue was the best clinical sign of cancer. When the sharp curette was used in cases of cancer, pieces of tissue came away, but in metritis only shreds. The importance of pain as a symptom of cancer had been much exaggerated in the textbooks, and cachexia only appeared late in the progress of the disease. The diagnosis rested mainly on the effect of using the sharp curette.

3. Incomplete abortion might simulate metritis.

4. Fibroids could be recognized by irregularities in shape of the uterus, and by examining the interior, after dilatation, with the finger.

5. Salpingitis, recognized by vaginal and rectal bimanual examination.

Metritis gave rise to many reflex symptoms, and these might give the case the aspect of one of tuberculosis or severe dyspepsia.

Prevention of Metritis.—The management of labor and abortion still leaves much room for improvement; it was wrong teaching that the whole uterus can be cleared out by the finger; often the finger never gets beyond the internal os; he always advised the use of the flushing curette. He thought that blunt curettes were useless. Indiscretions during menstruation were a prolific cause of metritis. Women and girls should avoid exertion at those times and use aseptic pads. Gonorrhœa was a very important cause, and in the prophylaxis of this we could not do very much.

Treatment of Metritis.—In the management of this affection we must have resort to tonics, saline aperients, and douches. For the latter not less than two quarts should be used, and the douche should be continued for twenty minutes at a temperature of 100° to 120° F., in the dorsal position, care being taken carefully to evacuate the residue.

Hip baths were of some service. The value of the tampon had been over-estimated; when used, a daily application was necessary. Local bleeding by puncture, followed by warm douche, was useful.

Intra-uterine medication could be effected by irrigation by a double catheter with or without dilatation. Plugging with iodoform gauze was suitable, especially for gonorrhœal cases. Application of solid caustics had been abandoned. Among the liquids now used were solutions of zinc chloride, carbolic acid, and tincture of iodine. He thought the application of liquified carbolic acid on a prepared probe was the best. The cautery was useless, and atmocausis was dangerous.

Curetting was the best method of active treatment, but must be followed by other treatment. He used a sharp curette. The time in relation to the period at which the curetting was done was not of much importance. General anæsthesia was optional; he had found cocaine, applied locally, efficacious.

The operation of curetting was performed as follows: His first measure was to scrub the vagina thoroughly with a toothbrush, and he then passed in a sound to ascertain the direction of the uterus. He used Duncan's long-handled dilator, and thought that extreme dilatation was unnecessary. He flushed the uterine cavity with 1:2000 perchloride solution before curetting, and after the curetting swabbed out with iodine.

Among the dangers of curetting were: (1) Perforation of the uterus; this was especially likely to arise when the direction of the uterine cavity was not borne in mind. (2) Peritonitis; this was generally due to curetting having been performed when salpingitis existed.

Further methods of treatment which had been recommended were: (1) Electricity. This was utterly inefficacious. (2) The yeast method for gonorrhœal cases, of which he could not speak, as he had not tried it. (3) Mercurial ointment applied to the endometrium was useful in venereal cases. Old standing erosions were best treated by excision of the diseased area. Caustics were useless. (4) Hemorrhagic metritis was treated by hydrastis canadensis, ergotin, and injection of perchloride of iron. Cancer of the cervix was predisposed to by lacerations of the cervix, the proof of which was its rarity in nulliparæ. Cancer of the body had been known to follow metritis.

Dr. Scharlieb of London thought that undoubtedly endometritis sometimes went on to cancer.

Dr. Herbert Snow of London thought that weakness and exhaustion were among the earliest symptoms of malignant disease, and he placed no value on the opinion of the microscopist in making a diagnosis.

Dr. Aust Lawrence of Bristol discountenanced the active treatment advocated by Dr. Campbell, and drew attention to the danger of bursting a pyosalpinx during the manipulations.

Dr. Inglis Parsons of London had found electricity useful for arresting the hemorrhage, and thought it was quite wrong to say that weakness was an early symptom of malignant disease. He agreed with Dr. Campbell that dilatation sufficient to give access to the finger was not necessary. He always found that if there was anything in the uterus the os dilated easily.

Mr. Bowerman Jessett of London said that in catarrhal endometritis he would not use the curette, but preferred ichthyol and glycerin plugs.

Dr. Purslow of Birmingham had met with four cases in which long-continued hemorrhage had failed to be arrested by the line of treatment laid down by Dr. Campbell, and as the resultant anæmia was endangering life, he had performed vaginal hysterectomy, in each case successfully. He would like to have heard more from Dr. Campbell of the newer methods of dealing with severe hemorrhage by atmocausis, injection of gelatin, etc., as he would welcome some other method of treatment than hysterectomy.

Dr. Garrett Anderson of London thought that there was risk of diffusing malignant disease when the curette was used.

Dr. Square Cook of Stroud thought it was very difficult to clear out abortions with the finger, and was convinced that Dr. Snow's opinion about early cachexia in malignant disease was wrong.

Dr. Stanley Boyd of London said that a careful examination should exclude disease of the tubes before curetting was done. Many cases of relapsing metritis were due to gonorrhœa and the discharge should be examined for gonococci.

Dr. Hawkins Ambler of Liverpool said that continued disinfection of the uterine cavity should follow the use of the curette.

Dr. Montague Handfield Jones of London said that most cases in the early stage were cured by curetting and cleansing the endometrium. If cancer did follow metritis, there was a long preceding interval; he thought there was a danger of the curette disseminating carcinoma.

The President said that many cases were due to inefficient treatment of abortion. Partial detachment of the placenta was especially frequent from the twelfth to the twentieth week; the finger will not suffice to clear the uterus—we must use the curette. Cases of gonorrhœal metritis were very intractable. He believed in the application of strong nitric acid. After curetting, he used equal parts of tincture and liniment of iodine with a Braun's syringe. He placed dependence, in the diagnosis

of cancer, on the report of a microscopist who was skilled in uterine pathology.

Dr. Campbell, in reply, said that he placed much reliance on getting a plug of tissue in the curette, while scraping a suspicious area, as a sign of cancer. He had found atmocausis unsatisfactory; had had no experience with gelatin. He had found it necessary to do vaginal hysterectomy in some cases.

Prolapse of the Uterus.—Dr. Inglis Parsons of London read a paper entitled "Further Report on a New Operation for Prolapse of the Uterus with Notes of Forty Cases." He discussed the different operations for prolapse, and said that the best plastic operation was the one in which a triangular flap from the posterior vaginal wall was taken, and the perineum was repaired. In many cases operation failed, and in these the fault was due to the abnormal relaxation of the uterine ligaments. This alone would give rise to prolapse, as in those cases in which prolapse occurred with an unruptured hymen and relaxation was absent, prolapse did not occur even when there was complete rupture of the perineum. Ventral fixation was good for retroflexion, but of no use for prolapse, because of the drag on the abdominal wall. The band of connective tissue in the broad ligaments was one of the most important supports. His operation consisted in injecting quinine into the base of the broad ligaments so as to set up some inflammation of the cellular tissue with subsequent contraction. He used a special syringe and needle, the latter being one inch long. The strength of quinine used was 1 in 5; he kept up the uterus after injection by a cup-and-stem pessary for some weeks.

Extirpation of the Vagina and Uterus in Cases of Intractable Prolapse.—Mr. Christopher Martin of Birmingham reported a case in which he had performed this operation. The patient, a widow, aged fifty-three, had previously had ventral fixation and repair of the perineum performed at one operation, and anterior and posterior colporrhaphy at a second. She had tried various pessaries, but all treatment had failed to keep up the prolapse. The operation was performed by making a posterior longitudinal incision opening into the pouch of Douglas, and a circular incision near the vulva. After the uterus was removed the peritoneum was sutured with catgut, then the connective tissue was sutured, and lastly the skin. Two years had elapsed since the operation, and the result was still satisfactory, the woman being able to get about in comfort.

Inversion of the Uterus.—Dr. Haultain of Edinburgh read a paper on "The Reduction of Chronic Uterine Inversion by Abdominal Hysterotomy, with Report of a Successful Case." He opened the abdomen, made an incision through the posterior wall of the uterine cup, pushed up the fundus from below, and after reduction sutured the uterine wall with catgut. He considered it unjustifiable to remove the uterus unless it was gangrenous. He preferred abdominal to vaginal section because of (1) the smaller incision in the uterus, (2) the easier control of hemorrhage (which is very free), and (3) its greater safety.

A vote of thanks to the President, proposed by Dr. Cooke, Vice-President, seconded by Professor Wright of Leeds, concluded the business of the meeting.

Cases of Prolonged Fever, not Typhoid.—J. P. West reports a series of cases of a type apparently common in some parts of the country. They take the course of a continued fever, do not yield to quinine, do not respond to any of the laboratory tests for typhoid, and are difficult to diagnose as to their exact nature. They perhaps resemble more closely than anything else that type of malarial fever known as the estivo-autumnal. All the patients recovered, but convalescence was in each case very tedious.—*Cleveland Medical Gazette.*

BRITISH CONGRESS ON TUBERCULOSIS.

Held in London July 22–26, 1901.

(Continued from page 314.)

SECTION I.—STATE AND MUNICIPAL.

First Day—Tuesday, July 23.

This section was designed to interest the public almost if not quite as much as the profession, and to some extent it succeeded in doing so. It hardly was expected that many members of Parliament, wearied with the labors of the session, would take part in discussions on subjects which, if anything results from this Congress, will come before them in their legislative capacity. A number of papers upon the statistical aspects of tuberculosis will appear in the Transactions, having been prepared merely for record, not for discussion. The first of these was by Dr. Tatham, of the Registrar-General's office, who dealt with the mortality from phthisis during the last forty years, the geographical distribution of the disease, its age and sex distribution, its occupation incidence, and the evidence against its heredity.

Dr. V. Körösy, Director of the Budapest Municipal Statistics, related his observations on the influence of occupation, age, social position, the food of children, and other factors influencing the occurrence of phthisis. Drs. Chalmers and Kaye contributed other papers. All the foregoing were presented in the division of the section devoted to statistics.

President's Address.—Sir Herbert Maxwell spoke a few words of welcome, and then proceeded to outline briefly the work prepared for the section. Speaking of notification, he said that the enforcement of sanitary regulations was almost impossible unless the reasons for them were thoroughly understood and approved by the people. Sunlight was necessary to health, yet the tendency in cities was to shut this out more and more by increasing the height of buildings. Legislation in this matter was, he thought, of prime necessity.

The Notification of Tuberculosis.—In the second division a discussion on notification was opened by the reading by Dr. E. G. Janeway of a paper contributed by Dr. H. M. Biggs, of New York, on "Notification as it is in Operation in New York and Other Cities of the United States." After a review of voluntary and compulsory notification of infectious diseases generally, he said that in 1897 the New York Board of Health declared tuberculosis to be a dangerous and contagious disease and that physicians should be called upon to report cases to the Sanitary Bureau. A sum of $60,000 was appropriated to the care of poor sufferers from the disease. The regulations were not strictly compulsory, but public opinion was gradually decreasing the number of cases not notified. The authorities examined sputa without charge for physicians. In consequence of the measures adopted there had been a reduction of thirty per cent. in deaths from tuberculous disease.

Dr. Wm. Osler moved a vote of thanks to Dr. Biggs, which was heartily carried. He said there had been great opposition to the measures of the Board of Health, but their success was an object-lesson of what might be accomplished in spite of opposition.

Alderman McDougall, Deputy-Chairman of the Sanitary Committee of Manchester, then gave an account of the working of voluntary notification in that city. At first the plan was restricted to public institutions, but in 1900 the city council invited practitioners to notify their cases, and appointed a medical man to visit and instruct as to disinfection, supervise and carry out preventive measures, and otherwise assist the medical officer of health in carrying out the scheme. The city has also begun the isolation of advanced cases from crowded houses. A new hospital has been given by Mr. Crossley, and applications for admission are numerous. The beds available for Manchester will shortly be 120 for sanatorium and

twelve for isolation apart from the provision made under the Poor Law.

Dr. HOLMBOE, Director of the Medical Service of Norway, gave an account of notification in that country, but he admitted the law was too recent to allow of certainty as to its effects, though up to the present no objections had been raised to compulsory notification on account of its inconveniences.

Dr. KNOPF of New York dealt with the State and individual prophylaxis of tuberculosis in childhood and the need of children's sanatoria. He did not believe the bacillus could be transmitted by heredity, but a predisposition might be. Practically all infection was post-natal, and the child might be infected from the earliest period, even at birth, by a careless midwife. Numerous ways in which children are liable to infection were mentioned. The duties of the State were pointed out. An urgent need for sanatoria to which schools should be attached was insisted on.

Dr. BOMPARD of Paris detailed the measures employed in France on behalf of poor town children. They endeavored to give them a sojourn in the country, and a number of municipalities had devoted money to this purpose. Paris spent 279,000 francs in this way and 4,000 children were benefited. It was estimated that a child gained two kilograms in weight and two centimetres round the chest during its sojourn in the country.

Dr. PETIT of Paris detailed the work of establishing dispensaries in that city for young patients at which 17,000 children had been treated in the last two years.

Dr. ALDERSON of Kensington said voluntary notification was not successful and the distribution of sanitary pamphlets of little use. Compulsion made all practitioners act alike. Cases discharged as cured should be reported to the medical officer of health, for relapses were common.

Dr. ROBERTSON of Sheffield had met with no difficulties as to visits of inspection of houses. But owners of workshops raised objections to sanitary cleansing. He thought the importance of healthful conditions of life and open-air treatment could not be exaggerated.

Dr. COOPER-PATTIN of Norwich always endeavored to carry out disinfection after a death from phthisis and had been able to disinfect ninety-five per cent. of houses after such deaths. He thought it hopeless to advocate compulsion unless sanatoria were provided, and it must be remembered that the contagion, if not virulent, is long continued. His committee were willing to schedule tuberculosis, but the local government board would not sanction it. He was glad to hear from Dr. Biggs that advanced Anglo-Saxon democracies were not afraid to interfere with liberty on behalf of sanitation.

Dr. STONE of Boston said that last year the Boston Board of Health included notification of tuberculosis and disinfection of premises after death in their regulations. There were public institutions for the pauper class, but others did not like to go to them, and compulsion was occasionally necessary.

Dr. HOFFMAN remarked on the absence of any scheme for including early cases in notification such as are continually being rejected for life insurance, and yet the early cases respond best to treatment.

Dr. RUATA of Perugia told how Italy had passed a law for compulsory notification of phthisis among the inmates of schools, convents, prisons, etc.; also whenever a death from the disease occurred.

Dr. REYNOLDS of Chicago said that in that city they held it to be the duty of the government to educate the public on the matter. This, he thought, should be done by the press, by visits of doctors, and popular lectures. Sometimes, he said, doctors occupied the pulpits of liberal churches in Chicago on Sunday, and he thought they did so with advantage.

Dr. NEWSHOLME of Brighton considered notification in some form had advanced rapidly. Compulsory gave more satisfactory results than voluntary notification, though he admitted that at Brighton the latter worked well. Since 1893 there had been an arrangement for examining sputum for practitioners. He proposed a resolution to the effect that voluntary notification had been attended with a promising measure of success and should be extended wherever it is practicable to adopt the consequential measures.

Sir H. LITTLEJOHN seconded this, though he approved personally of compulsion and said that in Edinburgh they could not get rid of tenement-houses and must do all they could to render them more sanitary. He advocated isolating cases in public hospitals.

Sir JOHN COCKBURN deprecated the use of the word voluntary, which might discourage attempts at compulsion. Eventually the word was left out, and the resolution was carried in favor of notification simply.

Second Day—Wednesday, July 24.

The Influence of Housing and Aggregation.—The next discussion was on the influence of housing and aggregation, and a very discursive one it turned out. It was opened by Dr. HAROLD COATES, who gave an account of an investigation under the direction of Drs. Niven and Delapine. Dust was collected where it had settled naturally on floors, walls, shelves, etc., from twenty-three infected and dirty houses, and ten clean but infected houses. In the former, the bacillus was found in 66 per cent.; in the latter, in 50 per cent. Other specimens were collected, with varying results. Chlorinated lime, one and a half ounces to the gallon, formed the best disinfectant solution. But the extreme difficulty of efficient disinfection such as required to destroy the myriads of bacilli scattered on every side by a phthisical patient is scarcely appreciated at present.

Prof. v. SCHROETTER showed a spittoon made of *papier mâché*, and Dr. WALTERS described a cheaper one.

Dr. ROBERTSON read the abstract of a paper on how to attain a higher standard of lighting and cleanliness in houses, factories, etc., and the legislation desirable to promote this end.

Dr. ESPINA Y CAPO strongly urged that hygienic paper be used instead of handkerchiefs, and be at once burned. He had also much to say of spittoons, which should be combustible and renewed daily.

Dr. GARLAND, of the Post Office, regretted, in such a department with 160,000 employés, spittoons were not provided, and other sanitary measures were neglected. The French Post Office was far better in this respect.

Dr. VOLCKMAN said metal receptacles were provided in the hospitals of Norway.

Prof. RUATA said there was less tubercle among the poor Italian peasantry than in better houses. He attributed this to the freer ventilation and the open-air life.

A resolution was adopted urging upon owners of factories and workshops the necessity of free ventilation.

Other resolutions were brought forward and discussed at some length, affecting dwelling-rooms, shops, factories, etc., and recommending periodical disinfection, adequate ventilation, and legislation to secure these. Wide differences of opinion seemed to prevail as to the precise measures desirable, and the value of such resolutions, which were in the end dropped.

Control of Meat Supplies.—Mr. SHIRLEY MURPHY sketched the procedure adopted in Great Britain to prevent the sale of diseased meat, and spoke of the prevalence of tubercle in cattle and the difficulty of inspecting all meat sold.

Other speakers gave their experience on these points, and the effect of Koch's statement was naturally considered. The general view was that there should be no relaxation of preventive measures. In England and on the Continent the law permitted the slaughtering for food of animals with local tuberculosis only, but not those affected with the general disease. Details of frauds

that had been practised were related, such as could not occur in public slaughter-houses.

Third Day—Thursday, July 25.

International Aspect of Tuberculosis.—Dr. ALFRED HILLIER opened the discussion in a paper in which he apportioned credit for measures tending toward the repression of tuberculosis impartially among the several nations of the globe. Germany led in sanatoria, America in practical measures of prevention, France in the education of public opinion; England, Norway, Denmark, Italy, all had entered energetically into the contest. He suggested the formation of an international league against tuberculosis.

The subject was further discussed by Drs. Montizambert of Canada, Robinson of Maine, Hobbs of Bordeaux, Bezly-Thorne of England, and da Silva-Amado of Portugal, and at the close the following resolution was unanimously carried:

"That this section is of opinion that a permanent International Committee should be appointed (*a*) to collect evidence and report upon the measures that had been adopted for the prevention of tuberculosis in different countries; (*b*) to publish a popular statement of these measures; (*c*) to keep and publish periodically a record of scientific researches in relation to tuberculosis; (*d*) to consider and recommend measures of prevention for the guidance and information of the governments of States and local authorities. This Congress is further of opinion that such a committee should consist of representatives to be elected by the great national societies for the prevention of tuberculosis, and also of representatives nominated by various governments."

Control of Milk Supplies.—In this discussion most of the speakers dwelt more or less on the statement of Koch regarding human and bovine tuberculosis, deploring the fact that such a positive assertion had been made on the strength of such insufficient data, and suggesting various measures to undo the mischief caused by his paper.

Fourth Day—Friday, July 26.

Sanatoria.—Sir JAMES CRICHTON-BROWNE read a paper on this subject, in which he argued that this mode of treatment has largely increased the curability of phthisis, and ought to be brought within the reach of all classes of the community. For those who can pay their way there is no difficulty, but for others help is needed, and private charity can hardly suffice. Therefore, public funds should be employed for so great a benefit to the people.

Mr. BRADBROOK, Registrar of Friendly Societies, spoke of sanatoria in relation to them. He came to the conclusion that these societies would not consider themselves sufficiently interested financially to contribute to the establishment of sanatoria.

Mr. HOFFMAN, of the Prudential Insurance Co. of the United States, read a paper on the relation of tuberculosis to life insurance. He said the latter would not contribute to the erection and support of sanatoria, but they might help in the distribution of educational literature.

Dr. HAYWARD said if tuberculosis could be abolished, the average life of the population of the country would be increased two years.

Lt.-Col. MONTEFIORE and Dr. JANE WALKER continued the discussion, and at its close a resolution was passed that the county councils should provide sanatoria for the poor.

Hospitals for Consumptives.—Dr. J. E. SQUIRE said that a hospital for consumptives should be all that a sanatorium is, and more. It should have its out-patient department, separate from the wards, and should have also a home for the dying.

Drs. CALMETTE and BERNHEIM gave an account of some dispensaries in Paris, mostly connected with the large hospitals. These dispensaries provide not merely medicine, but food and clothing for indigent patients. Sanitary officers are also attached and look after the patients at their own homes. From a preventive aspect these dispensaries have been equal to or better than sanatoria.

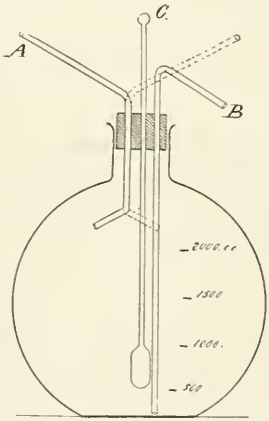
New Instruments.

A SIMPLIFIED INFUSION APPARATUS.

By JONATHAN M. WAINRIGHT, M.D.,
SCRANTON, PA.
SURGEON-IN-CHIEF TO THE MOSES TAYLOR HOSPITAL.

IT would probably be a nearly unanimous opinion among surgeons that intravenous infusion is the most valuable single means we have for treating severe hemorrhage and shock. The very great practical difficulties in regard to proper transportation, temperature, aseptic solutions, etc., however, make this means often unavailable in private practice and in many emergencies where its use is particularly indicated. For this reason the following apparatus will be found of value to surgeons because of its portability and the ease in preparation and accurate temperature conditions of the solution which it insures. The apparatus in its present shape includes certain modifications by Dr. W. R. Munger, of St. Luke's Hospital, New York City, and has proved its value in that hospital, in private practice, and in a railway emergency hospital.

The essential part is a thin glass short-necked two-litre flask with a rubber cork perforated by three holes, one for a thermometer (*c*), another for a delivery tube (*b*), and the third for an air vent (*a*). The thermometer must register at least 200° F. The air-vent tube must have an outer arm which projects just beyond the side of the flask, and a smaller inner arm of as great a length as will allow it to pass through the mouth of the flask. The side of the flask is graduated for every 500 c.c. up to two litres with white enamel paint.



A. Air-vent Tube; dotted lines show the position to which it is twisted when the cork is inserted B, Delivery Tube. C, Thermometer.

There is also necessary a rubber delivery tube about four feet long, to which is attached a cannula —a small-diameter medicine dropper answering very well. This tube is sterilized in the usual manner and kept ready for use in a sterile towel.

As a decinormal salt solution will deteriorate in time, it is best to keep in the flask only sterile water and add the salt at the time used. The flask then is filled with a little more than two litres of water to allow for evaporation, and this is boiled for a half hour; the tubes are then plugged with sterile cotton and rubber tissue is tied on the ends. Twelve grams of c. p. sodium chloride is similarly sterilized and preserved in a separate small bottle. In this way the ingredients of the infusion can be kept for an indefinite time ready for instant use.

To put the apparatus in action, the salt is added

and the whole is placed in hot water or over direct heat and raised to the desired temperature as indicated by the thermometer in the fluid. The delivery tube and cannula are then attached and the flask is tipped on its side so that the air-vent tube is uppermost and the water is allowed to run out of the delivery tube till syphonage is established, when the flask is righted and placed on a convenient object above the patient ready for delivery.

For transportation, a circular tin box can be made just large enough to contain the flask. In the top of the box around the neck of the flask are placed the rubber tube in its sterile towel, and the bottle of salt solution, a scalpel, forceps, scissors, and an aneurism needle (if not carried in an instrument case), so that the complete outfit for an infusion in a private house can be carried in a box much smaller than that required for a silk hat.

The advantages of this apparatus are that it is easily portable and that the solution can be prepared for use in a very few minutes, or during an operation can be kept heated and used at any moment. The strength of solution, temperature, quantity, and rate of flow are under exact control of the operator. The fluid is delivered from the vessel in which it has been boiled, and thus rubber bags or unsterilizable jars are avoided, and there is no changing from one vessel to another with the consequent delay, exposure to germs, and loss of heat.

All but the tin box can easily be made by the surgeon himself. It will add but little to the bulk of his equipment, and will prove an invaluable addition in many cases when he is called to a severe operation or obstetrical case, or in answer to an accident call.

The apparatus contains no original devices, but is simply the application of well-known principles to the end in view.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 24, 1901.

	Cases.	Deaths
Measles	72	5
Diphtheria } Laryngeal diphtheria (croup) }	102	24
Scarlet fever	90	11
Smallpox	18	8
Chickenpox	4	—
Tuberculosis	222	138
Typhoid fever	64	16

Types of Indigestion and Their Wide Correlations.—W. H. Pearse has made a study of fifty-four cases of indigestion seen in dispensary practice in the course of five years. He notes that pain may be referred to the epigastrium, back, left infra-axillary region, sternum, etc.; may come immediately after eating, or not till one hour after; may last only a little while, or be practically continuous. Vomiting was present in thirty-four of his cases, fourteen patients showed well-marked neuroses or neuralgias; two were anæmic; one had urticaria, and five had a family history of phthisis. Menstruation was normal in twenty-two (all the fifty-four patients were women), absent in four, scant in four, profuse in one, congenitally absent in two. The bowels were costive in twenty-nine, extremely so in two, and natural in thirteen.

In thirty-four of his cases of indigestion, he began treatment with muriatic acid, quinine, and pepsine; the greater proportion did well, but in thirteen of the above he had to abandon the treatment and to give bismuth, sodium bicarbonate, and lactopeptine; even then, in several, he failed to give relief. Malt extract was given under both classes of treatment. In eleven, he began with and continued the bismuth treatment. He had seen, in a few cases, rapid relief under both the acid and the bismuth treatments, but in some cases there was much failure to relieve the patients. A paramount aim was to stimulate the whole primæ viæ by a pill of aloes and iron or by a mineral water, by a digestible but varied diet, and by the use of lemon juice as a drink. In a few that he kept on an exclusive milk diet, temporary benefit was noted, but in general the patients were not cured by a milk diet, the relief of the pain being for a week or two only. He inclined more to a light and varied diet—fish, the best vegetables, and fruits—and was sure that lemon juice, drank daily in cold or warm water, was a good thing for both young and old.—*Medical Press and Circular.*

Inoculation as a Preventive against Typhoid Fever.—The article of H. M. Cullinan is based upon inoculation observations made in an institution for insane women. Out of 655 who were liable to be attacked, 54 contracted the disease, *i. e.* 8.24 per cent. Of 511 patients inoculated, 7, *i. e.* 1.36 per cent., were attacked after the operation. Forty-seven cases occurred in those who had not been previously inoculated, *i. e.* in 7.16 per cent. of the total number liable to infection.—*Dublin Journal of Medical Science.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 24, 1901:

		CASES	DEATHS
SMALLPOX—UNITED STATES AND INSULAR.			
California, San Francisco	Aug. 2d to 11th	2	
Georgia, Pickens Co	July 1st to Aug. 10th	37	
Illinois, Chicago	Aug. 10th to 17th	1	
Massachusetts, Boston	Aug. 10th to 17th	2	
Nebraska, Omaha	Aug. 3d to 10th	1	
New Jersey, Jersey City	Aug. 11th to 19th		1
Newark	Aug. 10th to 17th	4	
New York, Elmira	Aug. 3d to 17th	4	
New York	Aug. 10th to 17th	36	
Pennsylvania Philadelphia	Aug. 10th to 17th	6	1
Pittsburg	Aug. 10th to 17th	2	
Utah, Salt Lake City	Aug. 10th to 17th	4	
Washington, Tacoma	Aug. 4th to 11th	1	
Philippines, Manila	June 22d to July 6th	1	
SMALLPOX—FOREIGN.			
Austria, Prague	July 27th to Aug. 3d	1	
Belgium, Antwerp	July 27th to Aug. 3d		1
Colombia, Panama	Aug. 5th to 12th	7	
France, Paris	July 27th to Aug. 3d		8
Great Britain, Glasgow	Aug. 2d to 9th	2	
Liverpool	July 27th to Aug. 3d	1	
London	July 27th to Aug. 3d	13	1
India, Bombay	July 16th to 23d	2	2
Calcutta	July 13th to 20th		6
Karachi	July 14th to 21st	1	1
Madras	July 6th to 19th		16
Italy, Messina	July 27th to Aug. 3d	11	4
Mexico, Mexico	Aug. 4th to 11th	1	
Russia, Moscow	July 22d to 27th	5	1
St. Petersburg	July 13th to 27th	3	
YELLOW FEVER			
Colombia, Bocas del Toro	Aug. 6th	1	
	Total to date	8	
Costa Rica, Port Limon	Aug. 3d to 10th	4	2
Cuba, Regla	Aug. 7th	1	
San Antonio de los Banos	Aug. 6th	1	
Mexico, Vera Cruz	Aug. 3d to 10th	2	1
CHOLERA			
India, Bombay	July 16th to 23d		10
Calcutta	July 13th to 20th		23
Madras	July 6th to 19th		2
Japan, Yokohoma	July 13th to 20th	1	1
Java, Batavia	June 29th to July 6th	33	23
PLAGUE—FOREIGN AND INSULAR.			
Australia, Brisbane	March 1st to 31st	8	1
	April 1st to 30th	7	2
India, Bombay	July 16th to 23d		107
Calcutta	July 16th to 20th		11
Karachi	July 14th to 21st	7	1
Philippines, Cavite	July 6th	3	
Concepcion	July 6th	1	
Malabon	July 6th	3	
Malalos	July 6th	6	
Manila	June 22d to July 6th	43	18
Naic	July 6th	3	
Paranaque	July 6th	3	
Santa Rosa	July 6th	1	

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Original Articles.

THE WORK OF THE SANITARY DEPARTMENT OF HAVANA; WITH SPECIAL REFERENCE TO THE REPRESSION OF YELLOW FEVER.

By W. C. GORGAS, M.D.,

MAJOR AND SURGEON, U. S. A.; CHIEF SANITARY OFFICER, HAVANA, CUBA.

THINKING that some description of the sanitary conditions in Havana might be of general interest, I have prepared the following sketch of conditions as they were at the time of the occupation of the island by the United States, and of the methods instituted in the endeavor to better them. This description applies more particularly to Havana, as I personally have been connected chiefly with the work in this city.

When the Army administration took charge in January, 1899, the city had just come through a siege of several months. War had been going on in the island for five years; and under the Spanish policy of reconcentration, many of the people of the rural districts had been forced into the city, no provision having been made for their care and support, the people themselves being entirely without means. For a considerable time no attempt had been made at street cleaning removal of garbage, etc. The American administration at once went to work and organized departments for street cleaning and disposal of garbage, and a Sanitary Department for the improvement of the general health conditions of the city. Probably the best idea of the conditions can be given by quoting the death-rate for the last year of Spanish occupation, 1898, and the two succeeding years of American occupation, these being respectively, 91.03, 33.67, and 24.40.

My personal connection with the Sanitary Department commenced in the spring of 1900, having been appointed Chief Sanitary Officer in February of that year.

The basis of the work of the Sanitary Department is the constant house-to-house inspection and supervision of the internal sanitation of the houses. For this purpose, the city is divided into twenty inspection districts with an inspector in charge of each district. This inspector is every day assigned a certain number of houses, about which he is required to make a report on a printed form. Based on this report, orders are given, principally with regard to cleaning, whitewashing, etc., and, when necessary, with regard to the more permanent improvements of plumbing, etc. This inspection report is filed in the office, each house in the city having a separate envelope in this file. The order is also filed in this envelope.

At the end of each week, in cases in which orders have been given, a re-inspection is made. The inspector reports in writing the result of this re-inspection; and if the work ordered has not been begun, the responsible party is notified that legal proceedings will be instituted. At the end of another week, a second inspection is made; and if the work is still not commenced, legal proceedings are started. If the work is even then not done, the city does it at its own expense and charges the cost against the property. In cases that are pressing, such as unusually dirty tenement houses or similar places, the department puts in its own force and thoroughly cleans and disinfects the premises. For this purpose we have a force of sixty men, divided into two squads, under the charge of inspectors and foremen; besides smaller squads for two of the suburban towns. All infectious diseases are required to be reported to the Sanitary Department by the physician in charge, under a severe penalty for non-compliance; and the premises in all infectious diseases are carefully disinfected and cleaned as soon as the case is disposed of. For this purpose we have three squads of twelve men each, under the charge of competent inspectors, and furnished with the necessary apparatus.

The method of disinfection is washing the walls and floors with a 1 : 1,000 solution of bichloride of mercury. The rooms are then carefully closed and cracks sealed, and formaline gas is used, a liter of forty per cent. formaline solution to 1,000 cubic feet of air space.

This is done for all cases of tuberculosis, typhoid fever, smallpox, yellow fever, leprosy, glanders, and diphtheria. The Sanitary Department has a well-equipped hospital for the reception of contagious and infectious diseases. All cases of smallpox are sent to this hospital; cases of leprosy to the Lazaretto; yellow fever cases are not required to go to the hospital when they can be properly isolated at home.

Naturally, the Sanitary Department has paid most attention to the question of yellow fever. The recent demonstration that this disease is conveyed by the mosquito has made a total change in the sanitary treatment of yellow fever between last year and this. Last year when a case of yellow fever was reported (and this was done on a blank form furnished by this department), a guard was sent to the apartments and the patient was strictly quarantined, no one but the physician and inspectors being allowed to come and go. After the case was disposed of, the apartments were disinfected as above described. This method only killed the mosquitos in the apartment in which formaline gas was used, and the insects had an opportunity of escaping during the ten or twelve days during which the patient was sick.

It was soon found that there was a great discrepancy in the character of the cases called yellow fever, some physicians calling all their cases of fever among non-immunes yellow fever; others making a diagnosis of yellow fever only in the most severe cases. To arrive at some common basis of diagnosis, a Board of Examiners, consisting of four physicians who had the confidence of the community for ability in this respect was appointed, to whom all cases suspected of being yellow fever were referred. This,

I think, has been one of the most useful measures adopted. It has given a common basis of diagnosis and great moral support to the Sanitary Department in enforcing fines for non-compliance with regulations as to reporting cases.

When the work of the Army Medical Board became known, demonstrating the fact that the mosquito conveys the infection of yellow fever, General Leonard Wood, the Military Governor, directed that the method of disinfection for yellow fever should be based on this theory, and on the 16th of February an order was issued changing the method of disinfection in accordance with these views.

At present, when a case of yellow fever is reported, the Chief of the Disinfection Department is at once notified, goes to the house, requires those interested to designate the apartments in which they desire to be quarantined, and these apartments are then fitted with wire screen doors and windows, which make them absolutely mosquito-proof. In this way it is hoped to keep mosquitos already infected within the quarantined area, and to prevent any outside mosquitos from getting in. Ordinarily within two hours after the report reaches the Sanitary Office the apartments are thoroughly screened. A guard is placed at the house to see that unauthorized persons do not go into the quarantined area, that care is used in going in and out of the door, and that the sick-room hygiene is observed. The patient is allowed to designate three or four immunes who can go and come within reasonable limits. At the same time that the screens are put up, the disinfecting squad proceeds to kill the mosquitos in the rest of the building. Every room is carefully gone over, sealed and pasted, and pyrethrum powder is burned at the rate of a pound to 1,000 cubic feet of air space. As the pyrethrum powder, even in this large quantity, does not certainly kill all the mosquitos, the room is opened at the end of three hours and the mosquitos on the floor are swept up and destroyed. At the same time, the three or four contiguous houses are gone over in the same way with pyrethrum powder, with the idea that any infected mosquitos that have escaped from the infected building may be caught in this way.

Pyrethrum powder is generally used from the fact that it injures no fabric, is not particularly disagreeable, and creates very little opposition on the part of the people. The object of the department is to get every case that is at all suspicious reported, and with this object in view all our measures are adopted with regard to causing as little trouble and inconvenience to the people as possible. Taking all things into consideration, we have found pyrethrum powder by far the best substance for general use. Where there is nothing that can be injured by sulphur, we use this substance. Since work on this plan was commenced, we have averaged about 150 pounds of pyrethrum powder to the case.

This is the method of disinfection for individual cases, based upon the supposition that the disease is transmitted by the mosquito, that comparatively few mosquitos are infected by the individual patient, and that these mosquitos do not wander far from the point of infection. Our results, so far, seem to support this idea of the propagation of the disease.

I append tables of the deaths and cases of yellow fever occurring in Havana subsequent to the year 1889:

CASES OF YELLOW FEVER IN THE CITY OF HAVANA,

During the years 1899 and 1900, and part of 1901.

Months	1899	1900	1901
January	2	19	24
February	0	17	8
March	2	11	4
April	5	5	2
May	2	5	4
June	4	19	0
July	6	96	4
August	34	219	..
September	54	269	.
October	63	308	.
November	42	214	
December	70	62	.
Totals	284	1,244	....

The cases can be given only since the American occupation, as no record of cases was kept before that time. The system of registration of deaths in Havana, since 1889, has been a very good one, and rigidly enforced; and the figures in the table below I believe to be entirely trustworthy. It will be seen from this table that, for the last twelve years, there has always been more or less yellow fever in Havana, and all data go to show that the same condition of affairs has existed since about the year 1761.

The yellow-fever year in Havana really begins April 1st. During January, February, and March, the yellow fever of the preceding year is declining, and reaches it minimum April 1st From this date it slowly begins to increase again. The reason for this is obvious, the cool weather during winter having a tendency to decrease the causes of infection. By the 1st of April the full results of this cool weather are felt, and warm weather is beginning to commence again, so that the infection slowly revives.

The best idea of the great difference between this year and preceding years, so far as yellow fever is concerned, can best be seen by taking the five

DEATHS FROM YELLOW FEVER IN THE CITY OF HAVANA.

Months.	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
January	10	10	15	15	7	15	10	69	7	1	8	7
February	4	3	10	6	4	4	7	24	1	0	9	5
March	4	4	1	4	2	2	3	30	2	1	4	1
April	13	5	8	8	4	6	14	71	1	2	0	0
May	23	7	7	23	16	10	27	88	4	0	2	0
June	38	41	13	69	31	16	46	174	3	1	8	0
July	67	66	27	118	77	88	116	168	16	2	30	1
August	60	66	67	100	73	120	262	102	16	13	49	....
September	33	65	70	68	76	135	166	56	34	18	52	....
October	32	48	54	46	40	102	240	42	26	25	74	....
November	15	24	52	28	23	35	244	26	13	18	54	....
December	9	17	33	11	29	20	147	8	13	22	20	....
Totals	308	356	357	496	382	553	1,282	858	136	103	310	.. .

months preceding August 1st, for these years, and comparing them:

DEATHS FROM YELLOW FEVER IN HAVANA, FROM MARCH TO JULY,

(both months inclusive), from the year 1890.

Months.	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
March	4	4	1	4	2	2	3	30	2	1	4	1
April	13	5	8	8	4	6	14	71	1	2	0	0
May	23	7	7	23	16	10	27	88	4	0	2	0
June	38	41	13	69	31	16	46	174	3	1	8	0
July	67	66	27	118	77	88	116	168	16	2	30	1
Totals	145	123	56	222	130	122	206	531	26	6	44	2

The average number of deaths from yellow fever in Havana for these months was 146.5; the maximum (in the year 1897) was 531, and the minimum in 1901, when for these five months we had two deaths, one in March and one in July. This is so great a difference in the amount of yellow fever, compared with anything that has gone before, that I cannot but attribute most of it to the methods of disinfection that we adopted about the middle of February for the extermination of infected mosquitos. Granted yellow fever in a locality, then the greatest factor in its variation from year to year is, I think, the number of non-immunes present who are capable of having the disease. In 1901, we probably have as many of these as at any time in the previous history of Havana.

During the year 1899 we had 284 cases with 103 deaths. The same system was continued during 1900, though it was much better organized and more efficiently carried out. We had, during the year, 1,244 cases and 310 deaths. The immigration that year, as the table shows, was unusually large.

In 1901, we began, as usual, with the yellow fever left over from 1900. In January, we had twenty-four cases and seven deaths; in February, eight cases and five deaths. About the middle of February our new plan of disinfection and destruction of mosquitos went into effect. In March, we had four cases and one death; and from the 8th of March to the 1st of August, we have had only one death in Havana from yellow fever. It will be seen from the table that we have gone five months with only one death, and with only a few cases during that time. During the month of June, we had no cases and no deaths; and during July, only four cases and one death. This is entirely exceptional, as June and July are months in which we always have a good deal of yellow fever: and is so very much better than anything else that has gone before, that I must attribute part of the result at any rate to the fact that we have at last discovered the true cause of yellow fever, and have adopted a practical means of fighting it.

TABLE OF IMMIGRATION SINCE 1890.

Months.	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
January	1312	877	1543	3312	2451	2022	693	713	523	369	1587	1410
February	1598	732	1703	1103	1444	2295	330	951	415	446	1363	1330
March	702	704	1105	1773	1805	2018	266	999	403	1106	2186	1303
April	987	428	733	849	1592	1216	217	899	406	342	1535	1219
May	461	352	489	709	1109	433	210	612	....	745	1553	1250
June	599	405	499	631	884	949	244	504	....	613	1324	938
July	329	315	486	513	800	956	198	310	....	553	1083	903
August	422	427	430	650	692	1429	222	528	....	992	1109	....
September	720	849	945	1285	1664	148	267	860	257	1355	1069	....
October	1358	2247	3229	2957	3184	1655	527	1737	386	2248	4050	....
November	1956	2358	3247	4890	5430	2155	919	1208	701	2857	3059	....
December	2318	2043	4266	3349	5727	1572	1018	1861	949	4634	4206	....
Totals	12,762	11,737	18,675	22,021	26,782	16,848	5,111	11,182	4,040	16,260	24,124	....

Number of immigrants arriving in Havana from September, 1899, to July 1, 1901—42,668.

The table of immigration shows that, since September, 1899, when a census was taken, 42,668 immigrants arrived at the port of Havana. The records of the Immigration Bureau show that sixty per cent. of these remained in the city of Havana; and only 1,535 of these have been immunized by attacks of yellow fever since that time; so that there must now be in the neighborhood of 24,680 non-immunes in the city.

The year 1899, the first of the American occupation, is the only year that approximates 1901 in the yellow fever conditions for these months. During this time, for that year, we had six deaths from yellow fever, just three times the number we have had for 1901. I have no doubt that some of this improvement was due to the great sanitary change made by General Ludlow in the first six months of his administration; but most of it, I believe, was due to the fact of the small number of non-immunes in the city during the first six months.

During 1898 and the early part of 1899, as the result of the blockade and the war, immigration had almost entirely ceased. By August, 1899, a considerable non-immune population had accumulated, as will be seen by referring to the table; and about this time yellow fever commenced to increase.

While, of course, the general sanitary conditions of the city are greatly improved each year over the preceding year, there is not sufficient difference between this year and last to account for the great improvement in the yellow fever conditions, and I think it a fair deduction to attribute the present exceptional conditions, in great part, to our killing the infected mosquitos and to the war against mosquitos generally, and this is more particularly the case as we study the sequence of cases this year.

We commenced our war against mosquitos about the middle of February. After that time we had a case on the 22d, another on the 23d, another on the 27th; and in March, one on the 2d and one on the 8th. We were apparently successful then in having killed off all the infected mosquitos. We then went from March 8th to April 20th with no

cases of fever. This was an unprecedented stretch. On the 21st and 22d of April, we had two more cases; and we were again apparently successful in getting rid of the infection. We were then free till May 6th. On May 6th and 7th we had four cases. We were again apparently successful and had no more cases originating in Havana till July 1st.

During the later part of June, a focus of infection developed in a small town about twelve miles from Havana—Santiago de las Vegas—and since that time we have gotten seven cases in the city from this point. Regla, a small town across the bay, and Cienfuegos, a town on the southern coast, in railroad communication with Havana, have also recently had cases of yellow fever. As these towns have intimate railroad communication with Havana, it makes it very difficult for us to keep infection out of the city; but having apparently been so successful in the last five months in getting rid of the foci as they appeared, we approach the present infection with a great deal of hope for success.

Since the 8th of March we have had two distinct outbreaks, separated by considerable intervals, which were apparently stamped out.

Havana has no general sewer system, and every house in the city has a cesspool. These cesspools, being protected, dark, and warm, breed mosquitos in great numbers all the year round.

The Stegomyia breeds principally in pure water, and does not appear in large numbers till the warmer weather comes on. The general water supply in Havana is excellent, coming from a large spring some miles out in the country; but the water is very hard, so that almost all the houses have some means of collecting rain-water for washing purposes; and the poor collect it in water barrels. In many of the tenement houses there will be as many water barrels as there are families, and at this time of the year most of these are full of larvæ of the Stegomyia.

With this condition of affairs in view, the Mayor issued an order that all fresh standing water should be kept either in mosquito-proof receptacles or covered with crude coal oil, and that crude coal oil should be thrown into all cesspools once every two weeks, and all yards be kept drained and as dry as possible. This order was widely distributed, and the reasons for the order were explained in simple language so that they could be understood by all.

To see that this was carried out, the city was divided into eight districts; and these districts are regularly inspected, a certain number of houses being assigned to each inspector for each day. It is arranged so that the whole city is gotten over once a month. On the reports of these inspectors, men with cans of oil follow, put oil into the cesspools, and report where drainage is necessary. If water is found in barrels not made mosquito-proof according to the order, the water is overturned and the receptacle is destroyed. We have forty men employed in this work, and use about 2,000 gallons of oil a month.

We have another division of fifty laborers, under a different superintendent, whose duty it is to do the draining. These men are at work principally in the suburbs, cleaning ditches and ditching low grounds, and trying in every manner to do away with all stagnant water. Where it cannot be drained away, it is kept oiled. The general consensus of opinion seems to be that we have been very successful in decreasing the number of mosquitos, and that they are markedly less this year than ever before.

At any rate, with conditions favorable to yellow fever, there being a very large non-immune population in the city, and yellow fever having been introduced into the city on a dozen different occasions, we have so far managed to keep it out later than has ever been done before. And even if we have fever later in the season, I feel confident that the destruction of the mosquito is the proper method for fighting the disease, and that we shall be eventually successful on these lines.

A PERSONAL EXPERIENCE IN RADIOGRAPHY,

TOGETHER WITH THE TECHNIQUE OF STEREOSCOPIC RADIOGRAPHY.*

By ALEXANDER B. JOHNSON, M.D.,
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The Use of the Fluoroscope in Surgery.—The fluoroscope appears to be a very valuable aid to the medical man, in the diagnosis of diseases of the chest, but in surgical cases it has, at least in my hands, proved rather unsatisfactory and disappointing.

For the rough diagnosis of fractures, for the detection of foreign bodies when not situated in the thicker portions of the human body, it answers well, but the practical difficulties in its use, notably in cases of fracture attended by considerable effusions of blood, the faint and feeble character of the image seen upon the screen, and the marked distortion of the shadows, which, under many conditions, it is quite impossible to avoid, together with the utter uselessness of attempting to recognize lesions of bone covered by thick layers of soft parts and encased in splints of uneven contour, place a rather narrow limit upon the value of the fluoroscope in surgery. It is true that devices now exist whereby, with the aid of two tubes, a stereoscopic picture may be seen upon the screen, and I am told that another device is being constructed at the present time which, by means of a single tube, with two anti-cathodes and a rotating diaphragm, produces a stereoscopic image. While these devices will no doubt improve the quality of the picture, it is scarcely possible that they can take the place of radiographs. For the use of the fluoroscope in general, two things are requisite: First, a steady illumination; second, a tube of rather high vacuum and great penetration. And it is worth remembering that a tube suitable for a fluoroscopic examination of, let us say, the adult knee-joint would be quite useless for the production of radiographs showing much detail and slight differences of density.

The Technique of Radiography.—The strictest attention to details, from first to last, is necessary in order to produce uniformly good results. The operator must, of course, become thoroughly familiar with every part of the apparatus under varying conditions. This is particularly the case with regard to *x*-ray tubes, and he who purchases two or three of the best tubes obtainable, learns to know for what purposes each one is best suited and guards them with care from accidental injury, will soon learn to know, from the mere appearance of the tube, while illuminated, what sort of a result is likely to be produced in the way of a picture in a given time. Several important mechanical details must be studied, and, as far as possible, the relation of the tube to the plate and to the part to be pictured should be reduced to some definite system. It will be remembered that, as far as is

* In order to bring this paper within the limits of a journal article, it has been necessary to omit a description of the apparatus employed. This quite important section will, however, be incorporated in the reprints which those interested may obtain on application to the author or may consult in the medical libraries.

known, the *x*-ray may be assumed to proceed from the center of the platinum anti-cathode in straight lines in all directions from a point or focus upon its surface. There follows the well-known rule also applicable to ordinary light-rays, that the intensity of the illumination of an object varies inversely as the square of its distance from the source of light. When applied to radiography, this physical fact is important to bear in mind, *e.g.* if a good radiograph of a given part can be obtained at a distance of, say, twelve inches in one minute, at a distance of twenty-four inches, an exposure of four minutes will be required to produce the same result. Since in practice it is necessary, on account of the varying thickness of different parts of the body, to vary also the distance of the tube from the plate between limits which may reach from twelve to twenty-four inches or more, this difference in time of exposure becomes a very important practical detail. In fact, to determine the proper time of exposure for a given case, in order to produce a negative having certain definite qualities, is the most difficult question which the *x*-ray operator has to answer. Inasmuch as many of the problems which are to be solved do not admit of answers which can be measured mathematically, the elimination of this single error of the relation between distance and time is a matter of a great deal of consequence. I have prepared a table of comparative times and distances, based upon an exposure of ten seconds at a distance of ten inches, and have calculated the additional time necessary for all distances from ten to twenty-four inches, and from ten seconds to seven minutes. I find this table a useful aid for reference. In the effort to formulate a general rule for the duration of exposure for the production of radiographs, Donath ("Die Einrichtung zur Erzeugung von Roentgen-Strahlen," Berlin, 1899) has constructed a table upon the following basis: It is assumed that the various parts of the body possess a power of absorbing *x*-rays, which varies directly as their density, and, if the absorbing power of the middle hand through the metacarpal bones be taken as the unit of measurement of this quality, experiment and calculation give the following values for the absorbing powers or resistance to the passage of the rays of the different parts of the body.

	RESISTANCE.
Hand	1.
Forearm	1.4
Elbow	1.5
Upper arm	1.8
Shoulder-joint	3.
Collar-bone	2.7
Neck	3.
Skull	4.5
Thorax	3–4
Sternum	3.8
Foot	1.4
Knee	2.
Leg	1.8
Thigh	3–5
Hip-joint	5–6
Pelvis	8–10

Donath has also constructed a general formula for the determination of the proper time of exposure in any required case. The formula is based upon the above relative table. The terms are:

a=the distance of the tube from the plate in the radiograph of the hand.

b=the distance of the tube from the plate in the picture which is about to be taken.

x=the proper time of exposure sought.

z=the time of exposure necessary to produce a radiograph of the hand.

w=the resistance of the part of the body which it is proposed to take, compared with the resistance of the hand. (This number is, of course, taken from the table of relative resistances.)

The formula then reads:

$$x = z \cdot \frac{(b)\ 2}{(a)}$$

While I have not made practical use of this formula, I fear that individual variations in the densities of the different parts of the body might sometimes render it inaccurate. It is necessary, of course, in every case to establish the unit, *i. e.* the time required to take a picture of the hand; but a slender hand is often present in an individual whose abdomen is unusually thick; and a heavily-boned limb is not infrequently seen attached to a comparatively thin trunk. It will be found also that a slight change in the term *w* produces a considerable change in the term *x*.

In addition to the variation in time for distance, the much more difficult problem remains to be solved of estimating the various degrees of penetrability for limbs of different thickness and for individuals of different ages. The tissues of children are far less dense than those of adults, and require a much shorter time even for a given thickness of tissue. The tissues of women are more pervious to the rays than are those of men, and require a shorter exposure. To estimate the relative values of these different factors requires the judgment born of experience. To lay down even an approximate rule appears to me quite unprofitable, on account of the extremely varied character of the apparatus used, and the variations of the same apparatus under different conditions. With the apparatus which I possess, I use chiefly two tubes for different sets of cases. For all parts of the body thinner than the hip-joint I prefer the Queen self-adjusting tube with an extra heavy platinum anode. This tube permits me to use somewhat less than half the total practicable energy of my coil. This represents a heavy stream of sparks, ten and one-half inches long, measured on the parallel spark-gap of my coil and the No. 16 platinum wire of the Wehnelt interrupter, protruded four millimeters into the acid. To obtain the greatest amount of detail in my pictures of the thinner part of the body, I use with this tube a vacuum which corresponds to a resistance equivalent to from two and one-half to three inches, measured on the spark-gap of the tube. The current used is the 110 volts direct street current, and from four to five ampères. This gives rather a black picture of the hand in the fluoroscope. The bones appear very dark and the soft parts somewhat lighter—but still not very light. The tube, in this condition, would not be suitable for a fluoroscopic examination of the bones of the leg nor even for the elbow-joint in the well-developed male subject. When using this tube for a radiograph picture of the knee-joint of a well-developed adult, I increase the spark-gap of the tube to three and one-half or four inches. This gives a bright, clear picture of the hand in the fluoroscope, and in this condition the tube would be suitable for the fluoroscopic examination of the adult elbow and for a moderately well-developed leg. The necessary times of exposure to produce radiographs with this tube are about five times as great as with the cold-water tubes of Dr. E. Grünmach, about to be described. This cold-water tube is intended to be used on a coil giving a spark-length of sixteen inches. The penetrating and photographic power of this tube far exceeds that of any other with which I am acquainted. It can be used with an amount of energy equivalent to a very heavy stream of sparks fourteen inches in length for from three to four minutes continuously, without any

serious change of vacuum. If the current is kept up for longer than four minutes the anode becomes heated to a dull red heat, and the vacuum falls a little, but upon turning off the current the tube recovers itself almost completely in two minutes.

With this tube, using a vacuum representing a resistance equal to from eight to ten inches of spark-length upon the parallel spark-gap of the coil, it is possible to take fairly good radiographs of the thicker portions of the extremities in an astonishingly short time. A fair radiograph of the hand and forearm may be taken with an exposure too short to measure—practically instantaneous. The knee-joint may be exposed for ten to fifteen seconds with fair result. I have taken a very good radiograph of the spine, pelvis, and both hip-joints of a well-developed boy, ten years old, in thirty seconds. The amperage of the current used under these conditions was between seven and eight amperes. Even shorter exposures than this are said to be sufficient. But in practice I find that pictures showing more detail and slighter differences in density can be produced by a different method; *i. e.*, by reducing the resistance of the tube and its vacuum to a degree equivalent to from three to four inches upon the spark-gap of the coil. When used in this way, the tube gives a fluoroscopic picture of the hand which is clear, but fairly dark. And yet, with the tube in this condition, my best radiographs of the spine and pelvis of adults have been obtained. The exposures necessary to produce strong negatives are as follows:

Adult hand and wrist, distance of tube from plate, 13½ inches, 10 seconds.

Adult elbow, distance 16 inches, time 30 seconds.

Foot and leg, 16 inches, time 45 seconds.

Knee-joint, distance 18 inches to 2 feet, time 2 to 2½ minutes.

Shoulder-joint, 21 inches to 2 feet, 2½ minutes.

Thorax, distance 2 feet, 3 minutes.

Adult hip-joint, pelvis, spine and kidney regions; females, 4 to 6 minutes; males, 6 to 8 or even 10 minutes; distance 24 to 26 inches or more.

I do not find, however, that it is possible with this tube to get pictures showing such slight differences of density as with the Queen self-adjusting tube, before described. The farther away the tube is placed from the object to be photographed the less the distortion of the picture. In the case of the thinner parts of the body, this distortion is only slight when the tube is placed, say, fifteen or sixteen inches from the plate, but when a picture is taken of the hip-joints, including the pelvis of an adult, and the tube is placed in the middle line of the body, unless the distance of the tube from the plate is more than two feet, the distortion is great. The practical lessons to be drawn are, that it is advantageous to place the tube as far away from the body as is consistent with a reasonable time of exposure, and in all cases involving an exposure or exposures in the aggregate of five minutes or more, to lessen the risk of dermatitis by anointing the patient's skin abundantly with some greasy preparation—lanolin, for example—and by placing between the tube and the patient a grounded screen, consisting of thin cardboard, or wood, coated with gold foil, or with a thin sheet of aluminium. Whether these measures are an actual protection against burns or not, I am unable to say, but it is probable that they do serve to lessen the likelihood of a subsequent *x*-ray burn, to some degree at least. When using powerful tubes with a current of great frequency of interruption, high intensity, and considerable amperage, the possibility of producing *x*-ray burns, when taking pictures involving several minutes of exposure, should never be lost sight of. The danger is a very real one. If the operator will keep an accurate record of all the conditions under which each *x*-ray picture has been taken, he will gradually accumulate a very valuable series of data. Such a record should include the part of the body, the age of the patient, the quality of his tissue, whether fat or lean, flabby or firm, whether large-boned or delicately built, the distance of the tube from the plate, the particular tube used, the resistance of the tube, during the time of exposure, measured on the spark-gap of the coil, the fluoroscopic picture of the operator's hand during the time when the picture is taken, the position of the rheostat lever, the distance to which the platinum wire of the Wehnalt interrupter was protruded into the acid while the picture was taken, the kind of plate used, the kind and strength of the developer, the time of development, and the general character of the negative.

Any examining table of firm construction answers very well for taking *x*-ray pictures. It is convenient to use a table, the three sections of which may be tilted at various angles so that certain of the patient's muscles may be relaxed as he lies upon the plate. In this way it is often made more easy to keep the part to be pictured quiet and in firm contact with the plate and the patient comfortable during the exposure.

The device which I use for holding the tube is made in the form of a gallows. The vertical arm of the gallows is firmly clamped to any desired part of the table, and slides up or down, vertically, in a suitable frame. The distance of the surface of the anti-cathode from the plate is marked in inches on this vertical arm.

The horizontal arm extends over the table; it is also graduated in inches. The construction of this gallows is of wood, heavy and solid, to prevent vibration.

Upon the horizontal arm there slides a heavy wooden clamp, which hangs vertically downward.

Its jaws are arranged to hold the tube horizontal, the long axis of the tube and the table parallel.

The tube can thus be moved horizontally or vertically a measured distance, and is held by suitable locking screws, quite immovable, if desired.

It is convenient to lead the wires from the coil to the tube over a light stand or framework of wood, which may be elevated to a position several feet above the patient's body. In this way accidental shocks are prevented, and the patient is less likely to disarrange the apparatus during clumsy efforts to get on or off the table. The operator is also enabled to walk all around the table underneath the wires, in order to make such adjustments as are necessary. The body of the patient should be placed upon the table in such a position that the part which it is desired to show upon the plate with the greatest clearness lies vertically beneath the center of the anti-cathode. For the determination of this relation a plumb line is useful. The patient must be made comfortable by means of pillows and blankets, so that no part of the body is in a condition of muscular tension.

That surface of the limb or trunk nearest to which the lesion is supposed to lie is placed next the plate.

Some ingenuity in arranging the patient is required at times.

In determining the question of the distance of the tube from the plate, it is a good rule to follow not to put the anti-cathode nearer than twelve inches from the skin, and for long exposures a distance several inches greater should be chosen.

The time of exposure for the given case will depend, as has already been remarked, upon a num-

ber of different factors. A high vacuum tube admits of a short exposure, but the negative produced will show but little detail. A low vacuum tube, even with the same current, will require a longer time, but will produce a negative showing far more detail, and will exhibit much slighter differences of density. Thus, if the question to be answered is merely, what is the extent of deformity in a case of fracture? the diagnosis of fracture being evident by ordinary means of examination, or if it is to be determined whether or not a metallic foreign body is present, a high vacuum tube with a short exposure answers well. If, however, the question relates to the presence of a calculus, renal or other, to disease of bone, or to pathological changes in the blood vessels, or if, in the case of a tumor, it is supposed that the mass consists partly of bone and partly of softer structures, or in any case in which it is desired to show the greatest possible differentiation of density, a low vacuum tube should be used of just sufficient penetration to furnish a strong negative after a reasonably long exposure. I have already given the results of my own experience, but the reader will remember that the time of exposure varies much with different forms of apparatus.

And a certain amount of experimental work is necessary to determine the efficiency of any particular set of apparatus. The more powerful the coil, the larger the energy of the secondary discharge; and the greater the capacity of the tube to endure a heavy current for a long time, the shorter the exposure.

The time of exposure having been settled, the plate is to be inserted beneath the part to be taken. In order to avoid the danger of the pressure of bony parts upon the glass, producing a fracture of the plate, it is desirable that some protection against this accident be used. For this purpose the plates in their envelopes are inserted, one at a time, into a shallow wooden drawer-box, not unlike in appearance an ordinary plate-holder. The box has a solid bottom of wood, bearing upon its upper surface two brass springs, which serve to keep the plate in contact with the top of the box. The cover or top may be made of any light fairly rigid material pervious to the rays. Mine are covered with a very heavy stiff paper or fibre board.

The space between top and bottom is open at one side of the box; and the space is wide enough to permit a plate in its envelope to be easily inserted and removed.

It is convenient to have these holders of several sizes. For plates as large as 14 x 17 I use a broad framework of planking, across which there slides a long and shallow wooden drawer, above which is a stiff paper cover. The patient lies down upon the paper cover, a plate is inserted, and the drawer closed. After the exposure is made, the plate may be withdrawn and another inserted without any change of position on the part of the patient. Before turning on the current, the operator should have informed himself of a number of details in regard to his apparatus. He should know just how much energy the particular tube he is using will stand, and for how long; and this once determined, he should use the same amount of current and the same rapidity of interruption with that tube for every case, or his results will not be uniform. He should also know by trial whether the vacuum of the tube is suitable for the case in hand. If it is already too low, the tube will not answer for that case; if too high, he must reduce it to the proper point, to be determined by the parallel spark-gap and the fluoroscope.

To know what degree of vacuum in a given tube is best suited for a radiograph of a given case requires, above all things, experience. But a general idea may be obtained by the appearance of the bones of the hand in the fluoroscope. If the shadow of the hand is so dark that the bones cannot be seen distinct from the flesh, the tube is only suitable for the thinner parts of the extremities, and for them only in case the tube in question permits the use of a large amount of energy. The relation between the penetration, as shown by examining the bones of the hand, and the power of the tube to produce a picture of a part of a given thickness is not absolute, but relative. For example, a high vacuum tube, giving a good fluoroscopic picture of the thorax, but which permits the use of a small amount of energy, may entirely fail to produce a satisfactory picture of even a part as thick as the adult knee-joint in any reasonable time; whereas a tube of very low vacuum indeed, through which a heavy current may be passed continuously for several minutes, will often produce a good negative in a much shorter time. A tube of medium vacuum, such that the bones of the hand when viewed through the fluoroscope show clear and distinct and sharply marked, while the flesh is much lighter, is, upon the average, best for general work.

A very high vacuum tube is but of little use for taking pictures. The operator will, in general, be obliged to establish his own standard, it being true of radiography as of most other practical arts, that an ounce of experience is worth several pounds of precept.

In general, one is much more likely to expose for too short a time rather than for too long, and whereas the negative produced by an over-exposure is still capable, with careful development, of furnishing a good picture, an under-exposed plate is hopeless, and no amount of development will bring out that which is not there.

Distortion.—Owing to the fact that the *x*-rays originate from a point or focus upon the surface of the anti-cathode, and proceed in straight lines in all directions from its surface, and since no one has as yet been able to refract the *x*-rays by means of prisms or lenses, it admits of a simple demonstration that the projections of any two points in the same vertical line placed between the surface of the anti-cathode and the photographic plate, but removed from the vertical dropped from the anti-cathode on the plate, will fall upon the plate at two points separated by a horizontal distance, the extent of which will depend upon the distance of the anti-cathode from the plate, the distance of the two points one from the other vertically, and upon certain other spacial relations unnecessary to elaborate.

In other words, a figure made up of many points, situated at various levels, will be projected upon the plate as a distorted image, and apparent deformities will be exhibited in the picture which do not exist. This distortion is more marked the nearer the tube is to the plate, the thicker the object, and the farther it lies from the vertical. In the case of the thinner parts of the body the distortion is slight at ordinary distances, but, in radiographs of the hip-joint, for instance, at similar distances it becomes extreme, and may render the negative quite worthless for diagnostic purposes. Distortion may be avoided by placing the tube as far away from the plate as is consistent with a reasonable time of exposure. To one acquainted with the relation of the tube to the plate in any given case and accustomed to inspection of *x*-ray pictures, moderate degrees of distortion may be

discounted, but inasmuch as the medico-legal relations of radiographs are important in certain cases, it behooves us to make a careful adjustment of the tube and the part, and to keep an accurate record of the data.

Attempts on my part to look at distorted pictures through lenses in order to correct the distortion have not as yet met with success.

Specific directions for the position to be assumed by a patient in order to get the part to be radiographed in the most favorable relation to the tube and plate might be given for different parts of the body, but the anatomical knowledge of the operator will usually suggest to him the best arrangement.

Some space, however, may be devoted to the use of the *x*-ray in the detection of renal and ureteral calculi.

The use of the *x*-rays for this purpose is of general interest, and most of my own work has been done in this direction. In my experience, the technique does not differ materially from that necessary to obtain good pictures of the bones, joints, etc.

The amount of electrical energy used must be considerable, in order to furnish enough penetrative power. The tube should be of a medium vacuum, and must permit the use of a heavy current for several minutes. In order to avoid the danger of burns, the tube must be placed at least twelve inches away from the skin, and the abdomen, thighs, and thorax should be thoroughly greased. The screen may also properly be used. The time necessary, with my apparatus, to produce a negative showing sufficient detail to make a positive or negative diagnosis varies from four minutes for a slender woman to ten minutes for a very stout man.

I am in the habit of placing the tube from fifteen to eighteen inches from the skin. The patient should lie upon his back, with the plate beneath him.

The knees should be flexed upon the thighs, and the thighs upon the pelvis, and supported in this position by a suitable cushion beneath the hams. By this means the back will be brought in contact with the plate.

The bowels should have been thoroughly evacuated, and the stomach should be as far as possible empty, at the time the picture is taken.

If the individual is small, or even of medium size, a plate fourteen inches wide will include the kidney region and the entire course of the ureter. For large individuals it is necessary to use a wider plate, or to take two pictures, one of the kidney region and one of the ureter.

If the first picture, including both kidney and ureter regions, is sufficiently good, it does not appear to me necessary to take another. A good picture should show the outlines of the vertebræ, their spinous and transverse processes, the structure of the sacrum in considerable detail, the outlines of the pelvic cavity, the last two ribs, the psoas muscles, and to establish a negative diagnosis, the lower half of the kidneys with fair distinctness. A much worse picture than this, however, will, in the majority of cases, furnish a positive diagnosis of kidney stone, and I have been able to see the shadow of a ureteral stone, weighing but two and one-half grains, on a plate which did not fulfill the above requirements.

An oxalate stone, as large as the last joint of one's little finger, casts a shadow fully as distinct as, for instance, the last rib.

But for diagnosis establishing the absence of stone one must, of course, obtain the very best possible negative. If the structures are seen, as above described, I do not believe that any calculus can fail to cast an appreciable shadow on the photographic plate. The plates should be dry before a definite opinion is given as to presence or absence of a stone, and should then be examined by standing them in front of a piece of ground glass, behind which is a source of light. If the plates are thin, it is advantageous to put two pieces of ground glass behind them.

The relative values of shadows upon such a plate can often best be appreciated at a distance of eight or ten feet; but, in my experience, the shadow produced by a stone, if it shows at all, is so distinct as to be absolutely unmistakable. Nor should an opinion be given unless such is the case.

There are several pit-falls into which the inexperienced and unwary may fall in regard to the diagnosis of kidney stones as shown by the *x*-rays. It is positively necessary that the negative should be good enough to show the previously enumerated normal structure. A plate which does not do this is worthless, usually, as a means of negative diagnosis. It is, moreover, necessary that the plate should be studied after it is dry in front of a suitable ground-glass screen.

A careless observer might mistake the tip of the transverse process of one of the lumbar vertebræ where it projects beyond the border of the psoas muscle for a stone. The tip of the twelfth rib in certain cases in which this rib is very short, and its proximal extremity not clearly defined, may lead to the same error.

Bacterial colonies are very frequent upon the gelatin films of certain *x*-ray plates, and at times might lead to error. But with a little practice they are not difficult to distinguish from the shadow of a stone. If the plate be looked at by reflected light from the sky, one can see that these spots produced by colonies of bacteria are not mere shadows, but represent a gross mechanical change in the gelatin film. In order to avoid their occurrence some manufacturers impregnate the emulsion with formaline.

There are, moreover, certain shadows which occur upon radiographs of the pelvis which might well be mistaken by the inexperienced for stone in the ureter. I have found these spots in three cases, and as yet I do not know their nature. They occur as rounded shadows varying in size from a B.B. shot to a small buckshot. Several are usually found upon one picture, and sometimes upon both sides of the pelvis. They are of about the same density as the ureteral stones. These shadows are arranged on a line which forms a gentle curve, with its convexity outward and downward, quite close to the bony contour of the pelvis, as projected upon the plate. They may be found anywhere from a point one inch above the spine of the ischium down to what seems to me to be close to the region of the prostate. They are, however, situated too far away from the median line either to be in the ureter or the seminal vesicle. I have thought that these shadows might represent calcareous deposits in the iliac veins.

Occasionally the crura of the diaphragm, as they pass to the body of the first lumbar vertebra, may cast shadows of a vague character which might possibly be mistaken for kidney stone. At least, such a statement is made by others, although I never had occasion to verify it.

There are also shadows resembling those cast by stones, the exact cause of which I have not been able to determine, and I have only noticed them upon the plates of one manufacturer. The plates manufactured by Cramer and by Seed do not

present these defects. The shadows are usually in the neighborhood of a minute spot no larger than the head of a pin where the film seems to be absent. The shadows themselves are somewhat larger.

Areas of fog may also produce deceptive appearances to the uninitiated, but a plate which is fogged at all is generally worthless for purposes of diagnosis.

Those plates which are sold for the purpose of taking *x*-ray pictures are often placed by the maker in paper envelopes ready for exposure. If the plates are entirely fresh when purchased and are used within a month this is a matter of no consequence, but if kept for some time the contact of the paper with the film produces a peculiar mottled appearance which renders the negative quite useless. It is better then to purchase plates which are not enclosed in envelopes and to put them in the envelopes shortly before they are to be used, or if plates already enclosed in envelopes are desired, to buy them a few at a time direct from the manufacturer and insist upon those recently made.

It is, of course, necessary to keep *x*-ray plates either in a thick metallic box or else in a room far removed from the coil; for the distance at which they may be affected by *x*-rays is very considerable.

The Development of X-ray Plates.—Any of the developers now popular are good enough, such as pyro, metol, hydrochinon, eichonogen, rodinal, etc.

It is very desirable that the surgeon should develop his own plates, if time can be spared for the purpose. It is too much to expect that any one else will exercise the same care and patience in the effort to perfect the work of another; and much valuable knowledge and satisfaction is to be derived from developing the plate which one has himself exposed. Moreover, the probable character of the negative is best known to the individual who made the exposure. He will, with a little practice, best know how to make the most of a given plate in order to show the thing which he desires to make prominent.

If there is reason to believe that a plate is overexposed, a diluted developer should be used; if not, it may be used of the ordinary strength.

When developing radiographs of the hip-joints and pelvis, I am in the habit of using a weak developer on account of the possible danger of ruining these negatives which cannot immediately be replaced without risk to the patient. To avoid danger of fogging an important plate, it is best to carry on the development in absolute darkness, only exposing the plate to the red light from time to time momentarily in order to judge how the development proceeds. For the development of hip-joint, spine, and pelvis cases, from ten to fifteen minutes is enough; for thinner parts of the body, from six to ten minutes, according to what is desired to show. If it is desired to show with the greatest clearness the structure of bone and to blot out the soft parts, a form of negative very popular for purposes of exhibition, the development should be carried to a point where the bones themselves appear distinctly dark and the soft parts can scarcely be distinguished from the uncovered portion of the plate.

If, on the other hand, the soft parts as well as the bones are to be preserved on the negative, and in all cases when the radiograph is to be viewed in the stereoscope, a more useful and interesting picture will be obtained by stopping the development while the soft parts are still quite a little lighter than their surroundings and the bones are gray but perfectly distinct.

In this description it is assumed that the exposure has been sufficiently long; otherwise, no amount of development will serve to bring out detail which is simply not there.

The use of the so-called "acid-hypo" bath which hardens the gelatin film and prevents the most annoying accident known as "frilling" is well worth the additional trouble involved in its preparation.

While those unaccustomed to the examination of *x*-ray negatives sometimes find it difficult to appreciate what they represent, and it is therefore necessary to prepare prints or positives, yet much of the value of the radiograph is thereby lost unless the printing is in painstaking and skilful hands. I have been unable to get professional photographers to do this work well, and therefore do it myself when I must, but the surgeon rarely has sufficient time to devote to this and must put it into the hands of another.

Satisfactory prints of plates showing kidney and ureteral stones are especially hard to make. The different portions of the body are inevitably penetrated to different degrees, and, in order that every portion of the plate should be printed to the proper density, it is necessary to use screens of tissue paper when printing by daylight.

The proper arrangement of these screens for a given case must be learned by experience.

Stereoscopic Radiography.—Although a good deal of attention has been given to this method of taking and looking at radiographs in England and Germany, and to some extent in Canada, so far as I am aware but little work of this kind has been done in the United States; and the main purpose of this paper is to call attention to certain advantages which may be obtained by this means with but little additional trouble and expense. The technique is quite simple, and demands but little more care and attention than the taking of two ordinary separate pictures. The advantages which may be claimed for stereoscopic radiography are that it renders the localization of foreign bodies simple and accurate; the character and extent of deformity in cases of fracture cannot be so well appreciated in any other way. The exact position of bones in cases of dislocation are shown in their true relations, and the same is true of deformity of bones produced by disease and congenital anomalies. The relations and origins of tumors growing from bone may be appreciated in parts of the body which are not open to ordinary palpation. For instance, tumors growing from the anterior wall of the sacrum at a high point, and certain diseases of bone, can be recognized at an early stage with great clearness, so that it may be said that by the use of the stereoscope the value of radiographs is notably increased.

The method depends for its value upon the well-known principle of the stereoscope, viz., that in order that we may see any near object, as a solid body showing relief, and appreciate the special relations of different points of the body to one or another, it is necessary to view it with both eyes. The effects produced by the stereoscope depend upon the production of two pictures taken from two different points of view, and the separation of the points one from the other is made equal to about the distance between the visual axes of the two eyes, viz., two and one-half inches.

In radiography, a little more or a little less does not appear to be of great consequence.

The method may be applied in two ways. Two pictures may be taken from the same point of view, the object being moved, or the object is kept sta-

tionary and the second picture is taken from a point distant two and one-half inches from the first. As applied to radiography, this principle may be utilized in several ways which vary only in detail. The *x*-ray tube is placed over the photographic plate with some part of the body intervening, and a picture is taken. The plate is then removed, and a second plate is substituted without moving the object. The tube is moved two and one-half inches horizontally, and a second picture is taken.

One-half of the plate may be screened by a sheet of lead during the first exposure, and in the second exposure the first half is screened and the second exposed. When this latter method is used, the plate is photographed, and thus reduced in size to a degree which renders it suitable for viewing with the refracting stereoscope. A print is made from the reduced plate, and looked at in the ordinary refracting stereoscope with which everyone is familiar.

There are optical difficulties in the way of the construction of the refracting stereoscope for looking at pictures of large size which appear to be insurmountable at the present moment; at least, my efforts in this direction have not met with success.

Another method which has chiefly been used in England is as follows: Two radiographs are taken from different points of view; prints are made from these plates, and viewed in the Wheatstone reflecting stereoscope. The pictures are, of course, life-size.

Both of these methods are subject to certain disadvantages. A good deal of time is required before the print can be prepared, and much care is necessary to mount them properly; considerable expense is also incurred. Moreover, when the pictures are diminished in size to the extent necessary for the use of the refracting stereoscope, the finer details are not so easy to see, and in general it may be said that prints made from radiographic plates are never as full of sharp detail and contrast as are the original negatives.

When the prints are to be viewed in the reflecting stereoscope, it is necessary that one of them should be printed reversed, or from the glass side of the negative.

The difficulties of producing a clear picture in this way are considerable.

They may be overcome by rendering the light rays which fall upon the plate parallel.

This can be accomplished by placing the printing frame at the bottom of a cylinder of approximately the same size as the frame and about six feet long.

In this way the clearness of outline in the print may be preserved, but the method is troublesome.

This difficulty may also be overcome by printing one of the pictures by the carbon process in which the sensitive film may be floated off and reversed and transferred to paper under water.

The mechanical details are troublesome, difficult, and expensive, and some distortion of the film is very likely to occur during the transference.

A third method, which I have been using with satisfaction, is to view the negatives themselves by transmitted light with the aid of a Wheatstone reflecting stereoscope.

The advantages of this way of looking at radiographs appear to me to be considerable.

1st. Time is saved. The negatives may be put in the stereoscope within one hour of the time when the exposures were made—obviously a great practical advantage.

2d. None of the fine details of the negative are lost, whereas in negatives made with a low vacuum tube it is often possible to make out stereoscopically the muscles, tendons, ligaments, subcutaneous fat, and other structures in a manner so vivid as to be quite startling. It is, in my experience, hopeless to attempt to reproduce these details with the same degree of clearness in a print. When stereoscopic pictures of the entire pelvis and both hip-joints of adult individuals are taken, as is often desirable, in order to contrast the two sides of the body, the method presents certain difficulties. The tube must be placed a long distance from the plate, in order to avoid undue distortion, and consequently much longer exposures are necessary, but for all ordinary pictures these difficulties do not obtain. The necessary apparatus for making and looking at stereoscopic pictures may easily be improvised at a cost of a very few dollars. For taking the pictures the tube-holder already described and the plate-holders answer well. To the tube itself is attached a paper protractor from the center of which hangs a weighted thread, so that the inclination of the plane of the anti-cathode to the photographic plate is indicated by the position of the thread, where it cuts the angles marked on the protractor.

The rotation of the tube upon a horizontal axis varies the angle to any desired extent. The thread also serves as a plumb line whereby the relation of the anti-cathode to the center of the plate is easily seen. The plate and the object to be radiographed are arranged beneath the tube in such a manner that the anti-cathode lies one and one-quarter inches to one side of the vertical dropped from the center of the anti-cathode to the middle of the plate, and the plane of the anti-cathode is inclined slightly toward the vertical.

Theoretically, the tube should be set at angles with the vertical, which vary for different distances at which the tube is placed from the plate, as follows:

At 35.7 inches the angle of the tube should be changed, after taking the first picture, to the extent of four degrees.

At 23.8 inches the angle should be six degrees.

At 17.8 inches the angle should be eight degrees.

At 13.2 inches the angle should be ten degrees.

These angles and distances include all probable limits at which *x*-ray pictures are likely to be taken. Practically, the exact angle is of no great moment. The apparatus having been properly adjusted, the exposure is made. The photographic plate is then withdrawn from the holder and removed to another room. Another plate is then inserted into the holder without moving the part which is to be pictured. The tube is then moved horizontally two and one-half inches, or one and one-quarter inches the other side of the vertical. The tube is then rotated through the proper angle, and another exposure is made.

The most important practical point in the method is to place the tube far enough away, so that the distortion of the picture will not be so great as to interfere with the stereoscopic union of the two images, which is necessary in order that the effect of binocular vision may be produced. It is of advantage to place the plates in the stereoscope, hereinafter to be described, at the same distance from the mirrors as they were from the tube when the pictures were taken. Experience shows that pictures may be taken without undue distortion, as follows: The hand at 13½ inches; the elbow, 16 inches; the foot and leg, 16 inches; the knee and shoulder, from 18 inches to 24 inches, according to the individual; the hip-joint, 24 inches; the pelvis as far away as is consistent with the penetrative

power of the tube; the head, 24 inches or more; the thorax at least 24 inches.

The plates exposed in this way constitute stereoscopic pictures. For viewing these pictures, I have found the following arrangement convenient: A hardwood plank five feet long, one and three-quarter inches thick, and eight inches wide, serves as a base for the stereoscope. In its center are arranged two plain plate-glass mirrors, each one foot square. These mirrors are set at an angle of ninety degrees to one another. The apex of the angle faces one of the long sides of the plank. The mirrors slide in grooves back and forth at right angles to the long axis of the plank. Upon either side of the mirrors there are two wooden frames for holding the negatives, and also a piece of ground glass. These frames are made to hold plates measuring eleven by fourteen inches, which size is sufficiently large for most purposes. Plates of any smaller size can be used, and those of eight by ten inches are often convenient. The frames are so arranged upon brass plates suitably grooved so that they slide easily along the plank; or upon a second brass plate superimposed upon the first at right angles thereto. And one of the frames may be raised or lowered by means of four large set screws with milled heads. Upon either end of the plank is placed a slate box containing two electric-light bulbs. These bulbs are set upon a block of wood perforated at the four corners by four thick vertical brass rods, which also serve to conduct the current which lights the bulbs. The bulbs may be raised or lowered by means of a brass rod which projects through the top of the box.

These electric bulbs serve to illuminate the negatives by transmitted light. Two sixteen candle-power lights are usually sufficient in either box, unless the negatives are very thick, in which case thirty-two candle-power lights may be substituted. In using the apparatus, one or two pieces of ground glass are placed in the grooved frames close to the front of either box, and the negatives are placed, one on either side, facing each other in the grooves made for them next the mirrors. The observer sits down in front of the middle of the plank with one eye on either side of the angle made by the mirrors, from which the plates should be equidistant, and moves the mirrors toward him or away from him until the two images upon the negatives are superimposed, when the stereoscopic effect is appreciated.

As before stated, the effect occurs most easily when the plates are as far from the mirrors as they were from the tube at the time of taking the radiograph. It sometimes happens that certain individuals are at first unable to make the two images join and appear as one. But a very little practice, usually a few moments, suffices to overcome the difficulty; and the habit once acquired, it is hard to see the pictures separately even when they are displaced considerably from their proper positions. It is desirable that a darkened room should be used to get the best effect. It is also desirable that the pieces of ground glass should be placed close to the box enclosing the lights, so that no light is observed except that which comes through the pictures. For this method of inspection the negatives should not be excessively dense, and surprisingly good effects are obtained with negatives so thin as to be disappointing when viewed by ordinary daylight.

It is by no means necessary to construct so elaborate an apparatus for viewing these pictures stereoscopically. The mirrors may be set in a simple box of wood and placed upon an ordinary table. Two other blocks of wood, suitably grooved for holding the plates and the ground glass, may be placed on either side of the mirrors, and any fairly powerful source of artificial light will answer for illumination. The pictures must, of course, be upon the level, or they will not combine. I have found this method of looking at *x*-ray plates very useful in a variety of conditions. The depth of foreign bodies from the surface and their relations to bones are appreciated with great ease. The character and degree of displacement in fractures can be recognized with great accuracy; the same is true of dislocations. The relations and depth of bony lesions from the surface can be accurately located. The exact character of a recent operation done upon a bone can be described as accurately as though the observer had seen the operation performed; and a much clearer idea of the structure and relations of bony tumors can be obtained than is possible by any other means that I am acquainted with, except an open operation.

The limits of this article do not permit me to treat of special lesions nor of special cases, and I have purposely confined myself to a general consideration of the topic.

It is my hope that I may at least have influenced others to try a method which but slightly increases the necessary trouble and expense of taking radiographs, and at the same time furnishes much greater clearness in the results obtained and enhances the value of radiography in several directions to a marked degree.

12 East Fifty-eighth Street.

CAN NASAL CATARRH AND CATARRHAL DEAFNESS BE CURED?

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A question asked nearly every day of those engaged in treating the diseases of the nose and throat is whether nasal catarrh and catarrhal deafness are curable. The patient who asks the question generally has a pretty definite opinion on the subject and does not believe that they can be cured. This idea of the incurability of these diseases, which is so generally accepted by the laity, is the result of the personal experience either of the patient or of his friends, or of the offhand statement of the general practitioner, who is either too busy or has too little faith to try to do anything to relieve the condition. It must be confessed that most of the treatment used for these diseases in the past, and perhaps much that is used to-day, has been palliative rather than curative. It is a self-evident truth that however useful palliative treatment may be in acute disease it is not sufficient for the cure of chronic disease. If any proof were needed of the inefficiency of a large part of the treatment used in the catarrhal conditions of the nose, throat, and ears, it would only be necessary to call attention to the history of an ordinary case of chronic catarrhal inflammation of the middle ear, how in spite of the usual treatment one attack of acute inflammation follows another at varying intervals with partial recovery between the attacks, but with the hearing capacity reduced a little after each until the hearing is practically lost. That the disease may progress more slowly under treatment is undoubtedly true, but the treatment usually employed does not prevent the occurrence of the acute or sub-acute attacks of inflammation which are the cause of the progressive deafness in these cases. The treatment is rather directed to limiting the damage to the hearing which may result from each attack, and if we are so fortunate as to bring our patient through an acute attack without any noticeable im-

pairment of the hearing capacity, we feel that we have done well. This method of treatment has led in the last few years to the invention of a multiplicity of instruments to overcome the results of middle ear inflammation by mechanically moving the drum membrane and the ossicles. Whether these devices are useful we will not now consider, but certainly no one claims that the acute attacks of inflammation of the middle ear are in any way prevented by their use. It is a well recognized clinical fact too often lost sight of that acute and chronic catarrhal inflammation of the middle ear has its origin in the nasopharynx, and that the inflammation reaches the middle ear cavity either by the sudden blowing of some of the discharge which is present in the nasopharynx into the middle ear, or by, what is probably the more common way, the extension of the inflammation to the mucous membrane of the Eustachian tube and so to the middle ear. An exception to this method of extension exists in those cases of acute inflammation of the middle ear occurring in the course of some acute diseases of the respiratory tract, such as pneumonia, influenza, and some of the acute forms of coryza. In these cases the middle ear is involved coincident with the inflammation of the mucous membrane of the upper respiratory tract.

Permanent impairment of the hearing may result from the first attack of middle-ear inflammation, but progressive catarrhal deafness does not follow unless the inflammation of the upper respiratory tract also causes a chronic nasopharyngitis. If the assumption is correct that the nasopharynx is the source of the infection, and that the inflammation of the mucous membrane of the middle ear is a part of the general inflammatory condition of the nasopharynx, then it must be evident that to prevent the progress of the ear disease it is first of all necessary to cure the catarrhal inflammation of the nasopharynx. This at once brings up the question, Is a catarrhal disease of the nasopharynx curable, *i. e.* curable so that it will not return upon the slightest exposure or indiscretion? To answer this question it is necessary to have a clear understanding of the disease and the causes which may produce it. I have attempted to show, in an article in the *Archives of Otology*, Nos. 2 and 3, Vol. 29, that chronic catarrhal inflammation of the nasopharynx, with the exception of those cases which may be caused by a local syphilitic or tuberculous lesion, or by adenoids, is a secondary disease caused by a collection of fluid in some one or more of the nasal accessory sinuses, and that a chronic discharge in the nasopharynx differs in no way from a chronic discharge in other parts of the body, and that it should be treated in the same way, *i. e.* by improving the drainage of the cavity from which the discharge flows. This plan of treatment is followed by the general surgeon, who does not expect to cure a chronic discharge by washing the surface over which the discharge flows with antiseptic or astringent lotions; but this comprises the larger part of the usual treatment of nasal and nasopharyngeal catarrhs.

It is not so very long ago that the general surgeon did his work in the same way, with the same results that to-day follow the practice in the treatment of the diseases of the nose and throat. An illustration of the different explanations which are given for similar conditions, is furnished by an eczema of the skin around the ear, in connection with a purulent discharge. In this case it is at once assumed that the purulent discharge from the ear is the cause of the eczema, but we explain the presence of enlarged lymph follicles in the pharynx by the assumption that they are caused by indigestion, by uterine disease, by the hepatic diathesis, or by some other bizarre condition. As a matter of fact, there is no evidence that an enlargement of a lymph gland in the pharynx differs etiologically from an enlargement of lymph glands in other parts of the body, and as we consider such enlarged glands, in the axilla for instance, to be due to infection, we should so consider the enlarged lymph follicles of the throat. These glands, which play so important a part in chronic disease of the nose and throat, may be infected by the inspired air in mouth breathing, by foci of inflammation in the nose, throat, ear, and mouth, or as a part of a general systemic infection. It is not the purpose of this paper to discuss these enlarged follicles of the pharynx, only in so far as to show their relation to and dependence upon the general inflammatory condition of the upper respiratory tract. This infected tissue in or around the Eustachian tube, and possibly in the middle ear itself, is of the utmost importance in cases of chronic catarrhal deafness, and its removal by operation, even if it were possible to remove it completely, would be of temporary benefit only, if the source of the infection were not healed.

I do not wish to be understood as speaking against operations for the removal of hypertrophied lymph tissue from the pharynx and nasopharynx, because I realize fully the beneficial results which follow these operations, but I do wish to emphasize the fact that the treatment should not be considered complete until the source of infection which produced the enlarged glands is found and healed. I believe that it is possible to accomplish this result in practically all cases of post-nasal catarrh, and in this way cure the disease. If this result can be obtained, the progress of the deafness can be stopped, and the hearing will improve—in some cases a great deal and in others a very little, depending in a great measure upon how extensive the changes are which have taken place in the middle ear cavity. The improvement in the hearing is caused by the disappearance of the inflammatory thickening of the mucous membrane lining the middle-ear cavity or of that covering the bands of new tissue which may have been formed. It is quite probable that the immobilization of these bands of tissue by inflammatory thickening, has a direct and decidedly bad effect upon the hearing. If the bands of new tissue are so situated that the disappearance of the inflammatory thickening allows of greater freedom in the movements of the auditory mechanism, then the hearing will be improved, and if the inflammatory attacks can be prevented from recurring, it will remain improved. Now, as to the source of the discharge in post-nasal catarrh, we should bear in mind that it is caused in the same way as a chronic discharge in other parts of the body, *i. e.* that it is the overflow of an infected and inflamed cavity, the drainage of which is interfered with to such an extent that it does not heal, or that there may be diseased tissue within the cavity which prevents spontaneous healing. We should, therefore, examine each case in regard to the history, the course, and the present condition of the nose, throat, ears, and teeth. To me the history of these cases is very interesting, and I am surprised at the number which can be traced to the infectious diseases, and to the purulent rhinitis of children. While diseased teeth do not play the important part in the production of antral empyema, that they were formerly supposed to, still it is always well to bear them in mind as a possible etiological factor in the production of a post-nasal discharge. The two chief obstacles to the correct conception of nasal and post-nasal discharge, and therefore to their successful treatment, have been and are to-day, first, the importance which has been attached to obstructed nasal respiration, and secondly, the supposed rarity of empyema of the accessory sinuses. I am the last to deny the pernicious results which follow mouth-breathing, but *post-nasal catarrh*

is not caused in this way, and operations upon the nose to relieve nasal obstruction are only useful to relieve the condition of the oropharynx, the larynx and the bronchial mucous membrane, but they do not relieve post-nasal catarrh, only in so far as they incidentally, or accidentally, improve the drainage from the accessory sinuses. The relief following the removal of adenoid vegetations from the vault of the pharynx has been held as furnishing absolute proof of the relation of nasal obstruction to disease of the middle ear, but a larger experience and closer observation have shown that there is no constant relation between the degree of nasal obstruction caused by adenoids, and the amount of the ear disease, and that it is the location of the new tissue in or around the entrance of the Eustachian tube, and not the obstructed nasal respiration, which is the cause of the involvement of the middle ear. Another illustration of the harmlessness of nasal obstruction is furnished by those cases of deviated septum, in which the catarrhal disease of the nose and ear is upon the unobstructed side.

In regard to the rarity of disease of the sinuses, opinion has undergone a rapid change in the last few years, so that from being the rarest of recognized diseases fifteen years ago, it has come to be considered as one of the commonest that is found upon post-mortem examination; the percentage found by different men who have studied the question varies from twenty-nine to forty-three. In the living, Fein reports from Chiari's statistics of his private cases, two per cent. of diseased sinuses, and Lichwitz reports about the same percentage (1.98 per cent.). It will be at once seen that the larger part of these cases remain unrecognized during life. It certainly would not be unreasonable to assume that these unrecognized cases of nasal empyema are the cause of an incurable catarrhal disease. We certainly could not reasonably expect a discharge from a nasal empyema to cease under treatment, so long as the true condition was unrecognized, and I believe that the fact that over ninety per cent. of the disease of the nasal accessory sinuses is unrecognized during life, explains the failure to cure post-nasal catarrh and catarrhal deafness. The percentage of unrecognized cases is probably larger than the figures given, for the reason that the post-mortem records are taken from unselected cases, while Chiari's and Lichwitz's percentages are from cases which applied to them for treatment of the nose, throat, or ear.

It is evident that a post-nasal catarrh that is caused by, or is rather the overflow from an affected sinus, will not be readily cured by spraying or douching the nasal cavities, no matter how thoroughly and persistently it may be done. The use of sprays and douches does afford a certain amount of relief by the removal of the irritating discharge which accumulates in the nasal chambers. This discharge causes congestion and often excoriation of the nasal mucous membrane, and these conditions are increased if the collection is allowed to remain in situ long enough to decompose.

Any satisfactory treatment of the so-called catarrhal diseases of the nose and throat must be based upon a thorough knowledge of the anatomy and physiology of the nose and throat and of the sinuses which drain into them, upon a knowledge of the principles of general surgery, and lastly upon a painstaking study of each individual case. If we are content with the statement that the patient has catarrh, and wash out the nasal chambers and prescribe a spray or douche for home use, the diagnosis will be easy but the cure will be delayed. If we patiently search for the source of the discharge, it may be a question of weeks of painstaking attention before we can be absolutely certain of it, but when we have found it the prospect of a permanent cure of the disease is good.

In regard to the treatment of these cases, that will be determined by the amount and persistence of the secretion and by the trouble which it may cause, whether it is so slight that it is simply an annoyance to the patient, or so severe that it causes disturbance of the general health. It may be the cause of progressive deafness, of laryngitis, of asthma, or of bronchitis.

The amount of the discharge is not an index of the effect produced, as often the most disastrous results are caused by catarrhal disease which is accompanied by a very slight secretion, and on the other hand a profuse discharge may never be any thing but an annoyance to the patient or disgusting to his friends. We should therefore give due consideration to all of the phases of the disease in each case and be equally on our guard against doing too much in some cases and too little in others. I will give the history of a few cases and the plan of treatment followed in each case, simply to illustrate a few of the many complications of the so-called catarrhal disease of the nose and nasopharynx.

Case I.—Miss E. L., aged 23, had suffered for three years with intermittent attacks of Eustachian tube catarrh, which were sure to follow each acute coryza that she had. The Eustachian tube catarrh had always yielded readily to treatment, but she was completely discouraged because it kept recurring. She had such middle turbinals as I called attention to in the article on Nasal Empyema in the *Archives of Otology*, mentioned above, and no other obstruction to nasal respiration or drainage. I removed enough of the middle turbinals to give good drainage from the accessory sinuses. A month later she had another acute coryza, which was followed by a slight tubal catarrh and since then, for a period of three years, she has had no further trouble. I have followed this case very closely and with a great deal of interest, because it was one of the first upon which I operated with the purpose of improving the drainage from the accessory sinuses, in an ordinary case of post-nasal catarrh.

Case II.—M. L., aged 44, had suffered with secretory catarrh of the middle ear on both sides for two years. She had been under treatment, but as soon as the serum was removed from the middle ear cavity it would again accumulate. The posterior third of the nasal chambers and the nasopharynx were inflamed and of a deep red color. It seemed to me that there would be sufficient room for drainage from the sinuses, if the tissues could be freed from inflammation. I accordingly made applications of solutions of iodine and ichthyol to and around the middle turbinal and gave directions to have the nasal chambers thoroughly cleansed several times a day. After three weeks of this treatment the condition of the nose and throat was so much improved, that the fluid ceased to reaccumulate in the ears and the hearing was restored to practically normal. This improvement continued for one year, when following a coryza there was a slight return of the ear trouble. It yielded readily to treatment and there has been no return since, nearly two years.

Case III.—Mrs. F. O., aged 47, had been gradually growing deaf for five years. The history was typical of chronic catarrhal deafness, *i. e.* the hearing had been decidedly affected during or after each cold, but had improved after the subsidence of the coryza. She had gone on becoming deaf and partially recovering alternately, until she came to me with an attack which did not so readily improve, or rather the hearing had been permanently reduced

so much that she had become alarmed. She had hearing for the watch of 6-48 in one ear and 16-48 in the other. Treatment by politzerization and improving the drainage from the accessory sinuses by the removal of enough of the middle turbinals to give sufficient room between them and the outer nasal wall, was successful in arresting the disease, and the hearing gradually improved, until it was 16-48 in the poorer ear and 30-48 in the better. The hearing has remained stationary for eighteen months.

These cases are a fair illustration of what may be accomplished in chronic catarrhal deafness by attention to the condition of the nose and throat. I have not noticed any striking cures of that most troublesome of all symptoms, tinnitus aurium, and I am of the opinion that whatever effect the cure of the nasal or nasopharyngeal disease may have upon the tinnitus is produced very largely by the subsidence of the congestive or inflammatory thickening in the middle ear. The following cases illustrate other complications of nasal disease.

Case IV.—Mrs. M. E., aged thirty-two, consulted me in March, 1900. She had always enjoyed good health until she had scarlet fever, at the age of twenty-two. Since then she had suffered from frequent attacks of bronchitis, complicated by asthma. She had also had what was diagnosed as malaria by a very competent physician. The asthma and bronchitis had gradually grown worse, especially during the winter months, and at the time that I first saw her she had not been able to lie down at night for several months; the bronchitis was severe, and she had lost flesh, and was weak, tired, and generally miserable. She consulted me to learn if there was anything about her nose or throat that could act as a cause of the asthma. I found upon examination that she had a bullous middle turbinal on the right side, an abundant discharge from the nasopharynx, and a chronic pharyngitis. She was advised to have the middle turbinal removed, and as she had suffered so much she was willing to have anything done which offered any hope of relief. Enough of the bullous middle turbinal was therefore removed to allow the walls to collapse, and to give good drainage anteriorly. The patient was relieved at once of many of the distressing symptoms, especially the asthmatic attacks; the bronchitis improved slowly but steadily, and when she returned from the country in September, she was in better health than she had been before for years. In November she contracted a severe cold, which resulted in bronchitis and one rather sharp attack of asthma. The bronchitis yielded readily to treatment, and the patient has remained free from asthma and cough during the whole of the present winter. She has called at the office occasionally during the winter to tell me how well she was feeling, and that she could hardly believe even now that all her trouble came from the diseased condition in the nose.

Case V.—Mr. E. H., aged thirty-nine, consulted me in November, 1899, on account of a nasopharyngeal catarrh, which caused him to clear his throat every few minutes, and as it was necessary for him to use his voice a great part of the time, the constant hawking was a serious matter to him. On examination, the mucous membrane of the nasal chambers was found perfectly healthy; there were no spurs, deflections, or hypertrophies. The nasopharynx was also free from focal disease. The middle turbinals were small, situated far back in the nasal chambers, and closely applied to the external nasal wall. I removed the anterior end of both middle turbinals sufficiently to give a good space for drainage. The operation on the left side was a success, but on the right side I did not remove enough, and after it had healed, the patient was conscious that the discharge into the nasopharynx was entirely upon the right side. I therefore did another operation on the right side, which was completely successful. The patient reports that the nasopharyngeal discharge and the constant clearing of the throat entirely ceased after the second operation and have not since returned, now more than a year.

Case VI.—J. B., aged seventy, consulted me in June, 1900. He had been annoyed for a number of years with a catarrhal discharge from the nose and throat, and within the last two years he had suffered from several attacks of acute bronchitis. The attacks were becoming more frequent, and were a serious hindrance to him in a business way, as every few weeks he would be confined to his room with an acute attack, and while they did not last long, he was never sure when he might suffer from another. He had been under treatment at various times for the nasal catarrh, but with only temporary benefit. In this case it was possible to see some of the discharge making its way down between the middle turbinal and the outer nasal wall. The middle turbinals were situated far back in the nasal chambers, and the mucous membrane covering them was deeply congested and granular in places, as though the discharge had excoriated the surface. I removed enough of the middle turbinals to allow free drainage, and curetted the membrane around the hiatus semilunaris. I cautioned him not to expect immediate relief, as, in my opinion, it would take two or three months for the mucous membrane of the sinuses, even with perfect drainage, to return to a healthy condition. In spite of my caution, he became impatient, and wrote me from New York City after six weeks, saying that he did not think that I had removed enough from his nose, but a month later, he again wrote me that the catarrhal trouble had entirely disappeared. I am able to report, after six months, that the catarrhal discharge has not returned, and that he is free from the attacks of bronchitis.

Case VII.—Miss E. W., aged twenty-three, consulted me in November, 1899, on account of an odor in the nose of which she was conscious at times. She was quite sure that the odor was entirely confined to the right side of the nose. There was some discharge into the nasopharynx, but there were no crusts either there or in the nasal chambers. Owing to the intermittent character of the odor and the absence of crusts, I was convinced that the accessory sinuses were the seat of the disease. I accordingly removed the anterior end of the right middle turbinal to improve the drainage, so that the sinuses might be washed out if necessary. The odor was increased at first, but in the course of a few weeks it entirely disappeared without my having had to resort to washing out the cavities. After three months she came back to have the other side operated upon, saying that she was not conscious that there was any trouble on the left side until after the right side was well, and that she had experienced so much relief from the operation upon the right side that she was anxious to have the left made as well as the right. The same operation was done as upon the right side, and it followed the same course. She had been free from the odor and from the nasopharyngeal discharge for more than a year.

Case VIII.—Mr. A. T., aged thirty-nine, came to me in November, 1900, to have polyps removed from the right nasal chamber. The history

of this case is both interesting and instructive; it is as follows: Eleven years before, while fishing on the Grand Banks, he had an ulcerated tooth (first molar) in the right upper jaw. His face was badly swollen, and remained so until he reached land, where he could have the tooth extracted. The tooth and face were in this condition for four or five months. Soon after the face began to swell, he first noticed a discharge from the right side of the nose, and this discharge has continued ever since. In 1896, he went to St. John's General Hospital, and had polyps removed from the right nasal chamber. The return of the polyps caused him to come to me to have them removed. This was done, and I afterward removed with cutting forceps and curette a large mass of diseased tissue from the anterior ethmoid cells. He was much improved, but there was still a purulent discharge from the nose, and I advised him to have the antrum operated upon, as I did not think that a disease of such long standing and of evident dental origin would heal by simply improving the drainage through the hiatus semilunaris. He readily consented, and I opened the antrum through the canine fossa. The antrum was large and filled with foul-smelling pus. It was washed out, the diseased tissue being thoroughly curetted, and was then packed with gauze. The washing and packing were done daily for the next ten days. At the end of that time, the water, as it returned from the antrum, was clear, and from that time on the washing and packing were done only every second or third day. The antrum remains free from pus, and has been so for nearly two months; the discharge from the nose has nearly ceased, the patient feels better in every way, and there seems a good prospect of a permanent recovery.

Case IX.—Miss E. B., aged thirty, consulted me in June, 1900, on account of a persistent pharyngitis. She had suffered with her throat for three years, and had been under treatment for long periods of time without benefit. The pharynx, the nasopharynx, and the posterior third of the nasal chambers were congested, the mucous membrane was thickened, and the lymph follicles of the pharynx were enlarged. The patient was conscious of a slight sore throat most of the time, and every few weeks suffered from an acute attack which lasted a week or more. There was no ulceration and no focal disease around the throat. The case was one that ordinarily goes by the name of a catarrhal inflammation, but of peculiarly persistent form. I felt about this case as I do about others of the same class, that the trouble originated in the nose. In this case the middle turbinals were situated far back in the nasal chambers; they were swollen and closely applied to the outer nasal wall. I therefore improved the drainage from the sinuses by removing a part of the middle turbinals. Nothing more was done, and the patient was advised to discontinue all treatment, so that we might know whether what had been done was sufficient. This case seemed to be a fair test of what could be accomplished in this way, as she had not only been under treatment by competent men, but had also tried change of climate, without permanent benefit. I am happy to report that without any further treatment the throat gradually improved, and the patient has spent the present winter in Boston without any of her former trouble.

Case X.—Mrs. E. G. M., aged thirty-four, has consulted me at different times in the last four years for a nasopharyngitis which yielded to simple measures. I had never been able to discover anything wrong with the drainage or with the nasal breathing, and I had come to the conclusion that at last I had found a case of simple catarrhal inflammation, depending perhaps upon some state of the general health. In August, 1900, she came again with apparently the same condition for which I had treated her before. Again, I could find nothing to cause the catarrhal discharge. The nasal respiration was not interfered with; the drainage was apparently perfect; there were no points of focal disease visible upon the most searching examination, and I was again led to believe that the case was one of catarrhal discharge without local cause. I therefore treated the case by making applications to the nose and nasopharynx, and gave creolin ointment to be used in the nose at night, and Seiler's solution for use in the morning, and in addition her general health was carefully looked after. In spite of this treatment, the disease dragged; it was sometimes better, and then, without apparent reason, the discharge would increase; in this way the case continued for four months. The general health improved, but at the end of that time the catarrhal disease was not well. I had considered the advisability of trying to improve the drainage, on the chance that there was some obstruction that was not apparent upon examination. At this time the patient came to the office with an acute coryza on the right side, and as I am always suspicious that a one-sided coryza means sinus disease, I went over the case again. During the examination, she asked if I thought a tooth which she had could have anything to do with it. I at once investigated the teeth, and found that the first upper molar on the right side was a pivot tooth, and the patient informed me that the dentist had told her that in putting it in he had split the root. The tooth had given her more or less trouble since it had been in, and for the last few days had been quite troublesome. There was no swelling around the tooth, but high up in the canine fossa the mucous membrane was red and swollen, and there were several small ulcers. I advised her to have the root extracted without delay, which she did. A small collection of pus was found adherent to the end of the root, but I was not able to make out any opening into the antrum. After this the catarrhal discharge ceased without further treatment, and has not since returned.

I have not reported a large number of cases of any class, but have rather given examples of each. A summary of the cases of middle ear catarrh which are caused or made worse by nasopharyngitis was given in the article in the *Archives of Otology* referred to above. It will be evident from the history of the cases reported that each case must be carefully studied, and that even then it may be a question of weeks or even months before we can be certain of the cause of the discharge; but if we bear in mind that a chronic discharge into the throat is caused in the same way as a chronic discharge in other parts of the body, and study the case in this light, we shall be in a position to treat it intelligently. A careful study of a large number of cases treated in this way has eliminated the personal equation, and has only confirmed my previous impression that the so-called catarrhal disease of the upper respiratory tract, with all its attendant complications, is curable and that, while many of the cases will require much time and observation, the results obtained will amply repay one.

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M. Lacaze Duthiers, the well-known French naturalist, professor of zoology at the Sarbonne, and member of the Academy of Medicine and of the Academy of Sciences, has recently died.

THE NEED OF BETTER PROVISION FOR THE PROPER CARE OF CASES OF DELIRIUM TREMENS AND CASES OF DOUBTFUL MENTAL DISEASE.*

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THE question of the proper care of persons suffering from delirium tremens and of those under observation regarding their mental condition was discussed this past year in Boston in a conference of the various unpaid boards of trustees of the city institutions. In Boston, in those cases which come to the official notice of the authorities, the persons are kept in prison cells until they are seen by two regularly appointed medical examiners and found to be suffering from delirium tremens or doubtful mental disease, are then sent to a penal institution on an island in the harbor, and are cared for in the hospital connected with this institution. This arrangement is far from ideal. In the first place, it is manifestly illegal to send these persons to a penal institution without trial or commitment of some kind. Individuals suffering from delirium tremens are sick—through their own fault, it is true—but as sick people they are not criminals, and should have immediate and proper medical care as much as if they were suffering from disease of the stomach, or other organs. In the second place, it is not humane that these people who are sick should be kept in prison cells any longer than is absolutely necessary to determine their condition. Under the present conditions after their condition is determined, it is necessary to wait for transportation by boat to the penal institution, and this very delay has in some instances been fatal. Of course, in cases of doubtful mental disease, when the patients cannot be committed to an insane hospital, it is manifestly illegal to send them to a penal institution.

The proper care of these two classes of cases is a problem that confronts all cities of considerable size. Most of the cities have shirked the solution of the problem, or rather have utterly ignored it. But the fact remains that these people are sick people and should be properly cared for. They are not insane, and they are not criminals. The fact that they are an undesirable lot and that nobody wants them has no weight in the proper consideration of the question; for it is not wise or far-sighted for any community to ignore a crying need that exists.

It is the duty of the medical profession to consider these problems and to offer some solution which will work to the good of the sufferers and of the community, and there can be no doubt of the value of the united opinion of the medical profession in solving this problem. It is for the purpose of bringing the matter again to the attention of medical men qualified to express an opinion on the matter, and for the sake of a full discussion of the question, that this paper is brought before you to-day.

Nothing exemplifies better the vast strides made in methods of caring for the dependent classes than the treatment accorded the insane less than seventy years ago and to-day. Previous to the establishment of the first hospitals for the insane, the insane were confined in penal institutions, and fared worse than criminals. In 1839 a hospital for the insane was built in Boston. It was placed between the Work House and the House of Correction, and when completed the insane were taken from those penal institutions, where many of them had been kept in strong wooden cages on wheels. In fine weather, as an extraordinary touch of kind treatment, these cages were drawn out of doors. When the hospital was ready it was a simple matter to wheel the insane in their cages to the new building. Here the intelligent and humane superintendent, Dr. John S. Butler, at once released them and treated them as human beings. To-day the process of evolution has brought a complete change in the knowledge and treatment of insanity. In the light of our present advancement in knowledge, it would appear that these cases of delirium tremens and of doubtful mental disease receive relatively as scant attention, and are as much neglected as were the insane seventy years ago.

In order to learn what custom is followed in the care of these cases in the cities of the United States, letters were sent to the authorities in twenty-eight principal cities, asking the following questions:

"1. What disposition is made of the cases of delirium tremens and cases of doubtful mental disease that are brought to your official notice? I wish to know whether these cases are sent to a general hospital, to an insane asylum, to the almshouse, jail, or kept in the cells in the police station,

"2. Can you tell me approximately the number of cases brought to your official notice each year?

"3. What medical attention do these cases receive at first; that is, in connection with the city prison, or whatever place these cases are taken to? Is there constant medical attendance, as there is in San Francisco, for instance; or do you depend upon police surgeons, or are there regularly appointed medical examiners who are called in to determine the condition of the case?"

Answers were received from over twenty cities. These replies show that various methods prevail in the different cities. It is well known that in New York, Philadelphia, and Chicago there are wards for the care of alcoholic patients and cases of doubtful mental disease in connection with city hospitals. In Washington, cases of drunkenness, if semi-concious or unsconscious, as well as cases of delirium tremens, are sent to a hospital at once. This method of caring for cases of delirium tremens is followed in New Orleans, Kansas City, Indianapolis, St. Paul, Cincinnati, San Francisco, Los Angeles, and Buffalo. In one city the majority of persons arrested suffering from delirium tremens are taken before the Probate Court and committed to the State Insane Hospital. Some of the cities take care of these cases in the jails; and some seem to combine all three methods, sending some cases to the insane asylum, some to the hospital, and some to the jail.

In Massachusetts the present method of caring for these cases is unsatisfactory. Letters sent to the principal cities of the State have elicited the following information: In two cities cases are cared for in the hospital connected with the city almshouse. There were less than a hundred cases per year in these two cities. One city commits its cases, less than half a dozen per year, to an insane hospital. In sixteen cities these cases, over four hundred in number per year, are cared for in the prison cells of the station house or in the jails.

It is impossible to get any statement of the number of cases of delirium tremens and of doubtful mental disease that come to the official notice each year in most cities. In Boston there have been about two hundred cases annually, for the last two years, that have been sent to the observation hospital connected with the penal institutions.

No doubt, with the present facilities and the existing methods of caring for these two classes of dependents in the different cities, they are as

* Read at the meeting of the American Medico-Psychological Society in Milwaukee, June 12, 1901.

well cared for as is possible. No intentional cruelty is practiced or would be tolerated. But the system, or, rather, the lack of system, is all wrong, and ignorance of the law excuses no man—or city.

In the first place, as has been before stated, people suffering from delirium tremens are sick people and need immediate medical care and proper nursing. It is difficult to see why a man who breaks his leg while drunk, or a patient delirious from fever, should be considered a proper person for a city hospital, while one delirious from drink, but dangerously sick, should be sent to jail or kept in a prison cell with less careful attendance.

Secondly, the custom that exists in some cities of committing a person suffering from delirium tremens to an insane hospital, though possibly technically within the letter of the law, cannot be commended. Such commitments put work upon the insane hospitals for which they were not intended, and to-day our insane hospitals are already overcrowded with legitimate cases, and should not be embarrassed by having cases sent to them that do not properly belong there. Such a custom would give a better percentage of recoveries for the hospital.

Thirdly, if the jails and prison cells are not the proper places to take care of such cases, and if insane hospitals ought not to be imposed upon, much more does it seem unsuitable that the decision as to the care of those persons should be left in the first instance to the judgment of some police officer. In Boston, for instance, these persons may have to stay over night and sometimes over Sunday in the house of detention or the city prison. If they are very sick, a physician is sent for; otherwise, they remain without medical care until the daily visit is made by the examining physicians. It is too much to expect a police officer to be a medical expert, and the numerous deaths that occur among these dependent classes in police cells should not be laid to the door of the police authorities, but the city should be blamed for permitting such an inadequate system for the care of these cases.

The time has come when the question of the proper disposition of these cases can no longer be evaded. Cases of delirium tremens and doubtful mental disease are irresponsible to a great degree, and the law makes no provision for them. A special reception hospital has been advocated. Such an institution under proper management and with constant medical supervision would be an ideal arrangement. Necessarily the establishment of this hospital would mean the expenditure of a large sum of money in the first instance, and a yearly appropriation for its maintenance afterward. For these reasons the immediate establishment of such hospitals would perhaps be considered Utopian in most cities.

But in all cities it would be possible to have a ward or pavilion in connection with the city hospital set apart for these cases. The city hospitals are instituted by the people for the care of the sick, whether deserving or undeserving, and are supported by the public moneys.

Attention should be called to the fact that cases of delirium tremens and of doubtful mental disease which come to the official notice of the city authorities are a limited class, so that were this small number added to the number of disturbed cases that always exist in any general hospital, the additional burthen would not be grievous. Against the objection that has been urged that such cases require specially constructed buildings and apparatus, specially skilled physicians and attendants, it may be said that many such cases are now well taken care of in general hospitals and private houses without these so-called essentials. It can hardly be believed that these desiderata are to be found in prison cells or penal institutions. At the present time most hospitals have a neurological staff, and it would be an advantage to house officers, nurses, and students to have larger opportunities to observe mental sickness. Many hospitals object to the admission of these cases because they fear that their admission may be the entering wedge which will open the door of the hospital indiscriminately to all cases of alcoholism and insanity.

It is undeniable that the cases that should be under medical observation in large cities much exceed those which are under discussion. In Bellevue, for instance, 5,205 patients were admitted to the alcoholic wards in 1900, and 2,425 to the insane pavilion.

According to the statement of the superintendent of the hospital, patients remain in the insane pavilion for about five days, or until it is determined whether or not they are insane. They are then discharged or transferred to other institutions. Alcoholic patients remain about three days. They are then discharged, or, if suffering from other ailments, transferred to the medical or surgical wards of the hospital. Patients suffering from the effects of morphine, epileptics, and hysterical patients are put in the alcoholic wards.

Aside from the humane standpoint, and on purely economic grounds, the establishment of separate hospitals or of special wards in connection with general hospitals for observation cases would, in most instances, cost less than the present system. Were such a place provided, many persons who are allowed at large because the police know of no place to which they can be sent would come under early observation, and their condition would be determined in time to prevent crime. According to the Attorney-General, the cost of one murder trial in Massachusetts may reach $15,000.

The first movement tending to proper care of these unfortunate people must be made by medical men. Without earnest and continuous effort upon our part, there is but little hope of improved conditions.

A NEW CONTINUED FEVER.

By EDGAR J. SPRATLING, B.Sc., M.D.,
FORSYTH, GA.

We had here in the spring and early summer what is to me a new fever. The trouble began with malaise for three or four days, then muscular pains, especially of the neck; there were slight chilly sensations; the temperature rose to from 100° to 102°, the pulse was 110 to 120, the respirations 30 to 40; there was nausea, the patient had a hacking cough and mental depression, sometimes amounting to melancholia. The following day the pains were more pronounced, especially in the long bones and joints; headache was severe and accompanied with photophobia and dizziness on rising; the temperature was 104° to 106°, pulse 120 to 140, respirations 40 to 60 and shallow; the abdomen was sore and tympanitic; there was gastralgia, with disgust for food; the urine was scanty, offensive, and highly colored. The mind was periodically clouded, often actively delirious, according to the temperature, which changed rapidly, sometimes four or five marked fluctuations in the twenty-four hours; the slightest noise, disturbance, or exertion, mental or physical, caused rapid exacerbations. This was one of the characteristics of the disease.

Thus far this fever closely resembled dengue, and might in a few cases be confounded with grip. But in dengue the cases of a given epidemic will be much

alike as to violence; in this the widest possible range was found. In several cases the temperature reached 106.5°, in many not 100°. In dengue the surroundings have but little influence; in this they were nearly all-powerful. In dengue whole families are usually affected; in this rarely more than one member. The temperature of this fever was very susceptible to the action of antipyretics.

The symptoms given above lasted from two to five days, then gave way rapidly, all discomfort disappearing; the appetite returned, the pulse fell to from 85 to 100, the respirations to 30 or 40, and the patients expressed themselves as "feeling fine; could get up if only stronger." *But the erratic fever and scant urine persisted for from three to ten days longer*, and there were frequent profuse sweats. Then the fever ceased and the kidneys acted normally; the mind became clear, but mental and physical lassitude persisted in some cases for weeks.

Thus we see we have a close congener of, if not actually, Malta or Mediterranean fever.

Out of about sixty cases we found nearly one-half slight, confining the patient to bed only two or three days—the longest period was twenty-three days. The complications, in order of frequency, were bronchitis, enteritis, laryngitis, pneumonia, pleurisy, arthritis, and lymphangitis.

The prognosis was good when no organic heart lesion existed, when the strength was preserved, quiet was maintained, the kidneys were stimulated with alkaline diuretics, and depressant medication was avoided.

This is a high, dry locality, and neither malaria nor typhoid fever exists here; nor did any tests for either of these diseases give positive results in this fever.

Tonsillotomy Rash.—Wyatt Wingrave makes a report based on twenty-six cases. Of this number, three which were in-patients, proved to be scarlet fever, while in one diphtheria developed. The remainder were simple non-specific cases. The eruption generally appears on the second or third day, and is either papular, roseolar, or erythematous in type. It most frequently attacks the neck, chest, and abdomen, sometimes extending to the face and extremities. The earliest appearance noted is on the day following operation; the latest one is on the sixth day. Its duration is generally two or three days, but may extend to five days. After reaching its maximum intensity, it rapidly disappears without desquamation, but is sometimes associated with intense itching. It may occur at any age—the youngest patient was fourteen months and the oldest twenty-three years. With regard to sex, excluding the specific cases, sixteen were in females and six males. As a rule there is but slight constitutional disturbance, and the child does not appear to be any the worse. In those cases investigated the temperature was increased 1° to 2° F. Examination of the blood during the week following a tonsillotomy showed an increase in the number of the uninuclear white corpuscles. This leucocytosis rarely lasts beyond the tenth day, and is hardly surprising after the removal of so much lymphoid structure. The rash may be one of drug intolerance, since most of the patients cases were taking sodium salicylate and potassium bromide.—*Laryngoscope.*

Subnitrate of Bismuth as a Remedy in Obstruction of the Bowel.—H. M. Shallenberger states that in his experience, embracing a large number of cases at ages ranging from four to sixty-five years, extending over a period of more than fifteen years, the obstructed bowel has, in every instance, been relieved within forty-eight hours following an initial dose of bismuth. He notes several cases in which cathartics or enemata had been used either singly or conjointly, this treatment, in some instances, extending over nearly a week, but within two days following the administration of the bismuth, there was a movement or disintegration of the fecal mass. In all conditions of impaction, the muscle fibres about the obstruction undergo a contraction or spasm. The effect of the bismuth is sedative on the terminal nerves. The writer believes that the bismuth allays the irritation of the bowel, relaxes the spasm, and thus removes resistance to the passage of the obstructed feces. He orders in his cases the continued use of a saline water, and from the first at least thirty grains of sub-nitrate of bismuth at short intervals and continuously until there is an impression made on the fecal tumor.—*Therapeutic Monthly.*

A Peculiar Nervous Disease Occurring in Childhood with Motor Disturbances and Mental Weakness.—Bechterew mentions two singular cases described by O. Giese, and adds a similar one of his own. The first two patients were a brother and sister of twenty-five and thirty-two years respectively, who, after a mentally backward childhood, at puberty developed motor disturbances, taking the form of slow monotonous speech, intention tremor of the hands, twitching of the face, and unsteady gait. The reflexes were exaggerated, and the disease ran a slowly progressive course. The author's patient was a girl of nineteen, whose case differed from those described mainly in that the reflexes and muscular excitability were not increased, that the hands were poorly developed, that there were no local palsies, and that there were congestive manifestations in the extremities. The mental deficiency, tremor, and cerebellar ataxia led the author to locate the lesion in the cortex and in the cerebellum, together with a probable degeneration of the pyramidal and descending cerebellar tracts.—*Centralblatt für Nervenheilkunde und Psychiatrie.*

A Study of the Temperature, Pulse, and Respiration in the Diagnosis and Prognosis of Certain Diseases of the Brain.—J. T. Eskridge says that a change in the character of the respiration, rather than in its frequency, is sometimes one of the first positive symptoms of organic intracranial disease, especially of tuberculous meningitis. A respiration more frequent during sleep or unconsciousness than during waking moments is strong evidence of organic disease of the brain. Apoplexy due to hemorrhage is attended with greater disturbance of the temperature of the body, soon after the occurrence of the stroke, than when due to thrombus or embolus. If the temperature on the paralyzed side remains higher than on the opposite side several weeks after the occurrence of the apoplexy from any cause, it indicates that softening or inflammation of the brain is going on, and lends great gravity to the prognosis. The author makes some tentative statements in regard to traumatism of the brain in its effects upon pulse, respiration, and temperature.—*Denver Medical Times.*

Obstetrical Rules.—When abortion is inevitable, plug the vagina with strips of gauze or some clean, soft material, and wait six or eight hours. The ovum will often be found in the vagina on removing the gauze; if not, plug again and wait. If any part of the ovum or decidua remains in the uterus, clean it out at once with the finger or curette, not hesitating to give an anæsthetic if any difficulty is met with. If there is a rise in pulse-rate and temperature, and the vaginal secretion is foul, give an anæsthetic, dilate the cervix, empty the uterus, and scrape it clean, no matter what stage the process of abortion has reached. In other words, use artificial dilatation, followed by emptying and cleaning out the uterus in threatened incomplete and complete abortion alike, whenever the uterine cavity becomes the source of septic intoxication. —*Indian Lancet.*

No Leprosy in the Faroe Islands.—A writer in the *Polyclinic* says that there is no leprosy in these islands, and that there is no history of there ever having been a leper-home there. Since leprosy prevails so extensively in the neighboring countries of Iceland and Norway, it becomes of much interest to ascertain what conditions have conduced to its extinction in the Faroes. In the Orkneys and Shetlands, where leprosy was formerly prevalent, it has become extinct within recent times.

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THE GROWTH OF THE DRUG HABIT.

WHEN intemperance is so universally associated with the abuse of alcohol it is time for the public to know that there are other and important considerations to be taken into account in direct connection with the growing vice. Dr. A. P. Grinnell of Burlington, Vermont, in the current number of the *Medico-Legal Journal*, has taken a so much broader view of the general subject that his treatment of the pernicious use of drug stimulants merits very serious study.

In his own State he has taken the pains to collect statistics from medicine vendors bearing on the increased use of the common narcotics as an evidence that stimulants, as such, have certain complementary relations to each other in meeting the natural cravings of human appetite. "If you should ask any one of your neighbors," says he, "'What stimulant do you take?' and that person was the advocate of what is called prohibition in Vermont, which means the prohibition of alcohol (the least of all in importance), he would probably say, 'Nothing.' But analyze his or her daily life; consider tea, coffee, tobacco, opium, cocaine, quinine, or any of the various table condiments like tabasco sauce, or some of the special brands of catsup, the patent medicines called tonics and blood purifiers, and you will find that there is not one who can say that he does not take some one of the list, and would miss it if he did not. To some men alcoholic stimulant is everything they seem to need to satisfy their craving. What is a stimulant to one, however, may not be to another, consequently there is a great variation in the character and amount of the stimulants used."

After seriously reflecting upon the matter, after watching the effect of the prohibitory law (so called), in Vermont, and having a well-grounded conviction that everybody indulged in the use of some artificial stimulant, he was led to make further investigation. Assuming that the law prohibiting the use of alcohol, except for medicinal or mechanical purposes, was enforced, then it appeared to him reasonable that many persons might be driven to the selection of some other stimulant as a substitute for alcohol.

His convictions regarding this point were well founded, as shown by a large correspondence with wholesale and retail drug vendors in Vermont, as well as with the proprietors of general stores in which medicines are sold as ordinary merchandise. In 130 of the regular pharmacies and in 160 of the general stores in the State of Vermont there were sold to regular customers every month 3,300,000 doses of opium, besides what were dispensed in patent medicines, and what the physicians prescribed, giving one and a half doses of opium to every man and woman in the commonwealth every day in the year! The inquiry was restricted to the commoner narcotics—opium, morphine, Dover's powder, paregoric, laudanum, cocaine, chloral, and cannabis indica. The amounts given in these instances were so large that Dr. Grinnell was at first led to believe that the vendors estimated by the year instead of by the month.

In some of the larger towns the monthly sales of opium ranged from three to five pounds, those of morphine from one to three pounds, paregoric and laudanum from one to six gallons, cocaine from one to four ounces, chloral from one to thirteen pounds, and Indian hemp from one to thirteen ounces! All this in a State with but 320,000 population!

The author, believing that to many quinine "is a great stimulant," has collected statistics regarding the relative increase of consumption of that drug. "A two-grain quinine pill," says he, "will flush the face as much as a drink of whiskey, unless one is accustomed to its use." Whether or not the conclusion is correct, there is certainly an immense amount of the drug used, averaging in different localities of self-prescribers from five to eight thousand grains daily. It is estimated that the aggregate quantity used in general sales would allow two grains daily to each man and woman in Vermont!

Comparing drug statistics with those of alcoholic stimulants "for medicinal, mechanical, or chemical purposes," there was enough sold in seventy-one towns to give an equivalent of $1.38 worth of liquor for every person. "All in all, over one-quarter of a million dollars' worth of liquor was legally required by a population of 182,356 people for medicinal purposes, and the health reports show no epidemic or undue prevalence of disease!"

Dr. Grinnell may well be surprised at the results of his interesting investigations, and he is well warranted in saying: "Sooner or later the reformers of the world have got to divert some of their feverish antipathy to alcoholic stimulants and consider calmly and intelligently the drug evil. The deleterious influence on the individual of all forms of drug addiction, and the consequent effect on society and all relations of mankind, make its consideration in its sociological and criminal aspects of paramount importance. The courts have never given much judicial importance to drug habits, but widespread development of drug addiction must surely, sooner or later, bring the matter into greater legal prominence."

The question of remedy, however, is unfortunately not an easy one for a thoroughly practical answer, for natural appetites cannot be controlled by legislative enactment, and thus far, all laws to such ends have been evaded. Those who attempt to compromise the situation strive to lessen the opportunities for temptation, and reasonable restrictions are the only ones that hold as deterrent elements. It is so with the restraint of prostitution, and with all typical "Maine" laws, and it will be equally so with the repression of the drug habit. Each man feels, in a certain sense, that he is at liberty to do as he pleases with himself. Hence there is good reason to acknowledge that "no law has yet been enacted which meets the requirements or is satisfactory to the

victim of the drug habit, to the reformer, or to the reformed."

For the physician who views the present situation of attempted legislative control, it may not be irrelevant to consider his own responsibility in the matter of abuse of alcohol and powerful drugs. It may not sound well to say it, but it is true enough that much of this trouble is due to him by the thoughtless manner in which he has popularized the use of these poisons. The retailers of these drugs merely find it profitable, in a business sense, to meet the demand. Reasonable restrictions of sale may do much to mitigate present evils, but behind all is the proper education of the public concerning the real dangers of these pernicious habits. In such laudable missionary work the medical man can take a becoming part, and thus possibly atone for much of that mischief which is now so far beyond the reach of immediate reform.

THE WITHDRAWAL OF CHLORIDES IN THE TREATMENT OF EPILEPSY.

Epilepsy constitutes one of the most difficult and obscure problems in the domain of medicine, from the point of view of pathology, as well as that of treatment. So far as present knowledge goes, the disease must be looked upon as one in which the motor cells of the cerebral cortex undergo perturbation with undue readiness, as a result of the action of a great diversity of irritants. Intelligent treatment, therefore, must be directed to the removal of exciting factors so far as known, or to the prevention of their access, the suppression of the cellular perturbation if developed, and the correction of the cellular hyperexcitability. For the latter two objects sedatives are clearly indicated, and have been largely used, and of these the bromides in varying combination have proved most serviceable in a large number of cases. The first object has been most successfully attained through dietetic measures. The results of treatment, however, even under the most favorable circumstances, leave much to be desired.

A couple of years ago two French observers, Toulouse and Richet, upon the assumption that the body is more susceptible to the action of bromides if sodium chloride be withheld, as the former displace the latter from its combinations, recommended a dietary from which common salt was excluded and which they employed in twenty cases of inveterate epilepsy with admirable results. They administered daily, in conjunction with from 15 to 30 grains of bromides, 1,000 grams of milk, 300 grams of meat, 300 grams of potato, 200 grams of flour, 2 eggs, 50 grams of sugar, 10 grams of coffee, and 40 grams of butter. Encouraged by the recorded results, Dr. R. Balint (*Berliner klinische Wochenschrift*, 1901, No. 23) instituted similar treatment in 28 cases of epilepsy, 9 of more recent and 19 of longer standing. Inasmuch as the total withdrawal of salt was attended with distress, and as it was realized that the articles themselves entering into the dietary contained salt, the dietary was, after some preliminary observations, modified so as to consist of from 1 to 1½ liters of milk, from 40 to 50 grams of butter, 3 eggs, and from 300 to 400 grams of bread in which sodium bromide was substituted for common salt.

During the first few days of treatment there was in some cases no change and in others an apparent aggravation, while in still others improvement began at once. In the course of a week, however, improvement was the rule, with reference either to the frequency or the severity of the attacks, or both, and this continued throughout the entire period of treatment, and in some degree also subsequently thereto. Improvement in the mental state likewise was noted, while the bodily weight increased and the complexion became brighter. Ill effects from the bromides were not observed, the drug being required in less than the usual doses, and appetite and digestion not being interfered with. The treatment, it is thought, is best applicable in an institution. That the beneficial effects are not due merely to the character of the diet was shown by the omission of the bromide on the one hand and by the administration of sodium chloride on the other hand, and in consequence of which the attacks occurred with their previous frequency and severity.

PYRIDIN IN TOBACCO SMOKE AND THE CIGARETTE QUESTION.

An editorial annotation which appeared in the London *Lancet*, some time ago, has attracted a great deal of attention in some of the lay journals of this country, principally for the reason that it runs counter to the commonly accepted beliefs with regard to the particular product contained in tobacco and its smoke which exerts the most deleterious effect upon the smoker. The article in question first points out that modern researches are distinctly tending to show that the poisonous effect of unlimited tobacco smoking is not due to nicotine. Of course, tobacco contains nicotine, but it is practically certain that nicotine does not occur as such, at any rate to any extent, in the smoke. By far the greater portion of the nicotine—the amount of which, in the Virginia tobacco used for cigarettes, has been shown not often to exceed one per cent.—is destroyed by combustion.

The agency by which the well-known symptoms following excessive smoking are produced is said to be the tar-oils formed in tobacco smoking, the chief constituent of which is pyridin. Nessler observed some time ago that the effects of tobacco are not due to nicotine, but to a volatile oil. His assertion has been confirmed by several other observers. The degree of toxicity of the smoke, however, probably depends largely upon the completeness of the combustion.

After having attempted the demolition of the old belief as to nicotine being the cause of the unpleasant symptoms subsequent to excessive smoking, the writer in *The Lancet* proceeds to discuss the comparative pernicious action of tobacco, as used in cigar, pipe, and cigarette, and reaches the conclusion that the cigar is the most harmful form of enjoying the soothing weed, followed in the order of injuriousness by the pipe and cigarette.

Some two years ago, *The Lancet* took up the cudgels on behalf of the much-maligned cigarette, and proved by careful analyses, undertaken at its own laboratory, that both the tobacco of which the best-known brands of American cigarettes were composed, and the paper in which they were wrapped, were pure. The Medical Record, at about the same time, declared editorially that there was no valid reason for asserting that cigarette smoking was especially injurious *per se*, but that when practised by the young, or when inha-

lation was indulged in to any extent, the habit was undoubtedly harmful to health.

Used moderately, says Clifford Allbutt, tobacco is not injurious to most persons, and may have its indirect effects in soothing fatigue and restlessness. It is, however, as true of tobacco as of other agents affecting the nervous system, that the personal equation is to be regarded. The quantity consumed with impunity by one man is poisonous to another; each smoker must estimate his own resistance and regulate his doses accordingly. These wisely temperate comments apply to all forms of tobacco smoking. *The Lancet* puts its argument in favor of the innocuousness of the cigarette thus, "The combustion of the cigarette is probably more complete than that of the tobacco in a pipe, or of the uncut leaf of a cigar. But the pipe serves as a condenser, the condensed products not reaching the mouth. A good deal of condensation must take place in the cigar, and, moreover, the products reach the mouth and are absorbed." The position taken as to both points seems to be sufficiently comprehensible. But the argument in favor of the cigarette holds good only when the paper cigar is smoked in moderation, and the smoke from it is not inhaled. It is in the temptation to excess and to inhalation of the mild smoke that the peril of cigarette smoking lies.

Probably this view of the injurious influence of pyridin will not commend itself to all who have made a study of tobacco smoking, but at any rate there can be no doubt that the general public have very exaggerated notions as to the evil wrought by nicotine. Dr. Heinrich Stern attributes to carbon monoxide, which is a constituent of tobacco smoke, many of its poisonous qualities.

News of the Week.

The Tri-State Medical Society of Alabama, Georgia, and Tennessee.—The thirteenth annual meeting of this society will be held at the Tulane, Nashville, Tenn., on Tuesday, Wednesday, and Thursday, October 8, 9, and 10, under the presidency of Dr. M. C. McGannon of Nashville. The secretary is Dr. Frank Trester Smith of Chattanooga.

A New Hot Spring has been discovered at Mackinack Island, Mich. The spring is close by the city water works. The temperature of the water is 104°, but what its composition may be has not been ascertained.

Malaria a Notifiable Disease.—The New York City Board of Health has adopted resolutions to the effect that the officers of "public institutions, hospitals, homes, asylums, etc., be required to report all cases of malarial fever which come under their observation, giving the name, age, sex, occupation, and present address of the patient, and also information as to whether the attack is a primary infection or a relapse, and the address where the disease was probably contracted." Also "that all physicians in the City of New York be requested to furnish similar information in regard to patients suffering from malarial fever under their care." Circulars of information regarding the causation and prevention of malaria were recently issued and the board will send these in each instance to the residents of the places where the malarial infection has apparently been contracted. Postal-card blanks for furnishing the required data will be prepared and forwarded to institutions and physicians to facilitate the reporting of cases of malarial fever which come under their observation, as is done in the case of other infectious diseases.

The Mississippi Valley Medical Association, as previously announced, will hold its annual meeting next week (September 12–14) at the Hotel Victory, Put-in-Bay, Ohio, under the presidency of Dr. A. H. Cordier of Kansas City. An interesting program has been published and the meeting gives every promise of being one of the most successful in the history of the society.

Pessimism in Climatotheraphy.—At a meeting of the weather forecasters, held recently in Milwaukee, a paper was read denying the specific value of any special climate in the cure of disease. The author of the paper, Dr. W. H. Wilson, is reported to have said that "the claims made by promoters of certain health resorts that the richness of the air in ozone, the resinous gases from the pines, the peculiar purity of the atmosphere in a particular locality, or the elevation or aridity of the air act as specifics in certain diseases, are not generally based on scientific investigation, but have their origin in the fertile brain of the advertisement writer."

Honors to Armauer Hansen.—On August 10, as we learn from the *British Medical Journal*, a bust of Dr. G. Armauer Hansen, the discoverer of the leprosy bacillus, was unveiled by Professor Visdal in the Garden of the Museum at Bergen, in the presence of many Norwegian and foreign medical men. An address was delivered by Professor O. Lassar of Berlin, and Drs. Sandberg and Lie of Bergen also spoke. Congratulatory messages were sent from all parts of the world, and a letter from Professor Virchow was read, in which the veteran pathologist, after expressing his regret at his inability to be present, went on to say that Dr. Hansen's work had definitively cleared up a large and difficult field of pathology, and that his name was known and celebrated throughout the whole world as a benefactor of mankind. The King of Norway conferred on Dr. Hansen the distinction of Commander of the Order of Ola. He celebrated his sixtieth birthday on July 29.

War on Rats in Japan.—The health authorities in Tokio, in their efforts to suppress the plague, have offered a bounty for the killing of rats in the infected district, with the result that over two hundred thousand of the rodents were destroyed in the course of two weeks in June. As an additional measure, infected buildings covering nearly half an acre were burned.

Baumgarten in Support of Koch.—In a cable dispatch to the New York *Times* it is stated that Prof. Baumgarten of Tübingen supports Koch in his assertion that bovine tuberculosis is not communicable to human beings. Baumgarten describes a series of experiments made by Rokitansky twenty years ago, when patients suffering from incurable tumors were inoculated with bovine tuberculosis germs in the hope that one disease might combat the other. Not a single patient was infected with tuberculosis. Baumgarten believes that bovine and human tuberculosis are not essentially different, but that the bacilli suffer modification in the bodies they inhabit.

American Public Health Association.—The twenty-ninth annual meeting of the American Public Health Association will be held at Buffalo, New York, September 16 to 21, 1901. The Executive Committee has selected special topics for consideration, but papers will be received upon other sanitary subjects. Dr. C. O. Probst of Columbus, O., is the Secretary.

The Study of Bovine Tuberculosis.—A Royal Commission has been appointed in Great Britain to study the relation of bovine and human tuberculosis, the object of the inquiry being to determine whether animal and human tuberculosis are identical, whether animals and humans can be reciprocally infected, and under what conditions, if at all, transmission to man occurs, and the means of preventing it if it is proven to be possible. The commissioners are Sir Michael Foster, secretary of the Royal Society; Dr. Sims Woodhead, professor of pathology, Cambridge University; Dr. Harris Cox Martin, Professor J. McFadyean, and Professor R. W. Boyce.

Yellow-Fever Serum.—Drs. Caldas and Bellinzaghi arrived at this port from Havana on Tuesday of this week, having demonstrated the inefficacy of their serum as a means of prevention or cure of yellow fever. They failed to substantiate their claims not only before the Army Board in Havana, but also in the eyes of the Health Officer of the Port of New York, who detained them in quarantine as non-immunes. They are said to be going back to Brazil, where yellow fever exists naturally, and has not to be manufactured to order for the sake of experiments. The man who received an injection of the Bellinzaghi serum before being bitten by an infected mosquito had a sharp attack of yellow fever, but did not die.

Tuberculosis Camps in Wisconsin.—Dr. F. C. Suiter of the Wisconsin State Board of Health has announced that the board is considering favorably a plan for the establishment and maintenance by the State of open-air camps for consumptives in the pineries in the northern part of Wisconsin.

Dr. A. P. Ohlmacher has been appointed Professor of Pathology in the Northwestern University Medical School (Chicago Medical College). Dr. Ohlmacher has been connected with the Pathological Laboratory of the Ohio Hospital for Epileptics at Gallipolis, Ohio, and will for the time being continue the direction of that laboratory.

A Memorial Tablet to the Late Dr. Norman Kerr has been placed on the wall of St. Mark's Church, Hamilton Terrace, London. It is a mosaic illustration of the parable of the Good Samaritan, beneath which is the inscription: "To the memory of Norman Shanks Kerr, M.D., F.L.S., an ardent social reformer and student of the causes and effects of inebriety, who died May 30th, 1899, aged 65 years. This tablet is erected by his family and friends as a tribute to his high character and his unwearied scientific and philanthropic labors."

Typhoid Fever is reported to be unusually prevalent in Baltimore at the present time, fifty new cases of the disease having been reported to the health authorities in the week ending August 31. Acting Health Commissioner Jones is said to attribute the wide prevalence of the disease to the condition of the water supply, which is described as polluted and containing the Eberth bacillus.

Leprosy in St. Louis.—A Chinaman with leprosy has been discovered in St. Louis and the authorities do not know what to do with him. At first it was proposed to isolate him with a physician or nurse to take care of him, and the newspapers had long accounts of the self-sacrifice of a physician who had offered to desert family and practice and to devote himself to the cure of the Chinaman for $50 a month and the opportunity to study leprosy. This plan has, however, apparently been abandoned, for application has now been made to the Louisiana Leper Commission for admittance of the man to the Leper's Home of Louisiana. The application has been refused, and the leper is still in St. Louis. Perhaps they will adopt a plan followed here not very long ago and let the man escape.

A Proposed Monument to Pasteur.—The Commune of Marnes, where Pasteur lived during the last years of his life and where he conducted many of his experiments, has made an appeal to his friends and admirers for funds for a monument to him.

A Congress of "Lay Practitioners of Medicine" is to be held in Berlin in September. The clerical successor of Kneipp will be there, and the mind healers, the faith curists, the electropaths, the magnetic doctors, and all the rest will be there, too.

A New Hospital in the Bronx.—The Sisters of St. Francis intend to build a new general hospital on the block bounded by One Hundred and Forty-second and One Hundred and Forty-third streets and Brook and St. Ann's avenues in the borough of the Bronx. This is directly opposite St. Joseph's Hospital for Consumptives, which is under the charge of the same order. Ground will be broken for the new hospital in a few weeks, the buildings for which will cost about half a million dollars.

Mosquitos and Malaria.—A correspondent sends to the *British Medical Journal* an extract from the journal of the late Alexander Fisher, M.D., R.N., indicating that the connection of mosquitos and malaria was ancient history in the Gulf of California, Mexico, though the proof of the Ajiabambo belief remained to be scientifically established by Manson and Ross. The following is the extract: "July 6, 1864.—Ajiabambo. An anchorage 150 miles down the Gulf of California from Guaymas. Several of the boats communicated with the shore there, their crews landing, and some proceeding inland fifteen miles from the ship to a ranch. . . . Although the appearance of the low sandy bushwood-covered land inland from the beach showed a likely habitat of malaria, one circumstance was pointed out to me as indicative of the absence of malarious poison, which was, that there were no mosquitos, with an assurance that where they do not exist there is no chance of fever."

Obituary Notes.—Dr. William Barnsmore Pape of Mobile, Ala., died at his home in that city on August 30, at the age of fifty-one years. He was noted as a pianist, and when thirteen years of age appeared with Mme. Anna Bishop in New York. He visited Havana and Canada, and made two tours of England, playing before the royal family in 1864. Later he took up the study of medicine, and was graduated from the Medical College of Alabama, in Mobile, in 1882.

Dr. George William Wells, editor of the *Medical Examiner and Practitioner*, and medical director of the Manhattan Life Insurance Company of this city, died at his home in Richmond Hill, L. I., on September 3. He was born in Tyrone, N. Y., in 1841, and received his classical education at Princeton, from which college he was graduated in 1865. He obtained his medical degree from the Bellevue Hospital Medical College in 1868, and later studied at the Long Island College Hospital. Upon beginning practice in this city, he was for a time attending physician to the out-patient department at Bellevue, but he soon took up life-insurance examination as a specialty, retiring then, of necessity, from active practice.

Dr. Robert Barnwell Rhett, Jr., of Charleston, S. C., died in that city of typhoid fever on August 7 at the age of forty-seven years. He was a graduate of the Medical College of the State of South Carolina, in the class of 1879.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

GOSSIP FROM CHELTENHAM'S RETURNED GUESTS—CANDIDATES FOR THE GENERA LMEDICAL COUNCIL—MIDWIVES—DEATH OF SURGEON-GENERAL FRANCIS.

LONDON, August 6, 1901.

JUDGING from the gossip of those who have returned, the Cheltenham meeting seems to have been successful. There is gratulation among the leaders that the scheme for reorganization passed so easily. On the other hand, there are misgivings in other quarters as to the results. The changes have been accepted with scarcely any reservation, and now it only remains to carry them out. They are so many and of so little interest to outsiders that you will not care to give space to an enumeration of them. The Guide prepared for the occasion, and two or three other pamphlets, one of them quite an album of illustrations, gave every information about "the Garden Town" and its claims as a health resort. The dinner, usually a noisy affair, was noisier than ever; but the guests were on good terms with themselves, and the noise was not directed against obnoxious individuals, as I remember on some occasions it was.

In the military and naval section, Sir Wm. MacCormac read a paper in which he referred to "amateur critics who had no idea of perspective and exaggerated everything." The reporters for the daily papers applied this to Mr. Burdett-Coutts, though his name was not mentioned. Mr. Coutts has, in consequence, rushed into the *Times* with a letter full of "sound and fury signifying nothing," except abuse of Sir William and the army service, and a repetition of his already refuted misstatements. His anger blinds him to the fact that his unsupported assertions have no importance since the Royal Commission exposed their want of truth. Sir William will, no doubt, survive the attack of a furious distributor of slander. But what of Mr. Coutts himself? Can he imagine that making himself notorious will confer on him fame?

The breakfast given by the National Temperance League for a number of years past has become quite an interesting feature of the British Medical Association's meetings. This year it was followed by a temperance meeting in the evening, at which several members put in an appearance. The speeches at these functions supplemented each other. Dr. Kelynack insisted on the scientific aspect of the temperance question, and urged that science, like justice, must have "the truth, the whole truth, and nothing but the truth." Mr. Eccles, as a surgeon, would not speak for physicians, but declared emphatically that alcohol was useless in surgical cases. He thought it of value in certain scientific experiments, but not to give to patients; if ever it was necessary to physicians, they should not send it out in grocers' bottles, but in proper doses, like other dangerous drugs. Dr. Ridge "went for" those doctors who prescribe it to patients who would rather go without it. Dr. James Stewart made an earnest appeal to parents not to put temptation before their children. Dr. C. R. Drysdale urged that drink was unnecessary, as proved by the number of clever men who never touched it. He made also the very interesting statement that his own mother lived for one hundred years without having tasted it. That lady's century covers the period when almost everyone held that it was necessary for health, and goes back to the time before abstinence was widely advocated; her experience, therefore, was probably rare.

The speeches of candidates for the Medical Council were not very encouraging to ardent reformers. Dr. Glover remarked that it will not be possible to obtain more direct representatives until three-fourths of the profession no longer abstain from voting. It did not seem to occur to him or the other speakers that the whole scheme of direct representation never can be of real service. It was in its time pushed with every electioneering dodge by the British Medical Association in opposition to a more practicable plan of reform. Success so far resulted that we have this greatly advertised panacea direct representation, and it has done nothing for us, has not even sent to the council a trio of members unanimous on main issues.

On such a subject as the usurpation of authority by the Obstetrical Society, they did not represent the profession. When the council as a body determined to put an end to that usurpation, what happened? An ignominious surrender to the leading Fellows of that society, a trifling revision of their sham diploma, which is doing as much harm as ever. Had the council then stuck to its guns, the present position of this troublesome midwives' question would have been more satisfactory. Dr. Glover hardly gauges the opinion and feeling of the profession on this point. He dare not support the Obstetrical Society, and holds that it can be replaced only by some board acting under law. Hence he has supported the set of busy-bodies who are calling for legislation in this or that direction—one set agitating for one thing and another set for something else. The set that has obtained government promises seems to have inspired terror into all parties. Dr. Glover rather chaffed Mr. Brown that he had not in the council moved to disapprove all attempts at legislation, as probably he would not get a seconder. The taunt may or may not be quite fair from the colleague who opposed him, but it clearly proves what I have said, that the so-called direct representatives do not really represent the profession, but only their own opinions. With three such members some of the public would say they do exactly represent the hopelessly divided views of the doctors.

Mr. Victor Horsley is a vigorous member of the council, and has done yeoman's service. He would have sent a protest to the Privy Council on the treatment measured out to its recommendations and the other slights of government, but could not carry his resolution, as was the case with other proposals of his. He spoke out clearly at Cheltenham, and on some points will meet support. He has done much good in exposing the unsoundness of the council's finances. But he suggests that every registered practitioner should be further mulcted £1 every year. Probably these practitioners will agree that if the council has squandered all the money taken for registration and reached a state bordering on bankruptcy, considering the little it has done for us, we should find it cheaper, better, and less vexatious to dismiss a body which has been found wanting on all important occasions.

Mr. Horsley is also willing to enter on the thorny path of midwives' legislation, and apparently thinks it would be practicable in some degree to control the intentions of those who are appealing to Parliament. It is a sanguine view to take. Once the legislature is engaged on a bill, the screams of hysterical women will have more influence than the reason of sober doctors.

Writing of the Obstetrical Society and the divisions of doctors reminds me that a new gynecological journal is being arranged for, and this fact is bringing into prominence the antagonism between the two societies in London. The obstetric section of the profession has generally been credited with being its most quarrelsome branch, and the suggestion was well kept up when the younger started and its elder blackballed candidates who belonged to the junior.

Then last year you may remember how the jealousies of this branch defeated the project of holding the International Congress in London. The present scheme of a British and colonial journal of obstetrics and gynecology seems to have taken its origin in the northern counties, and to be for some time confined to the provinces in order to steer clear of the jealousies of the two London societies. To a large extent the plan seems to have succeeded, though it will not be easy to appease all susceptibilities. However, the men of the North will not give up their plans, and whatever the case at the outset, we may be sure they will conquer in the end. You may, therefore, look for the appearance of a journal worthy to rank with that of America or Germany.

The death is announced of Surgeon-General Francis, who had a distinguished career, serving in the Crimea and in India. He retired some years ago, and was well known in London.

THE PLAGUE IN CONSTANTINOPLE.

(From Our Special Correspondent.)

AUGUST 14, 1901.

As previously stated, official notice was recently given that, ten days having elapsed since the declaration of a "suspect"—as the word goes now for plague—and the public health being declared perfect, clean bills of health were to be issued, a matter of great rejoicing. But, and alas! on July 4th two more "suspects" were reported, and up to July 16th a few more cases, scattered over town and suburbs, and also in villages on the Bosphorus. The vagaries of quarantine were again repeated—Greece, as usual, leading the law—Roumania, Servia, and other Balkan States following.

On July 27th Mr. W. H. Beach, an expert on Indian plague, arrived in this city. This gentleman has been engaged by the Turkish Government to assist with his clinical experience the Municipal Medical and Hygienic

Council, presided over by Redvav Pacha, the prefect of the city. This council is entirely apart from the International Health Board. Surprise is expressed at this engagement of Mr. Beach, as Turkey has not lacked first-rate specialists in her service, and especially prominent bacteriologists, such as Chantemesse and Nicolle. He has been definitely attached to the sanitary service of the prefecture, takes part at the sittings, has visited the Lazaretto at Kavak, the "lands," or water reservoirs, and various parts of the city. It is currently reported that he has expressed a fairly favorable report on the healthiness of Constantinople, and this is justified, as there is certainly, so far, less enteric fever and fewer gastric affections than usual at this season. Thus far, as is stated, plague has been bacteriologically proved in some of the cases. But who can enumerate or explain the numberless "iradés" and "ordinances of hygiene"? The International Health Board, with its odd composition of doctors, dragomans and other employees of embassies, legations, and consulates, and officials of the Porte and Palace, puts on and takes off quarantine at its own will, or the will of somebody else, and seldom, if ever, has set its foot against the panic-stricken action of these minor States, which have all accepted, but do not practise, the doctrines of modern sanitary science, and show little disposition to abandon very antiquated methods, probably because they know how well they are prepared for, but not against, cholera or plague. One ordinance involves a change of commercial and social interests. This must be accepted and arranged for. Scarcely does it enter into operation than forth issues another circular modifying or annulling the previous one. Commercial and social conditions of the age do not readily adapt themselves to such changing regulations.

The municipal regulations and palace "iradés" called forth by these scares go at all classes and conditions of life—barbers, butchers, bakers, proprietors of restaurants, pharmacists, heads of slaughter houses, publicans, and sinners of every degree and profession. Even a doctor has fallen under the municipal ban, and has been incarcerated in his own house for having visited a "suspect." Fortunately for the general health of the city, the summer has been unusually rainy, and the very heavy rains of the last two weeks have done more to secure the public health than any amount of municipal efforts could ever do. The air and streets were well washed, and the public drains flushed to such an extent as to clear them of rats, which were carried drowned to the sea. But these drowned animals are pointed to by timorous officials as serious evidence of the presence of plague.

The total number of "suspects"—call them not yet cases of plague—is reported to have been sixteen, with two deaths, extending over a period of nearly six months since the first case occurred. To-day two cases are reported as having occurred in "Balukbazaar" (fish market). This is an eminently dirty quarter, and if plague be located there, washing with disinfectants would give an object lesson of inutility. The cases have been removed to Kavak, and have been visited by Mr. Beach, who, it is stated, considers them true plague. How they were treated beforehand it would be interesting to know. The municipality has received a considerable supply of Yersin's serum from the Pasteur Institute of Paris. Was it injected in any of the cases before the bacteriological examination? Nothing short of accord between the clinical evidence and bacteriological examination will satisfy public opinion that plague has been clearly proved to exist. The fact is that intelligent public opinion here is in advance of both international and municipal action. The teachings that pestilence and dirt are closely associated, and that the spread of epidemics, sooner or later, becomes a question of local conditions—especially so with plague, against which quarantine laws were originally instituted—and also that plague is not more readily communicated than other infectious diseases, have made way even in Turkey. It may be that we are on the eve of an outbreak of plague; therefore the municipal precautions, imitative in many respects, are praiseworthy. The engagement of Mr. Beach, as an independent authority, is to the credit of the Turkish authorities.

Again, the two sanitary administrations, *i. e.* the international and the municipal, are showing signs of antagonism. The municipal body sends its true or suspected cases to the quarantine establishment at Kavak. The International Health Board properly objects to this in the interests of the shipping, inasmuch as the lazaretto may become an actual focus of infection, endangering Europe generally. On the other hand, the municipal body has no infectious hospital to which the cases can be sent. It is now proposed to establish one. By the time this is accomplished, if ever, plague will have probably ceased for the time, and the scheme will then remain in abeyance till there is another scare.

In the meantime, the quarantine measures have brought about such a paralysis of commerce that it is a local question whether more is to be feared from them than from plague itself. Servia is very active and severe. She prohibits sugar, rice, butter, fruits, cheese, meat, caviare, cereals, fish, coffee, as possible carriers of plague. The fact of passengers having "purged" quarantine at Hebitchovo is not considered sufficient. The Oriental Express is allowed to proceed on condition of all the windows being hermetically closed, and that no passenger may descend from the train. Of course, passengers cannot risk such a disagreeable journey; and all this in spite of the declarations of the Dresden Congress in 1893, and that of Vienna, in 1897, that land quarantines are absolutely useless and inefficacious.

The measures decreed by the "Administration Sanitaire de l'Empire Ottomane," applicable to travelers leaving Constantinople (date July 27th), are curious. They might apply to escaping criminals, but not to respectable citizens and travelers.

LETTER FROM NEW ZEALAND.

(From our Special Correspondent.)

AUCKLAND, July 27, 1901.

THE plague scare is over as regards New Zealand, and although there are still a few cases reported in Australia, nobody seems to worry about them. It is curious to notice the complete indifference of the public, as compared with the frenzied excitement of last year.

The profession, as well as the public, have been greatly agitated lately, by a coroner's inquest on a Mrs. O'Dowd, who died under very extraordinary circumstances in May. It appears that Mrs. O'Dowd, who had only been married on the 11th of April, died on the 17th of May of septicæmia and peritonitis, occurring subsequent (as she stated) to an operation performed by one of the best-known surgeons in New Zealand, for the purpose of procuring an abortion. From the purely medical point of view, the evidence given before the coroner and subsequently before the Stipendiary Magistrate was very curious. It appeared, from the sworn evidence, that on Wednesday, May 15th, at 2 P. M. the deceased was certainly to all appearance perfectly well; that shortly after that time she went out and returned at 4.30 or thereabouts; that she then had tea with one of the women residing in the house—she and her husband kept a hotel—and that she told this woman that she had been to a surgeon whom she named, and who had performed an operation for her. She went to bed apparently quite well, but at 8 A. M. on Thursday (16th May) as she did not come down to breakfast, her husband went up to her room, and found her standing on the bed doing her hair. While he was speaking to her about breakfast, she fell suddenly on the bed in a kind of swoon. She said that she had a bad headache, and that she should be better after a cup of tea. All that day she kept her bed complaining of pain in the head and abdomen, but refusing to allow a doctor to be sent for, until nearly 8 P. M., when she was screaming with pain, and her husband telephoned for one of the physicians in this city. He came soon after 8, and was informed of the visit and the operation. He examined the patient and gave her an opiate, which gave some relief to the pain. Her temperature was 103° F., and she showed distinct symptoms of peritonitis. Between 11 and 12 that night he saw her again; she was much worse and said, "I am dying, I am dying, give me some chloroform." On this occasion, I think it was, that the visiting surgeon used Sim's speculum, and made some local applications to the uterus. He gave her another opiate and said he would call about 7 the next morning, unless he were telephoned for earlier. At 4.30 the next morning he was sent for, and reached the house at about 5, only to find his patient *in articulo*. She died at 5.10, having been unconscious for some time.

At the autopsy, made the same day (Friday, 17th) at 3 P. M., the whole of the peritoneum was found intensely congested, a pint of blood was in the pelvis, and a three months fœtus in the uterus. Decomposition had already gone so far that there was actually emphysema of the skin, and the face of the deceased was quite black from decomposed blood. The cavity of the uterus contained no liquor amnii; there was no lesion of the vagina, uterus, or its annexes. There was no other morbid appearance that could account for death. No microscopical or bacteriological examination of the blood was made.

The deceased had told the physician last called that she had been to the surgeon before referred to and that he had put an instrument into her, of what kind she did not know, as she was lying on her back. It may be remarked that the surgeon denied on oath that she had been to see him that day, and produced three other witnesses whose evidence covered the whole of the time that she said she was with him and who stated that she was never there. One young man who had an office in the same building as the surgeon swore that he had seen her there on the afternoon of the 15th, but on cross-examination admitted that he could not be absolutely certain, as he only saw her side-face. The curious feature of the case is the extraordinary rapidity of the blood poisoning, if, as asserted by the medical witnesses for the Crown, the septicæmia arose from the dead fœtus, and the fœtus was killed by, or in consequence of Wednesday's operation. A period of thirty-nine hours only intervened between the operation and the death. The verdict of the coroner's jury was that death resulted "from septicæmia caused by violence to the uterus, but how this occurred there is not sufficient evidence to show." Very much to every one's surprise the next day after the inquest had closed, the surgeon was arrested on a charge of murder, and brought before the Stipendiary Magistrate. The same evidence was brought forward as at the inquest, and the magistrate committed him for trial at the next criminal sessions. There is no doubt that he will be acquitted, as no judge will admit as evidence what the deceased woman stated, not on oath, and not subjected to any cross-examination. It seems to me that the fœtus must have been dead long before the Wednesday, 15th of May, on which the operation was alleged to have been performed. The invariable practice of these women, before they apply to a medical practitioner, is to take medicines, and only when these fail, do they desire an operation.

The practice of criminal abortion is exceedingly common here, and women frequently operate on themselves with disastrous results. It is very rare for a conviction to be obtained, as the popular sympathy, especially of the female part of the community, is almost invariably with the accused party. The punishment is far too severe, and juries acquit men and women, not because they think them innocent, but because they think imprisonment for life for administering abortifacients is too harsh a penalty. And to charge a person with murder, who had not only no intention to kill, but whose strongest interest and wish was that his patient should recover, seems to non-legal persons an outrageous misuse of words.

But for an old gentleman of seventy, with a grown-up family and grandchildren, to be accused of and tried for murder is a terrible punishment, even if he be acquitted.

Intraligamentous Cysts.—C. D. Palmer (*Cincinnati Lancet-Clinic*) gives the following diagnostic points: (1) They are lower than usual in the pelvic cavity. They may extend from their base outside of the peritoneal cavity, to between the uterus and rectum or bladder. (2) They are more or less connected with, and adherent to, the uterus. (3) They are smaller relatively in size, have fewer daughter cysts, and have a slower growth. (4) They often displace the uterus to the opposite side, and may make it immobile. (5) They are more apt to press upon the bladder, and obstruct the rectum. (6) They are more apt, by intrapelvic compaction, to compress the ureters, causing hydronephrosis. (7) Intestinal adhesions are not uncommon, from a secondary infected peritoneum. (8) So, too, there are increased chances of their infection from a septic uterus or intestines; hence, oftentimes suppuration of their contents. (9) Not unfrequently are they bilateral. (10) Usually they are papillomatous, proliferating; these papilla may rupture the cyst wall, and lie free in the peritoneal cavity, and they then grow on neighboring organs. Hence occurs metastatic infection of the peritoneum.

Mechanical Constriction of the Uvula.—W. E. Hadden has reported a case in which the uvula became accidentally constricted by a bit of thread, causing distressing symptoms of vomiting and retching. The patient was a linen weaver. Relief was afforded by snipping off the swollen part with scissors.

Progress of Medical Science.

Boston Medical and Surgical Journal, August 29, 1901.

The Indications for Operation in Gastric Ulcer.—Arthur T. Cabot discusses, first, the various operations which are resorted to in the treatment of ulcer of the stomach, and the objects for which they are employed. These are: (1) Gastrotomy, including the excision of ulcers; (2) gastroplication, or turning in of the stomach wall to close an ulcer that has perforated, or to strengthen the wall at a point where perforation is threatened; (3) pylorectomy, for the removal of an ulcerating pylorus; (4) pyloroplasty for the widening of a pylorus contracted by ulceration; (5) gastro-enterostomy, to provide a short cut into the intestine from a stomach whose motility is interfered with by ulceration. Briefly stated, the indications for surgical treatment are: 1. Acute hemorrhages should rarely be treated by operation; the results of interference have not been good, while the results of medical treatment have been satisfactory. When, however, a hemorrhage frequently repeats itself, even if severe in amount, it will demand operative treatment as soon as its recurrent character is plain. 2. Small, frequent hemorrhages, threatening anæmia, give a clear indication for operation. 3. Perforation of the stomach, either acute with general peritonitis, or chronic with surrounding adhesions and perigastritis, demands instant operation. 4. When an ulcer runs a chronic course with a strong tendency to recurrence, and gradually diminishes the patient's capacity for work and for the enjoyment of life, an operation is indicated, especially when the patient is so situated as to be dependent on his daily work for support and unable to closely regulate his diet.

New Procedures in the Treatment of Hip Disease.—E. H. Bradford reports a case of acetabular disease of the hip joint in a boy of six years, in which the disease made such steady progress that the question of exsection came up. An *x*-ray examination, however, showed that the acetabulum was the part chiefly involved, hence removal of the head of the femur would be of little use. Excision of the acetabulum was not deemed justifiable because of the high rate of mortality attending this operation, and the parents would not consent to amputation at the hip. The following procedure was therefore adopted: The head was thrown out of the joint by means of incision similar to that for excision and placed upon the dorsum of the ilium. A free incision was made, allowing free drainage from the acetabulum, which was found perforated; a celluloid drainage tube of an inch in diameter was inserted to a sufficient depth to reach the acetabulum, and secured by a stitch; the base of the acetabulum was touched with carbolic crystals and washed off with alcohol. The limb was then fixed in a plaster-of-Paris spica in a position of the limb assumed in hip disease in the stage of deformity; that is, flexion and adduction. Marked improvement took place in the condition of the boy. He required no opiates, was able to move without pain immediately after the operation, and in a few weeks was able to walk about on crutches. The drainage was kept up for six months, after which time the plaster was removed, and the boy was allowed to go about with the limb moving freely.

New York Medical Journal, August 31, 1901.

The Œsophagometer or Intragastric Whistle.—C. D. Spivak describes an instrument by means of which he claims to be able to determine with precision the length of the œsophagus in any given case. The device consists of a stomach tube provided at its distal extremity with a whistle so placed that the opening through which the air is blown in looks toward the proximal end, while that through which the air makes its exit is in apposition with the side opening of the tube. The tube is introduced into the œsophagus, and air blown in. So long as the whistle traverses the œsophagus the instrument is smothered and no sound is heard; but as soon as the cardia is reached a distinct whistle is heard. The tube can be pushed forward and backward several times so as to ascertain the exact point at which the whistle becomes audible. The distance between the distal border of the side opening of the tube and the point at the incisor teeth where the whistling sound is first heard represents with precision the distance between the incisor teeth and the cardia.

The Diagnosis, Etiology, Prophylaxis, and Treatment of Cystitis, Pyelitis, and Pyelonephritis in Women.—Thomas R. Brown says that most of these diseases are due to infection with various microorganisms (of which the colon bacillus is the commonest) which may reach the kidney or bladder either exogenously or endogenously. These diseases can usually be prevented or cured if the conditions underlying their development are recog-

nized and understood, and the correct measures inaugurated. There are various conditions, such as urinary hyperacidity, which may simulate almost exactly true vesical infections, and yet in which misinterpretation and improper treatment may lead to the development of a true cystitis. In no condition is prophylaxis more essential than in that of the infections of the urinary tract, and we must have constantly before us the danger of infection when the general resistance of the patient is lowered. An absolute diagnosis of renal infection can be made only by ureteral catheterism, but usualy a very probable diagnosis may be arrived at by a consideration of the relation between the grade of albuminuria and pyuria and by careful cystoscopic examination of the bladder. A great majority of the infections both of the bladder and of the kidney are associated with acidity of the urine—that is, are due to microorganisms which do not split up the urea. Probably in the majority, if not in all the cases of renal infections due to a urea-decomposing microorganism, after the condition has lasted for a certain length of time, a stone is formed by the decomposition of the precipitated salts about the bacteria as a nucleus. Finally, one who would thoroughly understand and successfully treat these cases of cystitis, pyelitis, and pyelonephritis must remember that a careful chemical, microscopical, and bacteriological study of the urine is absolutely essential.

Medical News, August 31, 1901.

Fatal Cases of Pemphigus and Erysipelas in Infants.—Frank S. Meara reports a case of fatal pemphigus in a child seven months old, previously healthy. The autopsy revealed areas of congestion in the lungs, patches of congestion in the small and large intestines, with deep congestion of the mesenteric vessels near the patches. The second case was one of erysipelas migrans in a three-months-old baby. In discussing the etiology, Meara regards the two conditions as due to the same germ, which produced the apparently varied diseases because of modified metabolism, gaining entrance through the skin or alimentary tract. He also believes that the most varied manifestations of infection may occur in the body from identical or similar germs, always present, seizing their opportunity for development when some error occurs in the body functions.

The Racial Factor in Hysteria.—Julius Ullman concludes that hysteria is seen amongst all people and in all countries, and the fact that it affects certain races more frequently, like the Jewish and Latin races, may be attributed to causes of environment rather than inherent qualities of a race. Heredity plays a rôle only in that the child may learn to imitate certain traits of its parent, the environment and habits remaining the same. The hysterical background which may be an epiphenomenon in certain organic diseases in the Slav, Latin, and Jewish races must not be overlooked; nor, on the other hand, must the fact be lost sight of that organic disease may at the same time be present with well-marked symptoms of hysteria. Better therapeutic results will often be obtained among the susceptible races by measures directed against a latent hysterical condition in addition to the treatment for such organic disease as may be present.

The Drug Habit; Its Cause and Restriction.—Joseph M. Aikin believes that modern civilization either produces more and greater pains or else the people are less tolerant, and that the present requirements for business and social conditions increase the demand for and lessen the resistance against narcotics. While morphine claims by far the greater number of habitués, cocaine and the coal-tar preparations, as well as many other drugs, also command their slaves. He thinks those are to blame for the formation of drug habits who place the remedy at the disposal of all who apply, without also providing adequate instruction as to its baneful effects. It occasionally happens also that a doctor unwittingly lays the foundation of a drug habit by not impressing the patient with the fact that he must not renew the prescription without permission. While liberal education of the people will do something toward remedying the formation of drug habits, the principal aid is to come from the physician who, knowing drugs and their uses, must employ them in their widest sense for liberating and not enslaving human beings.

Journal Am. Med. Association, August 31, 1901.

Intrauterine Amputations.—J. Maher reports the case of a baby born minus some fingers and toes, on examination of whom, some fifteen hours after birth, he found constricting bands of what appeared to be dried fibrin encircling several of the fingers and toes, and evidently doing the amputating. The causes of intrauterine amputation, as given by the textbooks, are: Amniotic bands, inflammations, intrauterine fractures, and constrictions by the cord. The author says that it is reasonable to assume that the amniotic bands, so called, might be due to fibrin deposited upon a part from the liquor amnii in the same way that it is deposited by whipping fresh blood. The fibrous bands so formed would constrict the part, causing arrest of development beyond the point of constriction, and subsequent amputation.

Ancient and Modern Conceptions of Syphilis.—William L. Baum reviews briefly the history of this disease from the time of the Naples epidemic, in 1494, to the present time. The earliest conception was that the affection was a new disease resulting from the conjunction of the planets Saturn and Mars. This was later followed by the theory that it was a veritable pestilence caused by the floods which occurred all over Europe in the spring and summer of 1494. The animalcular theory began to assume prominence early in the seventeenth century. It was not until the eighteenth century that the different diseases charged to venery began to be distinguished one from the other, but the demarcation between hard and soft chancre, which even yet is not accepted in its entirety by all, was not established until 1852. Bassereau, a pupil of Ricord, was the one who demonstrated the duality of these diseases. The problems yet to be solved are: The early diagnosis of the disease where the primary sore is either not recognized, as in extragenital syphilis, or when it is abnormal; the determination as to what predisposition produces the serious nervous and other consequences of tertiary lues, and a determination of the predispositions leading to the parasyphiloses. The next thing is to determine the influence of other diseases, whether malign or benign, upon syphilis; and the bacteriology and bacteriomorphology of lues remain to be worked out.

American Medicine, August 31, 1901.

How to Give Epsom Salts.—W. E. Putnam advises the following method of taking Epsom salts so as to avoid the taste: Use just enough water to completely dissolve the salts. From a second glass full of plain water drink two large swallows, take the salts quickly and drink the rest of the water in the second glass. He has suggested the putting up of magnesium sulphate tablets, five and ten grains, without coating.

The Value of Antitoxin in Diphtheria.—Walter R. Griess divides the cases of diphtheria into two classes: those appearing favorable in the beginning, showing moderate intoxication, and those of intense intoxication with rapidly spreading local manifestations. Antitoxin acts by rendering the toxins of the bacteria non-effective, but does not affect the bacteria themselves, hence the necessity for additional treatment in the disease. The writer concludes that antitoxin should be given as soon as the diagnosis is made with certainty. Larger doses are required by children. In mild cases of diphtheria, 2,000 units should be the initial dose, repeated in twelve hours if no improvement takes place. All laryngeal cases or cases with severe prostration should have 4,000 units as an initial dose and 2,000 units within twelve hours again if there is not marked improvement. Intubation in children should be practised before exhaustion occurs, followed by tracheotomy if the first operation is not successful, the operations being preceded by the administration of a stimulant. The results of antitoxin are governed by the type of cases in which it is employed and whether it is employed late or early in the course of the disease.

Philadelphia Medical Journal, August 31, 1901.

Traumatic Hysteria; Operation; Recovery.—Frank R. Fry reports at length a case of traumatic hysteria which came under his own observation and in which he operated successfully. He concludes that, while no rules for operation can be formulated, if in any case there is doubt as to the traumatic origin of hysterical symptoms, or the possibility of surgical relief, the patient should have the benefit of this doubt, and an operation should be performed, and that the case should be thoroughly investigated from a neurological standpoint.

Sweat Baths and Baths Which Increase Bodily Temperature.—R. Friedlaender prefers temperature-increasing baths in combating infectious and toxic conditions: (1) In acute and subacute diseases due to exposure, catarrh of the upper respiratory passages, fresh rheumatic affections of the muscles and joints, and also in other infections, the onset of which is not characterized by high fever, and in which the individual conditions render an increase of the fever permissible and desirable for the course of the pathological process; furthermore, in syphilis and in general gonorrhœal infection. (2) When an intense increase of metabolism is indicated for other

reasons, such as autointoxication, and in conditions affecting metabolism, like gout. He favors sweat baths (1) when a cure by means of free diaphoresis is contemplated; in exudations and transudations, in nephritis with œdema, in hydræmia and chlorosis, in metallic poisoning, and in obesity as an adjunct to other methods of treatment; (2) when chronic inflammatory processes are to be influenced by peripheral hyperæmia. In chronic, and especially rheumatic, affections of the muscles, joints, and nerves, in the residual conditions of acute articular rheumatism, in chronic muscular rheumatism and arthritis deformans, in neuritides, and in tuberculous arthritic affections.

The Lancet, August 24, 1901.

The Treatment of Melancholia.—H. de Maine Alexander divides this disease into two stages, acute and subacute, preceding recovery or a fall into the chronic state, and sums up the symptoms, characterizing the two stages, as follows: "A. *Acute Stage.*—1. Mental symptoms: great depression, restlessness, vivid hallucinations, and sleeplessness. 2. Pulse rapid, from 90 to 120 per minute, of high tension, and tending to be irregular; arterial pressure high (from 140 to 180 millimeters of mercury). 3. Temperature tending to be febrile (from 99° to 100° F.). 4. Urine scanty; excretion of urea deficient; trace of albumin present. 5. Tongue furred and foul; no desire for food or drink; digestive power of stomach upon coagulated albumin practically *nil*, motor power of stomach weak; bowels constipated and stools very offensive. 6. Skin dry. B. *Subacute stage.*—1. Mental symptoms less acute; the patient generally sleeps well; hallucinations, if present, do not affect conduct. 2. Pulse regular, softer, from 70 to 80 per minute; arterial pressure from 120 to 130 millimeters of mercury. 3. Temperature never above 98.4°. 4. Urine more abundant, excretion of urea considerably increased; albumin never detected. 5. Tongue clean; appetite for food and drink returning; digestive power of stomach juice at first weak but later active; tendency to constipation less marked. 6. Skin becoming moist; sometimes perspiration profuse." As to the therapy of the disease, the author believes that melancholia is a disease of disordered metabolism, and that treatment should be directed toward increasing the excretion of waste products of this metabolism through the channels of the urinary and integumentary systems. He mechanically accomplishes this end by administering to his patients an abundant fluid dietary. By means of this treatment the blood gets rid of its overcharge of waste products, and the arterial tension falls. He assists digestion by giving milk frequently, and in small quantities, as it is the most easily assimilated food. He considers the forcing of solid food (or such food as custards) upon a patient suffering from acute melancholia just as injudicious treatment as would be the feeding of a patient suffering from typhoid fever exclusively on beefsteaks.

Inunction vs. Intramuscular Injection in the Treatment of Syphilis.—C. F. Marshall presents a comparative table of sixty-nine cases of syphilis, in thirty-seven of which mercurial intramuscular injections were employed, in thirty-two inunctions. When the active symptoms had cleared up, the patients were put on a course of pills—as a rule, two grains of blue pill twice daily. The method of intramuscular injection employed was that introduced by J. A. Bloxam. Ten minims of a solution of sal alembroth, containing one-third of a grain of the salt, were injected by means of a platinum-iridium needle deeply into the muscles of the buttocks. The injections were performed once a week into alternate buttocks. The inunction was done with unguentum cinereum, consisting of one part of mercury, one part of lanolin, and half a part of olive oil. About half a drachm of this was rubbed daily into different parts of the body. The rubbing lasted twenty minutes. A warm bath was taken before each inunction.

As to the results of the treatment, the table shows that there were sixteen relapses of the disease during or after treatment by intramuscular injection, including four cases of severe iritis and one case of early tertiary syphilis. Out of the thirty-two cases treated by inunction there were seven relapses (two of which were doubtful) and one case of iritis. As nearly all of these cases were under observation in hospital for a year or more, the author thinks it is justifiable to draw the conclusion that relapses are twice as frequent with the injection treatment as with the inunction method. The advantages claimed for injection are secrecy, cleanliness, uniformity of dose, and that it is performed by the surgeon himself; the disadvantages of inunction are its irksomeness and dirtiness. The writer holds, however, that inunction is the more reliable method of the two, and that it is the best where rapid mercurialization is required, as in cases of iritis. The great objection to the intramuscular injection of perchloride of mercury is the pain caused by it, which is often considerable. Injections of sozoiodol of mercury or of Lang's gray oil are said to be less painful.

British Medical Journal, August 24, 1901.

Case of Tetanus; Recovery under Chloral.—J. Thomson Shirlaw reports a case arising from an acute spreading gangrene following a severe compound fracture of the leg, complicated by simple fracture of the thigh on the same side. The treatment consisted in keeping the patient fully under the influence of chloral, carefully watching its effects; thus thirty grains were given usually every two hours, varied by an interval of three hours, or a double dose, according to the severity of the tetanic seizures. The case was under observation nearly two months, the feeding throughout the duration of the tetanus being done by a tube.

Healthfulness of Modern Warships.—W. E. Home concludes that a ship to be healthful must allow 120 cubic feet of space per man, more in the tropics; there must be uptake elevators from every compartment, opening near the top and easily cleaned; cowls and air shafts are needed for hatchways, and windscoops for all ports and scuttles; artificial ventilation is required for all living space. The ship should be warmed and kept dry by steam radiators. Decks after washing should be washed over with an antiseptic solution, also mess tables and stools should be treated in the same way. There should be a drying room for garments and bedding of the ship's company.

The Theory of Air-borne Typhoid in Armies.—H. E. Leigh Canney considers in detail the conditions under which typhoid fever originates and spreads in India, South Africa, and Egypt, concluding that the evidence of air-borne typhoid recorded in Indian military experience is not established; that in South Africa and Egypt the evidence is opposed to this theory, and that in all three countries the weight of evidence and probability is in favor of a water-borne origin and spread. The evidence from Egypt proves that if water be protected, all other avenues are powerless to originate and spread typhoid in large bodies of men, and the presumptive evidence is strong in the same direction with regard to India and South Africa. The theory of the origin and spread of typhoid fever by flies and dust is *only* a theory; it can only be discussed as such with relation to laboratory experiments, and should not hinder the adoption of vigorous measures against water-borne typhoid.

Treatment of Dysentery.—W. Rous Kemp gives the following account of the treatment of dysentery in Natal: Nourishment consisted of white of egg beaten up with soda water; this appeases the appetite, nourishes the patient, and not upset the stomach. When the stools were reduced does to seven in twenty-four hours, an ounce of raw beef juice with the same amount of port wine three times a day was added to the eggs, of which twelve to eighteen were taken in twenty-four hours. Lime juice sweetened and mixed with soda water was used as a beverage with great success. The local treatment consisted of a warm saturated solution of boracic acid night and morning. For severe tenesmus the internal sphincter was swabbed with a two per cent. solution of cocaine, and tormina was relieved by hot fomentations with a few drops of turpentine. Hiccough and vomiting can usually be controlled by allowing the patient to suck ice and administering every half-hour: Vin. ipecac., ♏j.; tr. nucis vom., ♏ii.; sp. chloroform, ♏x., aq. ad., ℥i.

Berliner klinische Wochenschrift, August 12, 1901.

Cataract Operations in Old Age.—F. Mendel says that even in those advanced in years extraction is to be preferred to other less radical procedures. Usually it is advisable to remain satisfied if vision has been restored to one eye without attempting a second operation on the other. Out of thirty-six extractions on patients over eighty years old, thirty-four recoveries with satisfactory vision are reported, equaling a percentage of 94.4, a figure that should satisfy both operator and patient. Bronchitis with the attendant strain of coughing is the most serious complication, and often requires protracted treatment before operation is safe, while careful nursing is a prime requisite during convalescence. Post-operative delirium is not infrequent, but usually yields readily to narcotics.

The Pathogenesis of Delirium Tremens.—K. Bonhoeffer's conclusions are based on a material of 250 cases observed in the Breslau clinic. Of this number it was found that in seventy per cent. there was some complication, either immediately preceding the onset of the delirium or attendant on it. Of these, the diseases of the respiratory tract and especially the

acute infections have the greatest etiological significance, and gastro-intestinal affections occupy the second place. Trauma seems to possess but slight importance, and appears to have influence only in the direct or indirect (possibly through fat embolism) effect it may have on the respiratory apparatus. Epileptic attacks, in so far as they are not themselves a manifestation of the same toxic process underlying the delirium, distinctly predispose to its onset, particularly in connection with alcoholic excesses. Sudden withdrawal of alcohol, in spite of the observations of Smith and others, is capable of bringing on the attacks, especially if malnutrition is also a factor; such forms often run a short or abortive course and do not offer a grave prognosis.

The Use of Subcutaneous Injections of Gelatin as a Hemostatic.—Grunow reports on the use of gelatin solution hypodermically in twenty-seven cases, comprising respectively seven of pulmonary hemorrhage, eight of intestinal bleeding, seven of gastric hemorrhage, two of bleeding from the kidney, two of hemorrhage from the bladder, and one of hemorrhage due to perforation of an aneurysm. The results on the whole are favorable, though it is hard to estimate just how much of the credit belongs to this particular measure, since other hemostatics were also employed. Well-marked and often very unpleasant by-effects were produced in nearly all instances and make the treatment one not to be advised except in severe cases. Usually pain of varying severity at the site of injection was complained of and lasted for from a few hours to several days. A moderate rise of temperature was frequently noted and in some instances was even accompanied by slight chills. Urticaria-like rashes occurred in a few cases, and once the injections were followed by a deep seated circumscribed swelling in the tissues. It therefore seems that the use of gelatin in this way may be said to promise well for selected cases, though it is likely to be accompanied by unpleasant by-effects, which are not of sufficient severity, however, to contraindicate the measure. It should be tried in all severe internal hemorrhages, and as the effect is only temporary, its application is to be continued beyond the period of acute bleeding. By itself it is often not enough to check the hemorrhage, but other direct or indirect hemostatics should be tried in addition.

Münchener medicinische Wochenschrift, August 13, 1901.

Ileus and Atropine.—Aronheim's patient was a man of fifty-one who suddenly over night developed intense pain in the left hypogastrium. In the succeeding days symptoms of intestinal obstruction developed and did not yield to the usual measures; accordingly one-twentieth grain of atropine sulphate was given subcutaneously to the left of the umbilicus. One hour later there was much less pain, and general subjective improvement; before the next visit the patient passed an enormous amount of semi-solid extremely fetid fæcal matter, after which he made an uninterrupted recovery. The only symptoms of poisoning were dryness of the throat and dilatation of one pupil.

The Use of the Stomach Tube in Gastric Ulcer.—W. Flade says that the introduction of the stomach tube in gastric ulcer is by no means a safe procedure and that even though abundant hemorrhage is but rarely produced in this way, still the temporarily slight, but in the long run exhausting, bleeding that may be caused from large ulcerating surfaces is a possibility not to be overlooked. The risk of producing a perforation when the ulcers are situated on the anterior wall, under which conditions the symptoms are likely to be inconclusive and an examination of the gastric contents desirable, is exceedingly great. On the whole, the author assumes rather a negative attitude toward the use of the instrument and says that it may be dispensed with for most therapeutic purposes while its diagnostic uses are too slight to compensate for the risks it entails.

A Case of Intestinal Obstruction Caused by a Gall Stone, Successfully Treated with Atropine.—F. H. Pritchard describes the case of a man of sixty-two years who two years previously had suffered from a severe attack of hepatic colic. Since then he had been fairly well until he came under observation with symptoms which gradually deepened into the typical picture of intestinal occlusion. Hot applications and enemata were unavailing, when one-thirty-third grain of atropine was given hypodermically in two doses within four hours of each other. Five ounces of olive oil were taken by the mouth and an enema was given which, however, came away some time later without fæcal result. A few hours afterward several movements took place, at first firm in consistency, later on liquid and containing oil, and finally a gall stone one inch long, three-quarters inch thick, and not quite so broad, was passed. The author ascribes the effect wholly to the atropine and oil and also states that for years he has found that the local injection of a mixture of morphine and atropine greatly facilitates the reduction of incarcerated inguinal and scrotal hernias.

The Atropine Treatment of Intestinal Obstruction.—H. Gebele reviews the experiences of those who have already reported on this method of treatment, and draws conclusions that are not very favorable. Cases of this sort must be divided into two classes, the dynamic and the mechanical, and of these it is particularly the former that are suitable for internal medication. Opium, which has long been in use, is open to the objection of causing gastro-intestinal derangement and opposing subsequent enemata or laxatives, while atropine in the doses that have been recommended produces undesirable toxic symptoms. Both of these drugs are unsatisfactory because they obscure the clinical picture and morphine is to be preferred to either. In the mechanical form of obstruction, internal medication is wholly out of place, and atropine treatment, while it may cause temporary apparent improvement in most instances, simply disguises the patient's real condition and puts off till too late what might otherwise have been a life-saving operation. In short, the author's opinion is that when internal remedies are indicated in intestinal obstruction, *i. e.* the paralytic form, morphine is preferable to atropine, while in true anatomically mechanical ileus only surgical intervention deserves consideration.

Deutsche medicinsche Wochenschrift, August 15, 1901.

The Diagnosis of Pharyngo-œsophageal Diverticula.—H. Schmilinsky gives the histories of two patients in whom the diagnosis of œsophageal diverticulum was in the one case corroborated by the autopsy and in the other made more than probable by the *x*-ray examination. The characteristic points in the history of such cases are the dysphagia which frequently, contrary to what obtains in stenosis, is greater for liquids than for solids and the regurgitation of food and mucus. The ordinary œsophageal bougie is arrested at a variable distance from the mouth, while a specially constructed instrument with a curved tip or a second bougie introduced while the first is in place and occluding the entrance to the sacculation, can be made to enter the stomach. By giving the patient bismuth capsules to swallow while under *x*-ray observation, the location and limits of the diverticulum may accurately be ascertained.

The Diagnosis of Deeply Seated Œsophageal Diverticula.—W. Zweig describes a simple expedient by which the differentiation between idiopathic dilatation and deep-seated diverticulum may with certainty be made. The capacity of the diverticulum is estimated by noting the amount of fluid that is usually obtained through the stomach-tube passed into it, and this quantity of a dilute methylene-blue solution is then poured into it through a tube which is allowed to remain in place. A second tube is passed into the stomach and then slowly withdrawn. If the methylene-blue solution is contained simply in a dilatation of the œsophagus, it will be possible to siphon off some of this fluid as the second tube passes through it and its end will be stained blue, while if, on the other hand, the fluid is in a true diverticulum this will not occur. The author was able in this way to diagnosticate three cases whose histories he gives as well as that of an instance of simple dilatation, and concludes that as he discovered these three cases in so short a length of time, by the use of more careful methods of diagnosis we may find that the affection is not nearly so rare as has heretofore been supposed.

The Pathological Anatomy and Histology of Carcinoma—Hansemann says that the conception of carcinoma has changed since Virchow defined it as an alveolar heteroplastic growth. Later observers demonstrated the origin of carcinoma from epithelium and of sarcoma from connective tissue and founded their teaching on a histogenetic basis. This standpoint also is open to objection and is complicated by the existence of the malignant endothelion a which at times is carcinomatous and at times is sarcomatous in nature. The author advocates a partial return to the morphological nomenclature and would incorporate in the name of each growth sufficient epithets to indicate what is known concerning its histogenesis and etiology, for example "carcinoma epidermoidale traumaticum" or "carcinoma ventriculi ex ulceratione." Sarcomata normally possess a parenchyma and a stroma, even though the latter frequently consists wholly of vessels and their origin is easy to trace back to the bony, cartilaginous, etc., structures from which they sprang. The cells that compose a malignant growth have two special characteristics, viz., they are less differentiated than the mother cells and they have

acquired to a greater degree the power of independent existence. This change is to be called anaplasia, an expression which has a purely relative value and can be applied only in comparison with the original cells.

French Journals.

Primary Actinomycosis of the Skin.—Thevenot has had a case of this kind, the patient being a merchant aged fifty-three years. The disease began fifteen years before the patient came under observation, in the lobule of the ear. The affection gradually spread over the cheek. The condition has been improved by the administration of iodide of potassium.—*Lyon Médical*, August 4, 1901.

Encapsulated Cavernous Angioma of the Orbit.—Felix Lagrange describes this case. The tumor was congenital. After its extirpation, microscopical examination demonstrated two facts: The presence of a fibrous capsule around the neoplasm; in the neoplasm, pockets containing blood—these pockets were of all sizes and forms. The capsule was in contact with the adipose tissue of the orbit. It was of an irregular thickness, and was composed of several superimposed layers. The walls of the alveoli were very elastic, and their contents were composed of pure blood.—*Journal de Médecine de Bordeaux*, August 4, 1901.

Treatment of Exophthalmic Goitre by Electricity.—Denis Courtade, in describing this treatment, states that it ought to be continued a long time, at least for three months, every day or every two days. At first the palpitations, the tremor, and the general nervous phenomena diminish. The exophthalmos decreases less rapidly. As to the goitre, it diminishes at first very rapidly, then remains stationary; it is sometimes a long time in disappearing. The treatment by electricity should be accompanied by a general treatment of repose, hydrotherapy, and cacodylate of sodium.—*Journal des Praticiens*, August 10, 1901.

Cyst of the Pancreas.—Jaboulay reports a case of this kind in a young man of sixteen years. This tumor seemed to have begun three months previously by colic and vomiting, while at the same time the skin became slightly jaundiced. The swelling had been noticed for a few days only. On puncture, the cyst was emptied of its contents—from two to three litres of brown liquid. The wound was not entirely closed, and rubber drain being inserted. Histologically, the cyst wall was not unlike that of an ovarian cyst. As to the contents, they included the three digestive ferments for starch, fat, and sugar. The general condition was much improved by the operation, although a fistula remained.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, August 8, 1901.

Tuberculous Rheumatism.—Raymond Bernard reports this interesting case of a man of thirty years without tuberculous or rheumatic antecedents. At the beginning of the last winter he began to lose weight; he was very weak and suffered from pains in his heels and toes. These pains, very acute on awaking, would disappear after exercise, only to return after one or two hours of repose. Later, the patient suffered from pain in the shoulders and hands. Several articulations of the fingers as well as of the legs became swollen. The pain was clearly muscular and periosteal. Later, the knees became painful. Salicylates had no effect. The affection, which had been apyretic in the beginning, now became febrile, and the temperature remained above normal for four months. There was another feature to be noted—the persistence of pain in certain muscles for a time, and then its sudden shifting. At the end of February there was no other sign of tuberculosis than the bilateral cervical adenopathy, and in the middle and lower part of the left lung a slightly roughened respiration, with sometimes a few very fine subcrepitant râles. The patient is now much improved; there is no pain, and the fever has disappeared. There remain the characteristic cervical adenopathy, the deformity of the joints of the fingers (proved by a radiograph to be due to periarthritis), and a tuberculous lesion of the lungs. Bacteriological examination from time to time was negative.—*Lyon Médical*, July 21, 1901.

Chronic Gastritis.—Albert Robin concludes his paper on this subject by discussing the course, prognosis, and diagnosis of this affection. The course and prognosis are dependent upon the hygienic conditions in which the patients are placed, upon the manner in which the stomach empties itself, and upon the action of the intestines. When all of these conditions are favorable, chronic gastritis is compatible with a relative degree of health. Although the writer states that he does not know that these patients are ever completely cured, still they may live many years. The prognosis becomes grave with the presence of frequent vomiting, hæmatemesis, and other signs of ulceration. Chronic gastritis should be differentiated from simple ulcer of the stomach, cancer, and gastric neurasthenia. In simple ulcer, pain on taking food, gastric crises, and especially the chemical examination of the stomach contents afford the differential points. When the essential signs of cancer are present—hæmatemesis, coffee-ground vomiting, the characteristic cachexia, phlegmasia alba dolens, etc., the diagnosis is not difficult. When these fail, the diagnosis sometimes is a delicate one to make. In gastric neurasthenia, the predominance of nervous symptoms and reflex retention assist greatly in making the diagnosis. The diagnosis of those conditions which have favored the development of chronic gastritis should be studied in minutest detail. —*Bulletin Général de Thérapeutique*, July 30, 1901.

Revue de Chirurgie, July 10, 1901.

Troubles Caused by Wisdom Teeth.—M. Moty says that, leaving out of account the slight irritation of the gum caused by the irruption of a wisdom tooth, there may be graver troubles due to (*a*) proliferation of epithelial débris included within the dental follicle; (*b*) total inclusion of the tooth; (*c*) caries of the tooth. The inflammatory process excited by these conditions is what lends gravity to the situation. The rational treatment consists in extraction of the tooth. Should there be special reasons for endeavoring to preserve the tooth, conservative treatment may be tried, and should consist in curetting the fungosities at the root through an opening in the external surface of the maxillary bone.

Trephining for Old Traumatisms of the Cranium.—Maurice Péraire reports two cases in which the wounds were of seven and twelve years' standing, respectively. In the first case the falling of heavy wood on the head caused in time persistent headache, fever, insomnia, loss of memory, unfitness for work, nausea, vomiting, and weakness of the legs. Trephining revealed an abscess of the brain, and evacuation of the pus caused relief of the symptoms. The second case was one in which a bullet had been imbedded in the brain for twelve years. Of late the patient had been troubled with severe pains of a dull character in the head. The bullet was located by means of the *x*-rays, trephining was performed, and the bullet was removed. Complete relief followed.

Perforating Wounds of the Abdomen.—Eugène Vincent considers that, although it is not possible to lay down fixed rules in clinical surgery, it is probable that there are some conditions under which a certain line of treatment is the best. *In wounds by fire-arms*, it is advisable not to intervene hastily, because the lesions are of uncertain situation, and may be too numerous to be sutured, and because the formation of peritoneal adhesions may prevent the escape of intestinal fluids. In *contusions from a horse's kick*, laparotomy is usually indicated, as we may usually reach the source of the hemorrhage. In *perforating wounds from spear or pike* expectant treatment is advisable, for the intestines have a way of escaping the blunt or sharp ends of weapons. *Wounds from cutting weapons*, knife, sword, bayonet, etc., call for expectant treatment with every preparation for prompt intervention. Laparotomy is obligatory whenever shock, collapse, or the situation of the wound lead one to suspect grave internal hemorrhage, or when there is a localized peritonitis, with some hope of evacuating a collection of pus.

Revue de Médecine, July 10, 1901.

Acroparæsthesia, Tetany, and Gouty Swelling.—E. Brissaud and P. Londe report the case of a man who was unmistakably gouty and neuropathic, and who suffered from periodical symptoms of the extremities, especially the upper ones, which consisted of paræsthesia followed by pain and contracture, impotence of the hands, vasomotor troubles, vaso-dilatation, vascular erythema, and œdema. The writer believes the condition to be of gouty origin. Treatment consists of the use of alkaline waers, colchicum, hydrotherapy, and local hot moist applications. During the paroxysms enemas of chloral and of potassium bromide may calm the pain.

Experimental and Clinical Investigations in Regard to Intrapleural Pressure in Pneumothorax.—L. Bard concludes that the measuring of the pressure of intrapleural gases is an essential factor in the diagnosis of the several varieties of pneumothorax, and chiefly for the recognition of the persistence or the obliteration of a pulmonary fistula. As the estimation of the medium pressure and its character does not furnish exact indications for this diagnosis, we must substitute an estimation of the extremes of pressure. Pressure is positive in both inspiration and expiration in generalized pneumothorax with persistent fistula; it is positive with expiration and negative with inspiration in partial pneumothorax with open fistula; negative in both in generalized pneumothorax when there is no fistula or when it has become obliterated.

Book Reviews.

PRACTICAL SURGERY FOR THE GENERAL PRACTITIONER. By NICHOLAS SENN, M.D., LL.D., Professor of Surgery, Rush Medical College, University of Chicago; Attending Surgeon to the Presbyterian Hospital, etc., etc. With 650 illustrations, many of them in colors. Philadelphia and London: W. B. Saunders & Co., 1901.

THE preface and title page of this large volume state that it is the author's aim and desire to present a work of practical value, chiefly suitable to the needs of the general practitioner. No attempt has been made to cover the whole field of surgery, but certain portions of that field have been very thoroughly worked over—those portions about which, in the author's opinion, the ordinary physician should be best informed. There are preliminary chapters on emergency surgery and shock, both of interest, and a well-written chapter on anæsthetics and their use. The author believes that ether is safer in untrained hands than chloroform, and that ether cones should not be made of impermeable material, with both of which conclusions we agree thoroughly. The control of hemorrhage is described by every method from simple pressure up to ligation of the artery in its continuity, and arterial suture is also discussed, though this procedure will rarely be attempted by any one not a surgical expert. The immediate treatment of traumatism receives the attention which so important a subject deserves, and all the local antiseptics are mentioned and described, attention being directed to their advantages and disadvantages. We are rightly warned not to place too much reliance on chemical antiseptics until our wounded surface has received proper preparation by preliminary scrubbing and cleansing. The subject of gunshot wounds is discussed in the light of recent experience with high-velocity small-bore projectiles, and a number of cases coming under the author's observation during the recent war are detailed. The use of the *x*-ray in this connection is described and illustrated. There are also, in connection with the subject of military surgery, descriptions of methods of transporting wounded and a discussion of what the so-called "First Aid" packet should contain. In the treatment of penetrating bullet wounds of the abdomen, the author is accustomed to place great reliance on the hydrogen test of which he is the originator. Detailed descriptions of the more ordinary forms of fracture are given, but there is necessarily less information than in books specially devoted to the subject. Colle's fracture receives full attention. The question of bone suture and union by operation when nature fails occupies a number of pages which contain much recent information and numerous illustrations.

In the discussion of dislocations, the elbow and shoulder naturally occupy most space. The important subject of peritonitis is begun by a pathological discussion as to varieties and nature, and later symptoms and treatment are taken up. The author warns us against the dangers of eventration in operating on inflammatory conditions in the abdomen, and quotes the opinions of numerous writers on this subject, as well as on other aspects of the same conditions.

Appendicitis naturally receives full discussion, as is also true of intestinal obstruction and the operations upon the intestine. Amputations in general and their indications occupy the last chapters in the book. The author has limited himself to a few methods and has used most of his space on indications. The volume is bound to be a useful work of reference, but would have been more satisfactory in two volumes.

CURABILITY OF TUMORS BY MEDICINES. By J. COMPTON BURNETT, M.D. Second Edition, Revised. Philadelphia: Boericke & Tafel, 1901.

THE principles enunciated in this volume are not likely to find many adherents at the present time, nor would the author's statements on pathological matters remain unchallenged did it seem expedient to discuss them. We may take it for an assured fact that no internal medication has any effect upon an already existing carcinoma in the human body, and as this volume maintains the contrary, nothing further need be said.

SELECT METHODS IN FOOD ANALYSIS. By HENRY LEFFMANN, A.M., M.D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania, etc., and WILLIAM BEAM, A.M., M.D., formerly Chief Chemist of the B. and O. Railroad. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1901.

THIS volume is one of convenient size upon a very extensive subject. The authors have aimed at conciseness, and have succeeded in making an excellent laboratory guide, which must prove useful to those who are working in the field of food analysis and hygiene. It is also a book which the practitioner will find useful to have when he is suddenly called upon to examine a specimen of food or drink. The various articles of food and drink are discussed systematically, and we are told what they should and should not contain, and how to discover the ingredients, especially the adulterants. The book contains considerable useful statistical matter.

ORAL SURGERY, A Text-book on General Medicine and Surgery as Applied to Dentistry. By STEWART LE ROY MCCURDY, A.M., M.D., Professor of Anatomy and Surgery, Pittsburg Dental College, etc. Pittsburg: The Calumet Publishing Company, 1901.

THIS is a handbook for the use of dentists and students of dentistry, upon the surgical and prosthetic problems presented by the various pathological processes in the mouth and jaws. The book is systematic and satisfactory.

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS. A Manual for the Use of Physicians, Surgeons, and Students. By CHARLES W. PURDY, LL.D., M.D. Fifth revised and enlarged edition. With numerous illustrations, including photo-engravings and colored plates. Philadelphia, New York, and Chicago: F. A. Davis Co., 1900.

THE worth of this practical guide to urinary analysis has been appreciated. Despite the brief time between editions a rather careful revision has been made, and one new chapter on the use of the microscope in uranalysis has been added. This is a subject on which there has been an appreciable scantiness of adequate information, especially for the beginner. It seems to be an addition well worth the trouble .

COMUNICACIÓN SOBRE SERUM ESPECÍFICO. Por el Dr. EDUARDO MOORE. Santiago de Chile, 1901.

THIS is a reprint on the treatment of syphilis by a specific serum, from a paper presented by Dr. Moore at the first Latin-American Congress.

LA TUBERCULOSE ET LA MÉDICATION CRÉOSOTÉE. Par le Dr. SAMUEL BERNHEIM. Paris: A. Moloine, 1901.

ALTHOUGH many monographs have appeared upon creosote in phthisis, no work that we have seen has laid down the precise indications and has gone so scientifically into the whole matter as has the one before us. The conclusion of the author is that phospho-creosotic medication is called for.

CANCER OF THE STOMACH; a Clinical Study. By WILLIAM OSLER, M.D., and THOMAS MCCRAE, M.D. Philadelphia: P. Blakiston's Son & Co., 1900.

THE chapters are upon general etiology, cancer in the young, symptoms, primary, associated, and secondary, study of the tumor, the blood, course, latent cancer, pathology, and treatment. In 154 octavo pages the writers have presented a serious clinical study of the question which should interest all internal therapeutists.

PHOTOGRAPHIC ATLAS OF DISEASES OF THE SKIN. By GEORGE HENRY FOX, A.M., M.D. Philadelphia: J. B. Lippincott Company, 1901.

THE first part of this new and attractive atlas in colors has made its appearance. The pictures are of acne vulgaris, eczema erythematosum, syphiloderma erythematosum, zoster pectoralis, and dermatitis venenata. There will be eighty plates, illustrating over a hundred diseases. The text, which deals largely with cutaneous therapeutics, is well prepared, and the presswork is attractive. The pictures are evidently reductions from the large extensive hand-painted series recently put out. With the exception of the "erythematous syphiloderm," which gives the impression of a pigmentary eruption, the plates are excellent.

A SYSTEM OF PRACTICAL THERAPEUTICS. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Second edition, revised and largely rewritten. Vol. III. Philadelphia and New York: Lea Brothers & Co., 1901.

THIS volume, containing chapters on anæsthesia and surgical technique, fractures and dislocations, minor surgery, surgery of the lungs and pleura and of the peritoneal cavity, the rectum and anus, diseases of the genito-urinary apparatus and of parturition and of the puerperium, diseases of the eye, ear, and upper respiratory tract—all written by men of prominence in their special line of work—is well illustrated. Especial attention should be called to the progressive steps in operation for appendicitis as depicted in a series of fifteen plates illustrating article on peritonitis, etc. Plate V shows a Venus-like maiden with a lascivious turn to the lip, an ecstatic stare to the eye, and a line upon the abdomen corresponding to that of the oblique incision upon the outer edge of the rectus. There is so much form shown for so small a line that one wonders if Mr. Comstock might not criticise the lack of proportion from an artistic standpoint. However, the other pictures are free from suggestions other than those of how best to carry out the various procedures recommended. The last compares well with the first volume, which was recently reviewed.

Clinical Department.

AN AUTHENTIC CASE OF INJURY BY A SHARK.

By MIDDLETON STUART ELLIOTT, M.D.,
PASSED ASSISTANT SURGEON, U. S. NAVY.

S. M., QUARTERMASTER, third class, U. S. Navy, while in bathing in the harbor of Iloilo, Island of Panay, was attacked by a shark, and his left leg was torn away at the knee-joint.

On June 24, 1901, the patient went ashore with the firing-party, and, as usual, went in swimming about three P. M. with a number of other men. While about thirty feet from the shore in a depth of water of some ten or twelve feet, he was heard to cry out and was seen to disappear for a few seconds. When he arose to the surface he swam toward the dinghy which was ten feet away and was hauled into the boat by his shipmates. It was then seen that his left leg was gone. An improvised tourniquet of a silver match-box and handkerchief was applied, which controlled the hemorrhage. The boat was then started back to the ship, which was one mile away.

On his arrival at the ship it was considered necessary to perform an amputation, which was done by Assistant Surgeon Jacob Stepp, U. S. Navy, I being ashore at the time. After the operation, the patient was in a precarious condition, but rallied well and, on the 26th, was transferred to the U. S. Military Hospital at Iloilo, where he is now progressing very favorably.

The injury was of a peculiar character. The leg was evidently seized about four inches above the knee-joint, the soft tissues bitten down to the bone and torn away at the joint. The edges of the wound were jagged, showing fairly well the shape of the shark's teeth. The lower third of the femur was entirely exposed, as clean as if the flesh had been dissected away.

The accident was witnessed by several men and although no shark was seen there can be no doubt that the injury was inflicted by a shark, for the following reasons: After being drawn under and coming to the surface, the man cried out "shark! shark!" He states now that he has not a clear recollection of what occurred; that he felt a sudden pain in his leg and was drawn down. On his left thumb and index finger were two small triangular-shaped wounds, just the shape that the points of a shark's teeth would make. He evidently, on being seized, thrust his hands down in his efforts to free himself and caught his fingers on the shark's teeth. Sharks have been seen in the same locality by the natives, and one of the latter stated that a native was caught there, three months before. There are no other fish in these waters that could inflict such an injury except a shark.

After the accident, efforts were made to catch the shark, but they were not successful.

ILOILO, P. I., U. S. S. *Annapolis*.

SUCCESSFUL VACCINATION IN CENTRAL AMERICA.

By J HOBART EGBERT, M.D., PH.D
SAN JUANCITO, HONDURAS, C.A.
SURGEON TO THE NEW YORK AND HONDURAS ROSARIO MINING COMPANY

By reason of the distance from the biological laboratories of Europe and the United States, together with the rapidity with which serums deteriorate in a tropical climate, much difficulty has heretofore been experienced in making successful vaccinations in the interior of Central America. Although many attempts have been made to vaccinate the inhabitants of this portion of Honduras, they have always resulted in a very small proportion of "takes."

During the past six months smallpox has occasionally been reported epidemic in this section of Honduras (District of Tegucigalpa), and, although no real evidence of an outbreak of the disease has come to my notice—the alarm really originating in the existence of considerable varicella, which, naturally, among a people of uncleanly habits, frequently made a very ominous showing—I nevertheless decided to demonstrate the facility with which successful vaccination could be made.

In the latter part of the month of March, the company's superintendent, while in New York City, procured from the New York Board of Health fifty tubes of freshly prepared vaccine lymph and brought them without delay to San Juancito. Two dozen inoculations with this lymph resulted in twenty-three excellent "takes," thereby demonstrating its activity and purity. I then undertook the preparation of fresh virus—inoculating healthy selected heifers. These animals, handled according to approved methods, have yielded an abundance of most excellent virus, and the successful vaccination of the rising generation of this community has already been accomplished.

I desire herewith to thank the New York Board of Health for their courtesy in this matter, and I believe it will be gratifying to the Board to know that their product has aided us so much here in tropical America.

EXTRA-UTERINE PREGNANCY.

By H. JANSS, M.D.,
MARSHALLTOWN, IOWA.

THE following case of extra-uterine pregnancy at full term, which was operated on in a private house in this city about seven or eight weeks after the death of the fœtus, seems to me of sufficient interest to warrant publication. The woman was a Bohemian, about twenty-eight years of age, this being her first pregnancy. During her period of gestation she had several severe attacks of colicky pains which would generally confine her to bed for several days. She had quite a severe attack while on a visit in Chicago and another one while on a visit in Elgin, Ill., but although she had had four different physicians, no diagnosis of her condition was made. One day she told me about her case, having calculated that she would be confined in two weeks from that time, and she wanted me to attend her. About the time she was at full term she had a slight flow, but no other indication of a labor and no labor pains such as some authors describe at this time in these cases. From the time of this slight flow she noticed no more movements of the fœtus, and she was fully convinced that it was dead. She, however, improved in health, and as she felt well she did not consult me for nearly six weeks. I naturally wondered why the confinement in this case did not occur. Finally, I met her one day and she told me of her troubles and that she had noticed no more life of the child since the flow. As it was within two weeks of her tenth month of pregnancy according to her calculations, I advised her to wait until that time, which brought it to March 2d. In case labor did not occur spontaneously at that time, I told her I would bring it on. On examination, however, I found the uterus empty and was then convinced that I had a case of extra-uterine pregnancy to deal with. Both the woman and her husband were very anxious to have the fœtus removed, and on March 23d I operated upon her at her own house. Her temperature on the evening after the operation was 99.6°. She made an uneventful recovery.

SIMPLE FORWARD DISLOCATION OF THE SEMILUNAR BONE.

By CLINTON H. CATHERWOOD, M.D.,
NEW YORK.

THE accompanying pictures are so plain that it seems almost superfluous to add anything, yet the case is rare enough to go on record, and no doubt will be of interest.

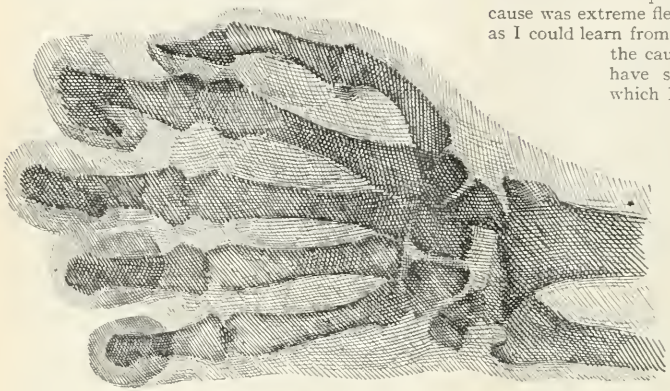

FIG 1.

The patient, a man of forty-eight, came into my clinic a few days ago with the following history: The night before he lost his balance or tripped while coming down stairs, and pitched headlong. He naturally put out his hands to save himself, and evidently received the greater part of the force on this hand, while in the over-extended position.

When he was first seen, shortly after receipt of injury, the diagnosis of Colles' fracture was made, and this was in a measure correct, as the picture shows that quite a large piece of the lower end of the radius was broken off. The man would allow little or no manipulation, so a temporary splint was applied, and he was told to come back to see me the next day.

I found his hand in about the position shown in these two pictures, that is, the fingers were considerably flexed, and practically fixed in that position; all over the radial side of the wrist joint there was much tenderness, and loss of function of the hand was almost complete.

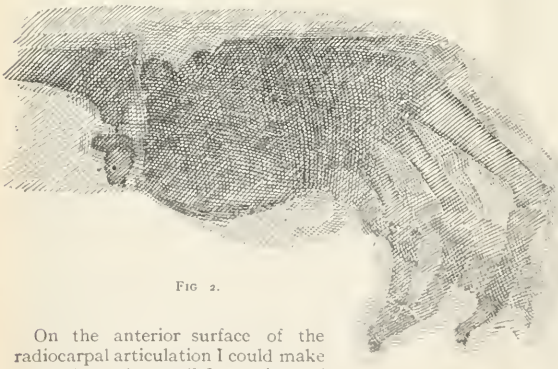

FIG 2.

On the anterior surface of the radiocarpal articulation I could make out a large but well-fixed piece of bone, which I could not account for as coming from either radius or ulna; on the dorsum of the wrist, just over the place where the semilunar bone should be, I thought I could make out a distinct depression. With these points I was pretty sure I had a dislocation of the semilunar bone, which the *x*-ray picture shows well.

I report this case, as it is extremely rare. Stimson in the last edition of his book, gives the number of recorded cases as thirteen. In seven of the cases the dislocation was compound. Stimson thinks that the cause was extreme flexion in most of the cases; as far as I could learn from this man, the exact reverse was the cause of this particular injury. I have seen one such case before, in which Dr. Stimson removed the bone, and with that end in view I had the man admitted to hospital. He, however, flatly refused all surgical interference, and I shall be much interested to know how he will ultimately come out, as I should think the prognosis rather poor unless something is done to relieve the very much stretched flexor tendons.

58 WEST FIFTY-EIGHTH STREET.

A LIGATURE OPERATION FOR THE REMOVAL OF HEMORRHOIDS.

By FREDERIC GRIFFITH, M.D.,
NEW YORK,
SURGEON, BELLEVUE DISPENSARY; FELLOW OF THE NEW YORK ACADEMY OF MEDICINE.

THE chief danger after ligation for the removal of hemorrhoids is from slipping of the ligature and it is my purpose in this article to describe a method whereby in selected cases, under cocaine anæsthesia, hemorrhoids may be removed without fear of secondary hemorrhage.

Internal or bleeding piles have been divided into the groups of venous, columnar, and nævoid, and it is to the first two forms that the procedure applies. There is, however, a limit to this application, depending on the control of the patient by the operator under the weak solutions of cocaine which are necessitated by the nature of the work. The ease of approach to the hemorroidal masses must be also considered, as full dilatation of the sphincter under cocaine anæsthesia is usually a tedious manœuver both to the patient and the surgeon, and demands special skill for its successful accomplishment. A general anæsthetic will best serve in those cases in which the hemorrhoids cannot be readily reached.

The patient is prepared for operation by a full dose of castor oil given the night before, and a hot water enema as a preliminary step, to clear out the rectum and bring down the hemorrhoids.

The pile to be removed being grasped by the fingers of one hand, a few drops of a one-half of one per cent. solution of cocaine are injected directly under the mucous layer at its apex, or at that portion of the mass where the entrance of a single vulsellum forceps can be best effected. Drawing down on the pile we search for the vein which supplies it, finding it usually coming down from above as a purple line.

With a curved needle a ligature of medium-sized catgut is passed under the vessel after the injection of a drop or two of the weak solution of cocaine to render its passage painless. The ligature is drawn tight and tied with a square knot, and the ends are cut.

The hemorrhoidal mass is next to be removed. After the injection of the cocaine solution in a line around the circumference a little above the base, with curved, blunt-pointed scissors the hemorrhoid is dissected out, leaving a somewhat crater-like surface, which is drawn together by continuous or interrupted sutures. The former are to be used if all oozing has stopped; if it has not, by allowing the lowest suture to be loose when interrupted sutures are employed, we obtain sufficient drainage and prevent distention of the cellular tissue about the wound. Oftentimes very little of the mucous membrane need be sacrificed, and by the exercise of a little judgment we can prevent undue contraction of the cicatrix.

The after-treatment consists in keeping the bowels loose, and I find that a more rapid healing takes place by having the lower bowel clean (a true physiological rest of the part) than is secured by the five or six days' rest with an impacted rectum when opium is used.

I have employed this operation in three cases. Two were cases of single internal hemorrhoids and uneventful recoveries were made. The third case was in the person of a professional pianist who had been unable to perform for ten days and had not sat down for four days past, on account of inflammation of two hemorrhoids, one internal the other external and internal, from which he suffered. I removed these one afternoon, and he walked away from the office and played all night in a resort. I kept his bowels loose with Epsom salts, and after the first two actions there was no further complaint on his part. The wound healed without further interference.

The advantages of the operation are that it can be done by the operator alone, or at most but one assistant is necessary; also a clean field is obtained, unobscured by the half-dozen hæmostats usually required for each hemorrhoid.

The use of weak solutions of cocaine is a factor in the result. I have employed them at the suggestion of Dr. J. A. Bodine, of the Polyclinic Hospital.

805 Madison Avenue.

LOCAL GANGRENE IN ACUTE BROMINE POISONING.

By C. F. DARNALL, M.D.,

LLANO, TEXAS.

I was recently called to see an opium habituée, a woman, who was suffering from acute pain and smarting in the left thigh, above the knee cap. The lesion I observed was a wheal like that of urticaria, about an inch in diameter. In a short time the spot became vesicular, and the surrounding cellular tissue was swollen and indurated. In a few days over twenty of these spots appeared at different locations on the thigh, and they passed rapidly from the stage of urticaria to gangrene, and the woman suffered a great deal of pain. A few weeks previously I had resolved to try the bromide treatment to cure her of the morphine habit, and gave her a prescription containing two ounces of sodium bromide to six ounces of water, with directions to take it in teaspoonful doses every two hours until she felt the sedative effects of it. We had been trying everything to break her, and she would swallow anything she could get in her hands. When the morphine was cut down she began to use the solution so freely that her husband thought the cure was working all right, and without mentioning it to me, had within six days taken the bottle back twice to the druggist, making six ounces she had taken in that time. Indeed, she had a positive mania for swallowing drugs. While she was under treatment for the gangrene, I left with her husband an ounce bottle of formaldehyde to make a wash for the limb; this she promptly swallowed as soon as she found where it was hidden, but her husband gave her at once hypodermically a dose of apomorphine, which soon emptied her stomach. For two weeks after the first sore appeared she was under the influence of the bromide, was stupid, had scanty urination, no appetite, and her breath was very foul. My treatment was tonic and eliminants, with antiseptic washes. Recovery was very slow, and it was weeks before she could sit up. About the eighth week I removed the first plug of dead tissue, and every one of the places had to be cut out with scissors. There were but slight constitutional effects aside from those I have mentioned, and we had to continue the use of morphine until she was well of the gangrene. Since that time she fortunately has quit the use of morphine, and is well. Where the limb was ulcerated deep scars remain, but there is no lameness.

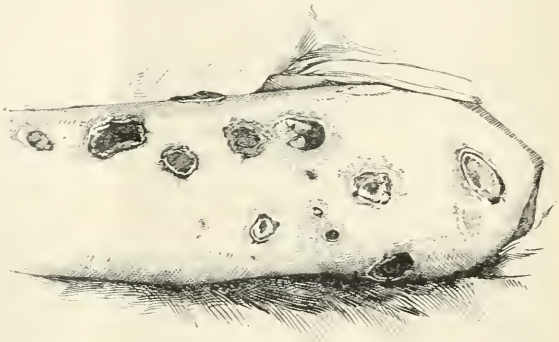

Fig. 1.—Local Gangrene of the Left Thigh in Acute Bromism.

Physiological Effects of Radium Rays.—All the leading workers on the subject of radium rays have in turn subjected their own persons to some painful experiments for the advancement of their fascinating branch of science. Giesel placed a radium preparation in a celluloid case on his arm for two hours. The skin only showed a slight reddening at first, but, two or three weeks afterward, inflammation set in, and the skin came off. P. Curie was the next voluntary victim. He exposed his arm to the deadly rays. On the twentieth day a crust formed, and then a sore, which had to be bandaged. On the forty-second day, the skin began to re-form, but even on the fifty-second day after the exposure a grayish tract of skin remains to indicate the mortification. H. Becquerel placed a very active radium preparation in his waistcoat pocket for six hours. The resulting sore, which took ten days to develop, required thirty-nine days to heal. Another sore took thirty-four days to develop. No action was produced when the tube was incased in lead. Madame Curie underwent experiments of a similar nature. The preparation was, in her case, inclosed in a thin metallic box, and only applied for half an hour, but the resulting burn took two weeks to heal. All those who worked with the very active preparations experienced pains and sores in their fingers which took two months to get well.—*Scientific American Supplement.*

Therapeutic Hints.

A Mechanical Laxative for Infants.—H. Beer (*Klinisch-therapeutische Wochenschrift*) says that he would recommend his method in preference to the large array of laxatives because (1) all the internal laxatives act more or less chemically and not mechanically; (2) this method is interesting from a physiological standpoint, and (3) under certain conditions it is superior to all others. The method is as follows: The bulbous end of an ordinary rectal thermometer is smeared with vaseline and inserted per rectum as in taking the temperature. It is then gently pressed against the sphincter ani and, keeping it in the axis of the rectum, it is made to describe smaller and larger circles as if dilating the sphincter. After two or three turns the sphincter is felt to relax, the rectum contracts, the anus opens and the act of defecation takes place reflexly. If the defecation is incomplete, the procedure must be again carried out. The effect is very prompt when the rectum is filled and it is absolutely harmless to the child inasmuch as the entire procedure is painless, and its temporary as well as remote effects upon the sphincter and rectum are harmless. It is generally known that when the rectal temperature is taken children often evacuate their bowels, and upon this fact the method was based. In many febrile conditions the children are constipated; in these cases a laxative is given per os or the bowels are moved with enemata or suppositories. Laxatives per os often aggravate the existing loss of appetite, produce colic, and instead of causing one evacuation give rise to numerous movements. The latter may cause perianol eczema and affect the general condition by the unnecessary loss of fluid. Filling of the rectum is partly painful. Suppositories cause pain. All these inconveniences can be remedied, if, while taking the rectal temperature, the above-mentioned movements are carried out. In temporary constipation occurring in non-febrile affections this method is also advocated. In chronic constipation it stands second to dietetic changes, but is still very useful as a palliative measure.

Antidote for Formaldehyde.—In view of the fact that this chemical is coming more and more into general use as a disinfectant and antiseptic, cases of poisoning from it will become more frequent. We have an easily accessible and reliable antidote in ammonia water. It may be given in the form of ammonia water (a few drops well diluted) or the aromatic spirit or a solution of ammonium acetate.—*Merck's Archives.*

Treatment of Heart Lesions in Infancy and Childhood.—The prophylactic treatment of pericarditis and endocarditis depends upon the fact that the majority of these cases are rheumatic. The salicylates should be used throroughly and early. It is undoubtedly true that the salicylate of sodium does not exert any direct effect on rheumatism of the heart already established, but nevertheless the drug limits the rheumatic process, and may possibly arrest its progress before it has seriously injured the endocardial or pericardial structures. There are those who believe that the administration of salicylates predisposes to cardiac involvement. There is not, however, sufficient evidence in support of this view to make it tenable. Alkalies used alone or combined with quinine or salicylates are warmly recommended in some quarters for the treatment of the rheumatic state. Rest in bed should be insisted upon and begun early in the disease. The external application of an ice-bag is advised by many on the principle that cold inhibits cardiac action and exerts a favorable influence on the inflammatory process Some clinicians advocate the use of hot applications; these are particularly indicated for the relief of precordial pain. Counter-irritation in the form of mustard paste or the tincture of iodine seems at times to give relief. To quiet the heart, which is laboring as the result of endocardial or pericardial inflammation, small doses of aconite are sometimes employed. If, however, the heart's action is feeble, associated with cold extremities, or if there is the slightest suspicion that the patient is threatened with collapse, if there is cyanosis or dyspnœa, aconite is contraindicated. Opium in the form of Dover's powder or small doses of the alkaloids may be employed. When a large pericardial effusion causes interference with the heart's movement, aspiration should be resorted to. The needle is best inserted in the fifth intercostal space a trifle to the left of the sternum. It should be directed upward and toward the axillary line. After the valvular lesion has become chronic the patient should be placed upon a nutritious diet. The patients frequently have no subjective symptoms, and require rest in bed more than anything else. Holt, in a recent paper, emphasizes the importance of rest after acute cardiac inflammations. He believes that dilatation comes on readily and progresses more rapidly than in adults. He would keep his patients in bed after these inflammatory attacks, not for two or three weeks, but for as many months. When the heart begins to dilate and compensation fails, cardiac stimulants are indicated. Digitalis, strophanthus, convallaria, and caffeine are used.—J. A. Abt, *Medicine.*

Variola may be shortened by applying a strong ichthyol ointment. Kamneff.

In Opium Poisoning tickle the patient under the short ribs or under the nose or elsewhere; tickle not to death, but possibly to the point of delivery from it. This is the recommendation though not the phraseology of W. H. Lyne, in the *Virginia Medical Semi-Monthly.*

Rheumatism in Children.—

℞.	Sodii salicylat	ʒss.
	Tinct. ferri chl	ʒss.
	Acid citrici	gr. x.
	Glycerin	ʒiss.
	Olei gaultheriæ	gtt. viii.
	Liq. ammon. citr. q. s. ad	℥viii.

Solis Cohen.

Acne.—

℞.	Ichthyol	
	Resorcin	āā gr. x.
	Pulv. calaminæ	gr. xx.
	Ung. zinc. oxid	gr. ʒi.
M.	Sig. Apply externally.	

℞.	Ext. ergot fl	ʒiiss.
	Tinct. ferri chl	ʒiss.
	Glycerini	ʒiss.
	Ext. cascar. fl	ʒi.
	Syr. simplicis	ʒii.
M.	Sig. ʒi. t. i. d.	

Allen.

Dysentery.—

℞.	Magnesii sulphatis	ʒi.
	Acidi sulphur. dil	
	Tinc. opii	āā ♏x.
	Quininæ sulphatis	gr. i.
	Hydrarg. perchl	gr. ss.
	Aquæ menth. pip	gr. ʒss.
M.	Sig. This dose q. 3 h.	

R. A. Mate

Tuberculous Enteritis.—

℞.	Iodoform	
	Salol	āā ʒss.
	Tannic acid	ʒi.
M.	ft. in caps. No. xii	
S.:	One t. i. d.	

Smyth.

Prostatic Hypertrophy.—

℞.	Tinct. belladonnæ	♏viis.
	Potassii acetatis	gr. xv.
	Aquæ menthæ pip q. s. ad	ʒi.
M.	Sig. This dose t. i. d.	

Guitéras.

Asthma.—

℞.	Potassii iodidi	ʒiiss.
	Tinct. lobeliæ	ʒss.
	Syr. sarsap. co	℥ss. ʒii.
M.	Sig. ʒi. q. 2 h.	

Anders.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, held Thursday Evening, June 6, 1901.

HERMAN KNAPP, M.D., IN THE CHAIR.

Presentation of a Portrait of Dr. Thomson.—After the reading of the minutes and report of the Committee on Membership Dr. W. H. POLK delivered an address, presenting the portrait of William H. Thomson, M.D., a former president of the Academy.

Dr. Polk said that it gave him great pleasure to present to the Academy through the President the portrait of Dr. Thomson, who had been an honored member of that body since 1864. The fact that Dr. Thomson had been President of the Academy was cause enough for the placing of his portrait among those honored ones now there, but he felt that while Dr. Thomson was well known and associated with the interests of the city, his greatest success had been achieved as a teacher. He had taken the subject of Materia Medica, which had been previously considered the most difficult and uninteresting of all studies, and had brought such skill and power to bear upon it that he had transformed it into one of the most interesting subjects. Dr. Thomson's methods of instruction had been adopted not only in this city but throughout the entire country. Dr. Polk said there was a certain circumstance that acted as a restraint upon his remarks and one was the fact that Dr. Thomson was still alive. None would refrain from saying that he was a peer among peers and when his work was finished and he had passed away many would be the words of high praise spoken of him.

The Freezing-Point of Urine, its Determination and the Inferences Which May be Drawn from it.—DR. J. H. HUDDLESTON read a paper on this subject in which he said the theory of Urinary Cryoscopy is that the determination of the freezing-point of urine determines also the number of molecules of urinary substances dissolved in the water of the urine.

All the sodium chloride molecules are excreted through the glomerular epithelium, and part of them are absorbed back into the blood from the tubules. All other molecules are excreted through the tubular epithelium and replace, molecule for molecule, the sodium chloride which is absorbed. If the urine passes rapidly through the tubules there is little time for this exchange, and if on the other hand the passage is slow the rate of interchange is high.

The ratio of the temperature of the freezing point, T, expressed in hundreths of a degree centigrade, to the percentage of chloride, Cl, in the urine (T.Cl) expresses the amount of interchange and is the ratio studied. If there is renal stasis or injury to the wall of the glomeruli, as in glomerular nephritis, the rate of urinary flow is slow and the rate of interchange is high. Whatever the rate of urinary flow, if the epithelium of the convoluted tubules performs its work badly the rate of interchange is low. The importance of the method, therefore, is its value as a test of renal function, shown especially in its ability to detect the slightest amount of renal hyperæmia.

The freezing point is obtained by a specially constructed thermometer placed in urine contained in a double-walled tube resting in a freezing mixture of ice and salt.

DR. LABOWSKI said it was a question that the surgeon had to face when he came to operate upon the kidney, especially when it was necessary to remove one kidney, whether the other kidney was in a normal condition and would perform the function of excretion so that the patient would not die from anuria as was sometimes the case. The method of drawing the urine from each ureter and analyzing it proved helpful, and now with the aid of this method of determining the functional activity of the kidney, described by Dr. Huddleston, the surgeon could feel much safer.

DR. ALFRED MEYER said he was not quite so optimistic in regard to the feeling of security the surgeon might have when he combined the two methods of uranalysis, for there often occurred cases in which anuria supervened from what was called sympathy. Cases occurred when there was renal colic and the other kidney failed in its functions entirely, and so the same conditions came on at times in case of operations. While the method described would be of help in determining the blood condition and the condition of the kidney, yet it would not insure against the occurrence of anuria.

The Early Recognition and Management of Arterial Degeneration.—DR. LOUIS FAUGÈRES BISHOP read this paper. The conditions that most occupied the attention of the general practitioner were not those, he said, to which definite names could be given or which could be health reports of a community. Such a condition was figured in the arterial degeneration, which later might be known as Bright's disease, heart disease, paralysis, gout, senility, etc.

A popular belief was that the chief danger of arterial degeneration was rupture of a blood vessel, but that was comparatively one of the least common results of the degeneration. Greater dangers were the secondary effect on the heart, kidneys and thrombosis. The form of arterial degeneration that was of the most interest to the general practitioner was that which affected the small arteries and gave the early signs of disordered function. This early tension led to disorder of the heart and kidneys, but there was a stage even preceding that when there was temporary irregular action of the vasoconstrictors, mostly affecting the brain and manifested by temporary loss of consciousness, dizziness, etc. The symptoms of advanced arterial degeneration might be foreshadowed by the functional degenerations of the arteries that foreboded organic disease.

The study was purely a clinical one and in practice it was difficult to say when degeneration had become sufficiently advanced to be demonstrated. The condition was usually found among the most useful class in the community, young energetic business men who labored under great mental strain.

The degeneration was first fatty, then connective tissue was formed, and then later calcification. Heredity was a powerful factor in its development, and alcoholic poisoning, gout, syphilis, the retention products of Bright's disease, and chronic blood poisoning all played an important part.

The management of arterial degeneration, when the condition was distinctly recognized, must be more hygienic than medicinal. When syphilis prevailed the iodides would be used. When alcohol was a cause its consumption must be limited. Many patients who had formed the habit of drinking would not give it up entirely, so it was well to limit the amount and permit it only with meals. In the early stages of arterial degeneration digitalis and iron were contraindicated, but the use of alkalies, an abundance of water, and bitter tonics proved helpful.

In the type of cases described as chorea of the blood-vessels the bromides were of great value. In the older cases shown by the irregularity of the circulation of the brain, as manifested by slight hemiplegic symptoms, the use of the iodide of sodium in small but persistent doses and the administration of nitroglycerin for part of the time proved of great value. It was important that persons in whom arterial degeneration was developing should adjust their lives so as to avoid heavy responsibility.

Sansom had pointed out the mental symptoms of commencing arterial sclerosis after middle life. He said that such patients became fanciful, introspective, low spirited, and moody, but showed no obvious signs of disease other than those of dyspepsia. Those persons who had the temperament most likely to develop arteriosclerosis were

not likely to consider the matter of much importance, and probably a hemorrhage alone would arouse them to the seriousness of the condition. It was of the most import to watch these cases so that the patient might attain a long life and enjoy health, and success was bound up in the regulation of those conditions that tend to hasten or delay arterial degeneration.

A beginning arteriosclerosis might produce a neurasthenia that checked the tendency to overwork and thus many were saved from arterial degeneration.

Dr. Knapp said the subject presented by Dr. Bishop was one of great importance. He remembered a case he attended twenty-five years ago in which the patient had hemianopsia which was difficult to explain. The autopsy showed that the arteries of the entire circle of Willis were atheromatous and extended so in effect that hemianopsia was the result.

A Hospital for the Treatment of Incipient Tuberculosis.—Drs. A. Jacobi, J. L. Peabody, E. G. Janeway, Alfred Meyer, and A. H. Smith were appointed a committee to take into consideration the question of establishing a hospital for the treatment of incipient tuberculosis.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 8, 1901.

Edward K. Dunham, M.D., President.

Syphilitic Ulcers of the Larynx.—Dr. L. T. Le Wald presented this specimen. The case was interesting on account of the fatal issue. The specimen showed a ragged ulcer measuring 3 by 1 cm. on the anterior aspect of the larynx in the region of the cricoid cartilage. There was considerable infiltration about it. There was a second ulceration measuring 4 by 2 cm. on the lateral aspects of the larynx, about the thyroid cartilage, below the vocal cords. This also presented a ragged, irregular centre and grayish borders. The patient was a woman, thirty-six years of age, who had been brought to Bellevue Hospital suffering from intense dyspnœa. She was unconscious at the time of admission, and a hasty tracheotomy was done through the third ring of the trachea. Death occurred about two hours later. A diagnosis of probably syphilitic ulcers of the larynx had been made by the house-surgeon, although no opportunity had been afforded for a laryngoscopic examination. At the autopsy there was a moderate œdema of the larynx in the region of the arytenoid cartilages, and the heart was dilated and very flabby. Apparently death had resulted chiefly from the dilatation of the heart, the latter having been dependent more upon the prolonged dyspnœa than immediately upon asphyxiation. Sections of the lower ulcer showed a superficial necrosis and a round-cell infiltration in the deep tissues. There was no evidence of tuberculosis here or elsewhere in the body. The lymph nodes generally showed a hyperplasia, apparently of syphilitic nature.

Two Cases of Malignant Gonococcal Endocarditis.—Dr. R. J. Wilson reported these cases, which were chiefly interesting, he said, because of the fact that apparently only three had previously been reported in which the gonococcus had been found in the blood before the death of the patient. Before the recovery of these organisms from the blood there had been no suspicion of the presence of the gonococcus. The cases occurred in the First Medical Division of Bellevue Hospital. The first blood cultures had been made on December 18, 1900, three bouillon cultures being made in tubes containing about 3 c.c. The blood had been taken from a superficial vein on the outer surface of the left wrist. The cultures were incubated at 33° C. and examined at the end of twenty-four hours. At this time there had been no appreciable growth in the broth. At the end of forty-eight hours there was no change in the bouillon, but the plates showed small delicate surface colonies looking to the naked eye like minute drops of serum. As the speaker had no idea of what the colonies were, Loeffler's blood serum was selected as the medium for culture. Of the new cultures, only one had developed organisms, and here the growth was very scanty. New cultures were made in other blood-serum tubes, and from these further experiments were made. The cultures were made in the ordinary nutrient bouillon and on agar, and, with one exception, they failed to develop. A smear made from the original colony gave a diplococcus which stained irregularly with methylene blue. On December 28, or ten days later, he again attempted to make cultures from the blood. One cubic centimeter of blood was obtained, but no organisms could be recovered. The patient died on the following day. The autopsy showed vegetations on the heart valves, and a double pyosalpinx. Sections of the vegetations showed numerous diplococci identical with those found in the blood cultures.

The second case occurred on March 10, 1901, and cultures were made with $1\frac{1}{3}$ c.c. of blood. One-half of the specimens were cultivated anærobically, and the others in the ordinary way. Nothing developed. On March 23, the speaker again made cultures from this case, using glucose agar. This time four colonies developed on one plate, but in transferring them they became contaminated. On April 1, another series of cultures was made. At the end of twenty-four hours' incubation, nothing was visible. At the end of forty-eight hours, one agar plate and one glucose agar plate showed colonies resembling those found in the first case. They were transferred to Loeffler's serum. The urine was then centrifugalized, and in the sediment a diplococcus was found which was apparently identical with that isolated from the blood. He had attempted to cultivate these organisms, and had obtained many organisms, but nothing like a pure culture.

Dr. G. Langmann asked which valves of the heart had been involved in these cases. He knew of two cases of malignant endocarditis reported by Dr. I. Adler, in which the presence of the gonococcus had been proved. In each case the tricuspid valve had been involved, and he was under the impression that Dr. Adler had stated at the time that he had noticed that the gonococcus exhibited a predilection for this valve.

Dr. A. J. Lartigau said that if the reported cases of gonococcus endocarditis were analyzed he thought that the left side of the heart would be found to have been most frequently involved. He had himself analyzed a series of fifteen fairly conclusive cases, and had found that the mitral valve alone had been involved three times, the aortic eight times, and both valves of the left heart two times. The tricuspid was found to have been involved but once and the pulmonary twice.

Dr. F. C. Wood said that in cases due to the pneumococcus the right side of the heart was more commonly affected.

Dr. Charles Norris asked if the first case had presented conclusive proof of its being of gonococcus origin.

Dr. Wilson replied that the organism would not grow on ordinary media, and was identical in its cultural and staining peculiarities with the one isolated in the first case, and which had been controlled by fifteen cases of gonococcus cultures. The proof was not quite conclusive, it was true, but he had had no opportunity of cultivating the organisms from the urine. He believed no bacteriological examination had been made of the double pyosalpinx.

Dr. E. Libman said that if one used the serum-glucose-agar suggested by him, one must be careful before making a positive diagnosis that the colonies observed are those of the gonococcus. For while there is a better chance of obtaining colonies in this medium, some bacteria that are usually not decolorized in the Gram procedure may here become decolorized, probably because of the acid production. Furthermore, the acid production may decrease the vitality of the organism so that it will not grow at all, or at least not on the ordinary media. This is mainly true

if one waits too long before transplanting the colonies. Careful attention to the morphology and to the reaction to the Gram stain in media not containing sugars is therefore necessary.

Observations on the Staining of Malarial Organisms.—Dr. F. C. Wood made some remarks on this subject. He referred to the use of the combination of eosin with methylene blue, a stain which would color the chromatin particles in the malarial organism. The process had been variously modified, a recent and most excellent one being that devised by Goldhorn. This stain showed a peculiar granular staining of the red cells, especially of those attacked by the malarial parasite. This, it had been stated, was the so-called granular degeneration of the cytoplasm of the red cell. The speaker, while not wishing to deny that granular degeneration was often present, claimed that the granules seen after Goldhorn's method were often either artefacts due to precipitates formed in the red cells or a special form of granulation described by students of tropical malaria as dotted red cells or "tüpfelig" cells, but were not true granular degeneration.

By the method of Goldhorn a precipitate is formed in the red cell and it is this which gives rise to these small granules. If the specimen were treated for an instant with alcohol, all of these granules could be washed out of the single cells, while they would remain just where two cells overlap because here the alcohol does not penetrate so quickly. He had also found that the granules could be obtained very easily in normal blood. They were not especially abundant in the blood of rabbits, in which injections of pyrodin or lead acetate had caused all stages of true granular degeneration.

Dr. James Ewing said that when he had first seen specimens stained by Goldhorn he had assumed that these granules were due to a precipitate. Since that time he had come to the conclusion that the Goldhorn stain brings out the true granular degeneration of the red cells somewhat better than other methods. He had found, as Dr. Wood had done, that it was difficult to wash out the granules in cells which overlap, but he had finally decided that these were not artefacts because of their uniform presence in cells infected by parasites, even when fixed by other methods. The mere fact that they disappeared under the action of such a general solvent as alcohol was not a sufficient reason for assuming that they resulted from a precipitate. These particles were not crystalline, but granular. There was certainly great danger of mistaking artefacts in the red cell for true granular degeneration. Many such seemed to be dependent for their formation upon too short a period of fixation.

Dr. Wood replied that the chromatin remained stained for a considerable time after treatment with alcohol, although all of the granules disappeared. The infected red cells stained by Goldhorn's method were practically all granular, which was far from being the case if they were stained by almost any other method intended to bring out this granular degeneration. If the specimen were hardened in alcohol for half an hour or more the granules were not so likely to be present.

Abdominal Aneurism Rupturing into the Right Pleural Cavity.—Dr. Lewis A. Conner presented an abdominal aneurism rupturing into the right pleural cavity. It had been taken from a man, thirty-four years of age, a fisherman, who had given no certain history of syphilis. For five months he had had moderate epigastric pain. On April 26 he had been suddenly seized with severe epigastric pain and syncope, and had been brought in the ambulance to the Hudson Street Hospital. The speaker had seen him within an hour, and had found him in collapse. There was a prominence of the epigastrium and a fairly distinct pulsation. The chest became completely filled with fluid, and on aspiration, twenty-four hours later, this fluid proved to be blood. The epigastric pulsation had now disappeared, and the pain had ceased. The man lived for five days after this attack of pain, and during this time presented very few symptoms except dyspnœa, slight fever, and marked pallor. At the autopsy, it was found that instead of being an aneurism in the lower part of the thorax it was an aneurism of the abdominal aorta. It had formed at a point opposite the cœliac axis, had eroded considerably the first and second lumbar vertebræ, had pushed its way up behind the liver, and had ruptured through the diaphragm. Although four litres of blood were found in the right pleural cavity the man lived for five days after the rupture.

Primary Sarcoma of the Thyroid.—Dr. A. J. Lartigau read a paper on this subject. In commenting on the literature he brought out the fact that cases of primary sarcoma of the thyroid were exceedingly rare. He had been able to collect fifty-five cases, including his own. In comparing the frequency of primary sarcoma of this organ with that of secondary disease of the same nature, it was shown that the latter was also infrequent. For the most part, cases of primary sarcoma have occurred in goitrous districts, and the majority of affected individuals have given a history of previous goitre. Dr. Lartigau's case was as follows: The patient was a married woman, forty-five years of age, who had been admitted to the hospital January 3, 1901. She had been in good health before the present trouble, with the exception of previous goitre involving the right lobe, which dated back for a period of eight years. Shortly before admission there suddenly appeared in the region of the mid-clavicle a small nodule which subsequently proved to be a hæmatoma. No enlarged lymph nodes were detected. The main tumor involved the right lobe in the mid-neck, displacing the trachea to the left. The operation for removal of the mass was performed by Dr. Brewer. The patient's condition remained satisfactory for several days, after which time a secondary growth was observed involving the remaining isthmus and left lobe of the thyroid. Ptosis and pupillary inequalities developed, and the patient died, apparently from asphyxiation. The autopsy showed recurrence at the original seat of the tumor, with involvement of the remaining thyroid and perithyroid tissue. The œsophageal and tracheal lumina were much reduced by compression. No metastases were observed elsewhere in the body

An analysis of fifty-one cases of primary sarcoma of the thyroid showed that in thirty-five goitre had previously existed. Of eight cases developing between twenty and forty years of age, one-half showed previous goitre; while in a series of thirty-two others in which the sarcoma had developed between forty and sixty years, 84 per cent. had had goitre prior to the development of the neoplasm Previous goitre seemed to be more frequent in women. Of the fifty-five cases reported, forty-five developed in persons between the ages of forty and seventy, the greater number between forty and sixty. The influence of sex and of traumatism appeared to be unimportant. In the majority of cases the sarcoma originated in the right lobe of the thyroid. Sarcomata of the thyroid ordinarily progressed quite rapidly, the average duration being about eight months. Death often resulted from involvement of the trachea or œsophagus or both. The mortality after operation for removal was quite high.

The Morphology of the Diphtheria Bacillus.—Dr. Anna Wessels Williams presented a study based upon forty pure cultures, which were isolated from a series of throat cultures, showing in smears, besides the ordinary throat bacteria, suspicious or diphtheria-like bacilli. There were frequently only a few of these bacilli present, and at first it was found difficult to isolate them, both because there were so few and because, as it later developed, those varieties of the diphtheria bacillus which appear oftenest in atypical form do not grow well upon agar when first isolated. It was found, however, that all varieties grow very well in ascitic broth even in the

presence of other bacteria, and generally form a decided pellicle in twenty-four hours. After this fact had been demonstrated, ascitic broth was used in helping to isolate the few atypical bacilli. After making agar plates from such a culture a mixture of the whole culture was put into a tube of ascitic broth. From the pellicle which formed in twenty-four hours new agar plates were stroked. Within twenty-four hours these sometimes contained almost pure cultures of the diphtheria bacillus, and nearly always there were many isolated colonies.

The pure cultures, all of which were virulent, and produced the specific toxin, were studied on seven different culture media; and it was found that in each culture, while there was great variation among the individual bacilli, certain morphological characteristics predominated, and that these remained fairly fixed for a number of culture generations, and also in successive cultures taken from the same case when similar culture media were used and cultures of the same age examined. It was furthermore found that though each culture showed these individual characteristics, yet, when the characteristics of all were compared, two broad groups could be recognized in which those cultures having the distinct characteristics of the one group differed widely from those having the distinct characteristics of the other, while between these extremes there were many gradations in type. The cultures placed at the two extremes differed from each other in the following general particulars: The first four showed most distinctly on two per cent. peptone agar after two days' growth; predominating bacilli in cultures at the one extreme were very large and showed large Indian-clubbed ends and decided branches; they were composed of many segments, contained many metachromatic granules, more or less irregularly placed, and divided according to the position of these granules; they grew moderately slowly and scantily; surface colonies macroscopically were small and delicate and microscopically were small, coarsely granular, and non-spreading, with little or no central heaping; in alkaline two per cent. peptone broth they grew slowly and scantily, generally in tiny grains which formed a more or less dense precipitate, and they produced slight if any cloudiness and no pellicle. On the other hand, characteristic bacilli in cultures of the second group were small, had only occasionally small Indian-clubbed ends, showed fewer and smaller branches, slight, if any, segmentation, and few granules, more or less regularly placed, one at either pole or both, or near the middle of the bacillus or in all three positions; they divided more regularly according to the position of these granules; surface colonies macroscopically were moderately large and thick, and microscopically were large, more finely granular, and spreading with central heaping; in alkaline two per cent. peptone broth they grew rapidly and abundantly, clouding the broth and producing an abundant flaky pellicle and precipitate in twenty-four hours.

A practical application, the author said, might be made of the fact that there is a permanence of the predominating types in each culture from the same case, in helping to trace sources of infection. Another practical point was that when typical bacilli persist in a patient after convalescence from an attack of well-marked and characteristic diphtheria, there is very little need of testing the virulence of such bacilli.

Dr. Lartigau asked Dr. Williams whether she had noted any definite relation between the morphological groups and the toxin production.

Dr. Williams said that all of the branched forms tested for toxin production had been found fully virulent. The bacilli which were the most virulent had the largest number of branches and segments.

Dr. E. K. Dunham said that he had been struck with the fact that in this ascitic bouillon a medium had been found which seemed to favor greatly the reproduction of the diphtheria bacillus, just as peptone favored the growth of the comma bacillus. Observations on development might, he thought, vary a good deal in their results, depending upon the culture media used.

Medical Items.

Discussion on Alcohol at the Edinburgh Medico-Chirurgical Society.—Professor Sims Woodhead opened the subject, stating that it was advisable to determine whether alcohol was a poison, a drug, or a food, or, if all three, in which capacity it played the most important rôle. Its toxic action he considered granted. As a food, though it is oxidized in the body, it does not supply sufficient calories for the maintenance of body heat; it contains no nitrogenous element; it accelerates tissue waste because of its ready oxidation, requiring more oxygen than is normally furnished by respiration, and interfering with the normal oxidation of carbohydrates and fats. Alcohol is a cumulative poison, and it is well recognized that it predisposes to certain infective diseases; many examples from laboratory observations were cited in support of this. The author further believed that alcohol alters the blood by reducing its alkalinity, diminishing its bactericidal power, and producing some leucopenia, and particularly producing increased susceptibility of the tissues to most infective agents. In this connection many experiments have been made with diphtheria toxin, and it has been shown that the use of alcohol greatly increases the susceptibility to this poison. Alcohol exerts a definite action upon the nerve-cell protoplasm, but more study and experimentation are necessary before this action is well understood. It has been noted that in acute alcohol poisoning there is evidence of marked changes in the thermogenic and thermo-regulatory systems, the temperature in a rabbit being reduced 1.9° C.

Professor T. R. Fraser believed that the therapeutic and social value of alcohol in small quantities should not be overlooked, and that in deciding its relative merits there should be more discrimination in regard to the effect of different quantities. He believed experimental evidence sanctioned the frequent therapeutic use of alcohol as a heart stimulant, not only when the heart is weak, but when there is imperfect blood distribution. In regard to digestion, small quantities of alcohol improve that function, while large quantities paralyze it. Small quantities also further nutrition and supply energy, the food value being equivalent to that of an equal weight of fat, and, while incapable of modifying nitrogenous metabolism, it replaces carbohydrates and economizes fats. Alcohol is clinically an antipyretic. Referring to the remarks of the previous speaker, that there is a certain amount of experimental evidence that alcohol increases the infectivity and virulency of pathogenic organisms, he considered this action comparatively unimportant except in cases of extreme immoderation in the use of alcohol, and cited the low percentage of mortality of Europeans in an epidemic of the plague in India as against the high death rate of the natives, the former all using alcohol to a greater or less extent, while the natives did not use it at all.

Dr. Clouston stated that alcohol was responsible for twenty to twenty-five per cent. of mental diseases, but that, in connection with this fact, must be considered the neuropathic brain on which the alcohol has to work, the inference being that if this did not disturb the mental balance, some other factor would, and also that in many cases the excessive use of alcohol is the symptom rather than the cause. Alcohol had its most potent and temporarily fascinating effects on the most sensitive brains, recognized as belonging to artistic and poetic individuals; while it produced intense enjoyment, it no less exerted destructive influence; but when a reasonable moderation was practised, he considered that the ethical sense of

mankind was not disturbed. Alcohol produced its effect more easily on the subject who had become addicted to its use, some molecular change in the brain cells occurring which rendered them more irritable. He admitted the effect of excessive alcoholism on the higher nervous functions to be terrible, and thought that, considering the prevalence of the neuropathic brain and the ignorant abuse of alcohol, the profession should emphatically express an opinion to the effect that this excessive use of alcohol is one of the most menacing conditions of modern society.

Dr. Affleck gave his opinion that, while he should not like to be without alcohol as a therapeutic agent, he regarded it as an emergency remedy. He considered some of Professor Fraser's statements, particularly those in regard to immunity from plague in those persons who drank alcohol, as open to question. He thought post-mortem observations would bear out his conclusion that the effect of habitual small doses was often disastrous, and while he did not deny that alcohol has its uses, he expressed himself as disappointed in it. He recognized a great sense of responsibility in ordering alcohol for a patient, and was exceedingly careful about so doing. His conclusion was that, unless the practitioner conscientiously believes that alcohol is the one thing necessary in a given case, he should not order it.

Dr. W. Leslie Mackenzie considered alcohol in its relation to public health. Directly, it produces a series of fatal diseases, and increases the susceptibility to many others; indirectly, it lessens the sense of social responsibility in any grade, and impedes the course of social development; but there are doubtless many counteractives at both ends of the social scale, and there is this to be said of the four-ounce-a-day drinker, that he lives in a state of persistent mental erethism, and while the wear and tear of alcohol on his economy is more, the wear and tear from circumstances is less, and some allowance must be made for the habitual inconsequence of such a life. In the relation of alcohol to infection, generally speaking, with a bad alcoholic history, the case mortality in certain infections will be higher; on the other hand, a bad alcoholic history is seldom established till after the age of forty, when the physiological susceptibility to most infections is less. Typhus is more fatal in alcoholics. Facts concerning the prevalence of cholera in various districts, alcoholic and non-alcoholic, justify the discarding of the drug as a predisposing factor, or as seriously influencing the case death rate. The plague cannot be said to be much influenced by alcohol at any stage. Pneumonia would probably do better without alcohol As to whether alcohol is in some degree indispensable as a food, more proof is necessary before it can be concluded that it satisfies any primary organic appetite. The alcohol question being of much wider scope than its relation to public health, it can be better controlled than by public health organizations, and the solution of the problem, at least as concerns the lower classes, appears to lie in improved environment and the inculcation of better physical and moral habits.

Dr. James Ritchie believed that more attention should be paid to the gathering of facts based on experience with actual cases than to the deductions of laboratories He cited numerous statistics from insurance companies, showing the greater risk in the case of non-abstainers. His own experience led him to conclude that alcohol predisposed to gout and rheumatism, and that in acute dilatation of the heart and chronic dilatation due to failure of compensation, alcohol was a decided evil; he approved of its use as a stimulant only in cases of emergency.

Dr. P. A. Young considered the question from a statistical standpoint, basing his views on the data of insurance and other organizations. The tabulated figures indicated a lower death rate in the total abstainers than in the non-abstainers, drunkards being excluded.

Dr. Foulis held the view that, as a stimulant, alcohol was of little importance in assisting the heart action in chronic disease, as, in his opinion, action was always followed by reaction. He believed that the effect of stimulation on the heart reduced its force.

Dr. Welsh spoke of the effects of alcohol taken in small doses and not habitually. On himself, he found that a small dose interfered with finely co-ordinated movements, and diminished mental power; taken before retiring, it has a decided somnolent effect, and he had known many cases in which it had been relied on as a means of producing sleep.

Dr. Church pointed out that alcohol in disease acts differently from the way it does in health; when administered, it should be in small doses, and carefully watched.

Dr. Claude Kerr wished to ask what Dr. Woodhead would give in place of alcohol. He used it with good effect in diphtheria, and in toxæmia generally; while admitting it to be a poison, he saw no reason why it should not counteract another poison, and claimed that its tendency to lower temperature was the one point against its use in the treatment of diphtheria. He believed that theories on the use and abuse of alcohol would better give place to practical consideration of the subject, and that while there were objections to the use of alcohol, there were yet cases in which nothing could be used as a substitute.

Professor Fraser qualified his previous remarks, stating that he had at first confined his argument to the effects of small doses; large doses were certainly harmful. If alcohol was to be considered a food, it must be regarded as having only a temporary food action; it supplied only certain elements which alone would not maintain nutrition. He wished, rather, to show that alcohol was a medicinal substance with well-defined therapeutic actions, and as such was to be employed.

Professor Woodhead said, in reference to Professor Fraser's statement about the lower mortality from the plague in non-abstaining Europeans, that there could be no comparison between the well-fed and well-housed Europeans and the starved natives in this respect; the difference in death rate was beyond the influence of alcohol. Alcohol used in diphtheria increased the liability to antitoxin rash. He did not wish to be understood as advocating the exclusion of alcohol from the Pharmacopœia: on the contrary, he recognized the existence of conditions in which there could be no substitute for alcohol, but its use should be confined to emergency cases, and it should be prescribed in definite doses and for a definite period.

Dr. J. W. Ballantyne referred to the effects of alcohol on the immature organism, citing the experiments of Féré on hens' eggs, the introduction of alcohol into the egg in the early stages of incubation producing marked teratological results. He had met some cases of human monstrosities which he considered due to the excessive use of alcohol by the parents. It is established that alcohol taken by the mother passes through the placenta to the fœtus very rapidly, and he considered that the action of alcohol reaching the fœtus in this way could not be other than harmful. He also noted the fact that it has been demonstrated that infants born to habitually inebriate women show a high degree of mortality, and, further, that prison statistics show that alcoholic mothers have given birth to healthy children after six or seven months' total abstinence in prisons, this latter fact offering some hope of successful preventive therapeutics.—*The Scottish Medical and Surgical Journal.*

Comments on Tuberculosis in British Lay Journals.—A significant feature of the discussion which has been aroused in Great Britain by Koch's statement with regard to the innocuousness of tuberculous milk and meat as a means of propagating and disseminating consumption is the acute interest which has been taken in the matter

by lay journals. Moreover, most of the comments made have been in an intelligent spirit, and undoubtedly the production of men who knew whereof they spoke, and not, as has been usually the case, a travesty and misrepresentation of the whole subject. The *Saturday Review* of August 3d is a conspicuous instance in point. It contains an article which, while moderate and conservative in the expression of the writer's views, nevertheless estimates Dr. Koch's pretensions to infallibility in scientific research at their true worth. The portion of the article which refers to Dr. Koch's statements at the Congress on Tuberculosis runs as follows: "Professor Koch, who, with all his undoubted claims to respect and admiration as a brilliant investigator, is somewhat of a sensationalist, was stating nothing new or unknown when he informed the meeting that it is not dangerous to eat tuberculous meat or to drink tuberculous milk. It is extremely rare to find what physicians call the primary lesions of tubercle in the course of the alimentary canal. The sputum from consumptive patients is full of tubercle bacilli; these may dry without losing vitality, and, blown about in the fine dust of the air, they are breathed into the lungs of new victims. Here in this fact is another reason for the interference of the State with regard to those already suffering from tubercle, as each of these is a continuous source of infection for others. Professor Koch's main point, that the tubercle of man is an organism distinct from the tubercle of cattle or of fowls, obviously, as Lord Lister points out, is a statement requiring very full investigation. That tuberculous meat and milk are not specially dangerous to eat is little to the point, since bacilli dried from these might gain access to the human body, in the usual channel by the lungs. That the bacilli of man, fowls, and cattle are not identical, under the microscope, is again not conclusive, as bacilli of all kinds are notoriously polymorphic, that is to say, change their character and appearance according to the media in which they are cultivated. Moreover, they change not only in appearance, but in properties, so that bacteria taken from an animal, and grown for some time in a medium, may fail to infect another animal of the same kind. Finally, tubercle bacilli are organisms slow in growth and difficult to cultivate, and that bacilli taken from human bodies do not at once infect animals is no certain argument against the essential identity of the organisms. These are questions to be determined finally in the laboratory, and not by formal public discussion; and in the meantime it would be a serious thing if the campaign against tuberculosis were to be relaxed." The foregoing remarks present the subject in a sane and reasonable manner, and it is well that lay journals should procure the service of skilled men to write on medical and scientific matters. Consumption is a subject that closely affects the whole community, and the non-professional mind is able to grasp and comprehend the theories as to its cause and dissemination when stated clearly and simply, as in the article from which we have quoted.

A writer in the *Westminster Review*, July, has a well-put-together article on this subject, treating it from the point of view of the speakers at the British Congress on Tuberculosis. The contributor to the English monthly says, in part: "There is no need here to enter fully into the question of how far tuberculosis in cattle does injury to the human race. Everyone who is in the least interested in the matter knows that this is one of the most fruitful causes of all kinds of tuberculous disease in man. It is evident that the drinking of tubercle-tainted milk is more or less innocuous to the ordinarily healthy person, the probability being that, as the health is good, the milk consumed helps to supply nourishment sufficient to render the system tubercle-proof; if it were otherwise, almost every person in this country would die of some form of tuberculosis, for it is certain that nearly every quart of milk consumed contains tubercle germs, since there is scarcely a byre in the length and breadth of the land in which one or more cows would not be found to be affected. The milk from these tuberculous cows is mixed indiscriminately with the rest of the milking. As it is, perhaps it is not too much to say that every second person is tuberculous in some respect or other, although he may not be aware of it, and there is but needed a sufficiently lengthened condition adverse to health in order to develop the disease into evidence. In the case of children, especially if badly nourished, and weakly adults, this tubercle-laden milk is an ever-present and often fatal danger. This is clearly seen from the fact that children, who, as time goes on, are more and more fed from the objectionable feeding bottle, are the only part of the community in which tuberculosis is on the increase."

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 31, 1901:

		CASES	DEATHS
SMALLPOX—UNITED STATES.			
California, San Francisco	Aug. 11-18	1	
Illinois, Freeport	Aug. 17-24	1	
Maine, Aroostook County	Aug. 2, Present		
Massachusetts, Boston	Aug. 17-24	5	2
New Jersey, Newark	Aug. 17-24	5	2
Pennsylvania, Philadelphia	Aug. 17-24	7	1
Pittsburg	Aug. 19-24		1
Wisconsin, Green Bay	Aug. 18-25	3	
SMALLPOX—FOREIGN.			
Brazil, Rio de Janeiro	July 14-28		64
Canada, Woodstock District	Aug. 2	80	
Columbia, Panama	Aug. 12-19	7	
Ecuador, Guayaquil	June 12-22		3
Great Britain, London	Aug. 2-10	11	1
India, Bombay	July 23-30		2
Calcutta	July 20-27		4
Madras	July 20-26		3
Italy, Messina	Aug. 3-10	5	2
Naples	Aug. 4-11	123	26
Japan, Osaka and Hiogo	July 22-27	1	
Netherlands, Rotterdam	July 27-Aug. 10	3	
Spain, Malaga	July 1-31		2
Valencia	July 27-Aug. 3		11
Straits Settlements, Singapore	July 13-20		1
Uruguay, Montevideo	July 6-20		43
YELLOW FEVER.			
Brazil, Rio de Janeiro	July 14-20	7	
Cuba, Havana	Aug. 10-17	1	from Finca Riquena
Mexico, Tampico	July 26-Aug. 2	2	1
Vera Cruz	Aug. 10-17	6	2
CHOLERA.			
India, Bombay	July 23-30		5
Calcutta	July 20-27		22
Madras	July 20-26		1
Japan, Yokohama	July 31	1	
Java, Batavia	July 13-20	10	6
PLAGUE—INSULAR.			
Philippines, Manila	July 6-13	12	10
PLAGUE—FOREIGN.			
Brazil, Rio de Janeiro	July 20-28		3
India, Bombay	July 23-30		113
Calcutta	July 20-27		16
Karachi	July 21-28	5	7

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

THE TREATMENT OF FRACTURES. By W. L. ESTES. 8vo., 216 pages, illustrated. International Journal of Surgery Co., New York.

A GUIDE TO THE CLINICAL EXAMINATION OF THE BLOOD. By RICHARD C. CABOT, M.D. Fourth edition. 8vo., 494 pages, illustrated. Wm. Wood & Co., New York.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By W. A. N. DORLAND, M.D. 8vo., 770 pages. W. B. Saunders & Co., Philadelphia, Pa.

THE PATHOLOGY AND TREATMENT OF SEXUAL IMPOTENCE. By VICTOR G. VECKI, M.D. 8vo., 320 pages. W. B. Saunders & Co., Philadelphia.

DE L'ECHINOCOCCOSÉ SECONDAIRE. By FÉLIX DÉVÉ, M.D. 8vo., 256 pages. Paris, France.

Medical Record

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Original Articles.

THE ORIGIN AND FORMATION OF FIBROID TUMORS OF THE UTERUS.

BY MARY A. DIXON JONES, M.D., F.R.M.S.,
NEW YORK CITY.

CAN anything be of more importance from a purely practical standpoint than tracing the anatomical and pathological changes that may take place in tissues from infection or inflammation? Normal tissue, when once inflamed, may go on to various and unknown changes and to new pathological formations. Nature never stands still. Life elements are ever active, and in pathological conditions are continually progressing into new-forming growths. No one can tell what these growths may be, or what may be the nature of these new formations, or what changes they may continue to undergo.

Also of inexpressible importance is the fact that infected or inflamed tissues can never be perfectly restored to their previous anatomical condition, nor can they ever again as perfectly perform their normal physiological functions. We often find inflamed tissues changing into fibrous connective tissue, but this secondary fibrous connective tissue can never perform the functions of the original normal structure; and, as I have repeatedly seen under the microscope, this secondary or newly formed fibrous tissue is constantly undergoing change; again breaking down into inflammatory corpuscles, and again forming fibrous connective tissue or some new growth or structure. When fibrous or any other tissue is thus reduced to inflammatory corpuscles or to medullary material, any new growth may develop.

Medullary tissue, or protoplasm, contains the life elements, and *only from these life elements can come any new formation. This is nature's law*, and in her open book we read it clearly.

In this way fibroid growths of the uterus are formed; and it is the only way that they, or any abnormal growth, can be developed. One tissue cannot produce another, nor can one structure give birth to another anatomical formation. It is only from these primal life elements that any new growth or tissue can be evolved.

Nearly a dozen years ago I made the statement that whenever there was a myofibroma, the uterine appendages were diseased, adding:[1] "There must be some connection in the way of cause and effect between disease of the uterine appendages and a fibroid tumor, or uterine myoma."

This assertion I had never before seen made. Soon after I called attention to the fact: "That when there were diseased uterine appendages, the uterus, in every instance, gave evidence of some profoundly abnormal condition." I first observed this in 1887.[2] It was then a little more difficult to realize, though the first case and also the second presented to my mind the clearest and most incontrovertible evidence. Later investigations still more confirmed these assertions,[3] and have now clearly demonstrated that when *there is a myofibroma, not only is the uterus diseased, but it is this disease of the uterus that produces the fibroid growths.*

Fibroid growths are diseased products, and the outcome of diseased conditions. The tissues of the uterus are first reduced to granular or medullary tissue; and from this granular or medullary tissue fibroid tumors are developed. A new growth can only come by some tissue being reduced to its primal elements or to protoplasm.

I will present here a small fibroid tumor of the uterus, surrounded by a few muscle fibers artificially separated.

FIG. 1.—A Fibroid Tumor with a few Surrounding Muscle Fibers. 1. Tumor; 2. Muscle fibers.

These apparently few fibers, when placed under the microscope, reveal the presence of a great number of smaller fibers. Under higher powers a yet greater multiplication will be manifested.

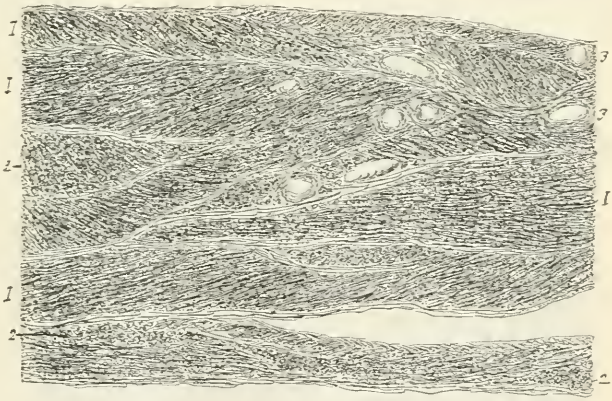

FIG. 2.—The Muscles of the Preceding Figure Magnified, Showing a Vast Number of Muscle Fibers. 1. Muscle fibers partially reduced to granular tissue; 2. Inflammatory corpuscles; 3. Blood vessels.

Figure 2 shows clearly how the muscle fibers from disease or infection are, as anatomical elements, being gradually destroyed and reduced to medullary tissue or protoplasm.

This figure also gives us a little glimpse as to the vast number of muscle fibers there are in the uterus. Every portion of the wall of the uterus, under high magnification, presents almost an infinite number of such fibers. There are countless millions in the whole organ, each one capable of

1. *New York Medical Journal*, August 25, 1888, page 203.

2. *New York Medical Journal*, September 28, 1889, case 8, and MEDICAL RECORD, May 7, 1897, case 94.

3. *New York Medical Journal*, May 10, 1890, case 4.

contractility, and, under special conditions, all can unite in producing one tremendous force, apparently sufficient to overcome the strength and muscular power of the whole human body. So enormous and so wonderful is the muscular structure of the uterus, so powerful in its expulsive forces, that it is used as a figure by one of our most elegant and classical writers.*

The uterus, with its countless number of muscles, is a marvelous formation—each little fiber holding its place, each one showing its own strength, each one so perfect in its structure and beautiful in its formation, that no pen can describe, no pencil portray, nor have I seen the photograph that could exhibit it.

A well-known pathologist lately said to me: "There is nothing in the uterus," referring to its histology and pathology. But the uterus is marvelously constructed in every part of its organization; its muscles, the nerves, the glands, the blood vessels, with their several coats, and the many pathological changes that may take place in them, as well as in other structures of the organ, all call for our most serious and thoughtful consideration and careful investigation. Also the changing conditions of the uterus in performing its special functions tell a story of marvels. The uterus, both in its histology and pathology, presents many subjects of deep interest which are as yet almost unexplored fields.

In this organ is also placed that most marvelous formation, so small, and yet, by some wonderful mystery, contains all the elements of the most wonderful structure, the master work of creation—a human being; to understand any organ of which would seem to take a lifetime of study, and then we would, as Sir Isaac Newton expressed it, be only playing with the pebbles on the shore.

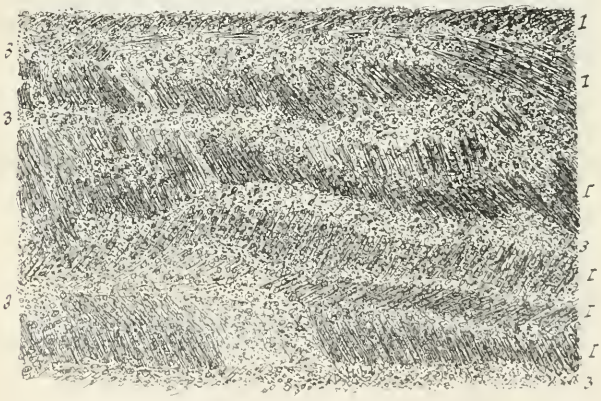

FIG. 3.—Showing a Still Further Destruction of Muscle Fibers. 1. Muscle fibers gradually being reduced to protoplasm; 2. Muscle fibers entirely gone; 3. Between and in the broken-down muscle fibers are inflammatory corpuscles and granular material. ×450.

Figure 3 presents more advanced pathological changes. Much of the normal structure is destroyed. The muscle fibers more completely reduced to granular material, portions of many of them are changing into inflammatory corpuscles, and all showing rapid and progressive destruction.

In other portions of this uterus, I found the same evidences of disease, the same changing pathological conditions, and the same rapid destruction of normal tissue. In every section, from any part that I examined, the muscles were being reduced to their primal elements, and all the other tissues in like manner were showing different degrees of inflammation. There was no normal structure found in any part, and in it there were all the characteristics of a fibromatous uterus, and, at the same

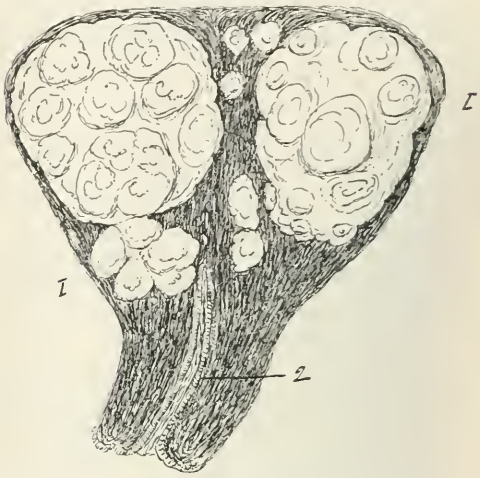

FIG. 4.—A Section of the Uterus, Showing Internal Fibroid Growths. 1. Fibroid tumors; 2. The cervical canal.

time, could be seen the *inital lesions and early changes.*

If any part of the uterus is seriously diseased, we may well believe that other portions are in a similar state. From the outside of this uterus, there were eight tumors developing and most unusually deforming the little structure. When I made a section through the organ, I found a number of groups of newly growing fibroids as represented in Figure 4. The whole organ was growing into worse conditions, and necessarily there would follow only a history of continued and increasing suffering. Prof. W. Gill Wylie did the wisest thing in removing the whole of the diseased structure; new growths were appearing, and more would have been developed with complicating pathological changes.

These tumors were all the outgrowths of this newly formed tissue. They were formations from the primal elements. But for the previous inflammation, and the formation of the new material, there could have been no tumors; but now, after the reduction of the tissues to granular material and protoplasm, fibroid growths were rapidly forming.

The cervix proved to be the most diseased portion; there was more intense inflammation than in any other part of the organ, and a greater destruction of muscle fibers. Figure 5 shows the general inflammation existing. Figure 6 the tissues around the glands in apparent suppuration.

In every case of a fibromatous uterus that I have ever examined, the cervix has been the portion that has shown the most profound disease and the most advanced pathological changes. As I said in 1888: "It is only the remains of a sickly uterus, and can be of no service, and may do much damage."

That the cervix should ever have been left in any

* "The sea broke forth as if issued out of the womb." Job, chap. xxxviii., 8.

mode of operation was an unfortunate proceeding. Only the wonderful skill of our great and distinguished surgeons made the excellent results that we have.

For a fibroid to be developed the *tissues of the uterus must first be reduced to medullary elements.*

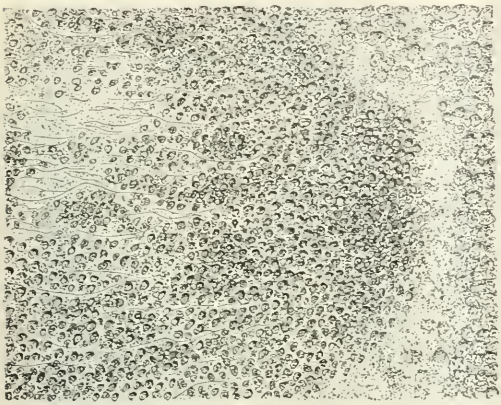

Fig. 5.—Portions of the Cervix Reduced to Inflammatory Corpuscles.

When there is much infection, the changes will be more pronounced and increase more rapidly. The more inflammation the more rapid and the more complete the destruction of the tissues. The strongly built muscle fibers become more and more reduced to granular material, or protoplasm, and when they are in this condition, all is ready for the growth and development of the little fibroid tumors, and the formation of the larger and more solid structures.

Some have put the question as to what year, age, or period of life fibroid growths appear. *It does not depend upon the year, age, or period of life; it is when there is infection and consequent inflammation.* When a tumor appears, it is no indication of the time of life or age, but it reveals the important fact that there is disease. *We see how that inflammation or disease destroys the muscle fiber, and from this breaking down of the tissues come the new formations.*

Figure 7 shows a yet more advanced stage. The muscles are torn apart, swept by some powerful force from their normal position, and many of them destroyed. Many others are reduced to granular material. The infection gets in, and, like some unseen power, destroys the beautiful and fine normal structure, each little muscle fiber, and other fine organizations. Everywhere this unseen and tremendous power is at work, changing and destroying normal tissues. Large portions are already reduced to their primal elements. There they are, whatever we may call them, granular or embryonic material, protoplasm, medullary tissue, by whatever name; no one has yet been able to tell the nature of these little granules or their power; yet these primal elements are so wonderful in their formation that under the microscope they give to this supposed scene of devastation and destruction the appearance of a fairyland of beauty.

All these muscle fibers, after their pathological changes and almost entire destruction, are still beautiful and full of interest. In many places only granular material is left of the almost disappearing fiber. No one can represent the vanishing lines of beauty; sometimes there remains only a spiritual likeness of the former wonderful little structure, or sometimes there is only a shadow of its past formation.

The marvelous changes still go on; the new building commences; some new life product! We are now looking into the very inner laboratory of nature, getting a little glimpse at the marvels of creation, at nature's more than wonderful workmanship—marvelous and past comprehension! There is the granular material, the life elements; but no one can tell their power, their source of strength, what is their next work, or what may be their next formation, or how this may change or eventuate. But from this wonderful material, there begins to grow the little fibroid tumor, not larger than the seed of a strawberry or that of a raisin, and then increasing in size till great structures are formed. (See Fig. 10, the first fibroid tumor ever removed by total hysterectomy in this country.)

Thus we see that a *uterus may from some source become infected, be reduced to medullary tissue, and from these life elements any abnormal growth may be developed.*

This figure gives a yet more advanced view of the gradual destruction of normal structure from infection. How little is left of the normal tissue; it is being reduced to inflammatory corpuscles, to protoplasm, and then will come the new development, some new growth or tissue. Here are the inflammatory corpuscles, showing intense inflammation, yet in many places are left the traces or remains of many muscle fibers filled with granular material, showing how the structure is being gradually and completely destroyed.

This is a still more advanced formation, a more thoroughly diseased uterus, the inflammation going on to ulceration. This is a section from a portion of the uterus (Fig. 10). It was a most profoundly diseased organ; the patient had suffered for many years. The right tube measured ten inches in length, was coiled upon itself, and filled with bloody serum. The closed fimbriated extremity was four inches and three-quarters in circumference. Left tube, five inches in length, was filled with pus, and its

Fig. 6.—1, 2, 3, 4, Glands in the Cervix. Intense inflammation and commencing suppuration.

closed, fimbriated extremity was adherent to the left ovary. This general infection and disease is the cause and the accompaniment of the abnormal growth. The tumor weighed thirteen and one-half pounds; with some adjuncts, nearly seventeen pounds.

In the first report of this case, I said:[4] "As the patient lay on the operating table under ether, the body seemed a mere skeleton; the monstrously large and nodulated uterus filled the whole abdominal cavity, extending up to and under the ribs. A large mass of tumors, one three inches in diameter, was closely packed into the pelvis, reaching to the cervix." Also in the first report, I said: "Nothing was apparently left of the uterus except the little undeveloped cervix and the comparatively thin layer of tissue that surrounded the mass of tumors."

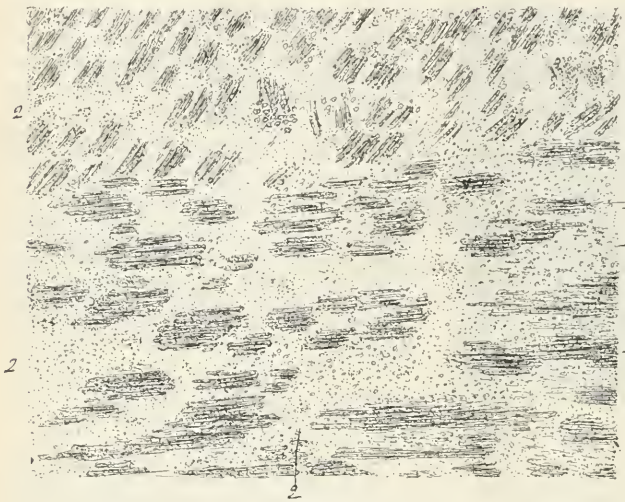

Fig. 7.—1 Groups of Muscle Fibers; 2 Granular tissue. 45c.

We see, in this representation of a normal uterus, the walls are a little more than an inch in thickness. The walls of this large uterus were not as thick as a piece of blotting paper. The whole structure had been reduced to inflammation, and from these elements had grown the fibroid tumors. I said of another case, a nine-pound tumor removed by supravaginal amputation: "The uterus was scarcely more than a thin sac with intervening membranes for holding these growths."[5]

All these growing tumors were formed by the immense masses of muscles and other tissues in the wall of the uterus, being reduced to granular material and protoplasm, in consequence of a previous condition of disease. The more profound the disease, and the more thorough the reduction of the tissues of the uterus, the more fibroids will be developed. It is the same story: *There is infection, the tissues of the wall of the uterus become diseased, it is reduced to protoplasm, and the fibroid growths are developed.* Whenever infection enters, growths may develop and continue to grow in size and increase in number.

In my investigations on this subject, the beginning of fibroid tumors, I have examined many uteri in various stages of disease, and have always found that these growths are produced by a reduction of the tissues of the uterus to protoplasm or to medullary material. More than six months ago I was convinced that this was the pathological process,[6] but I had no specimens that would prove it or illustrate the subject, nor did I know of any. It was a new field. I commenced at the very foundation, preparing and mounting tissues of fibromyomatous uteri for examination under the microscope. I have continued these investigations right along for months, and have found continually new proofs and clearer demonstrations. Professor William M. Polk kindly gave me the opportunity of examining any specimens in the laboratory of Cornell University and the Loomis Laboratory. He most kindly put both of these laboratories at my service. And the Professor of Histology of Cornell University, Dr. James Ewing, gave me macroscopical specimens of any structures in either of these laboratories that I wanted; and subsequently Professor Ewing cut for me some most beautiful sections of tissues that I had prepared for microscopical investigation, some that he had kindly prepared, and some that he had prepared and mounted.

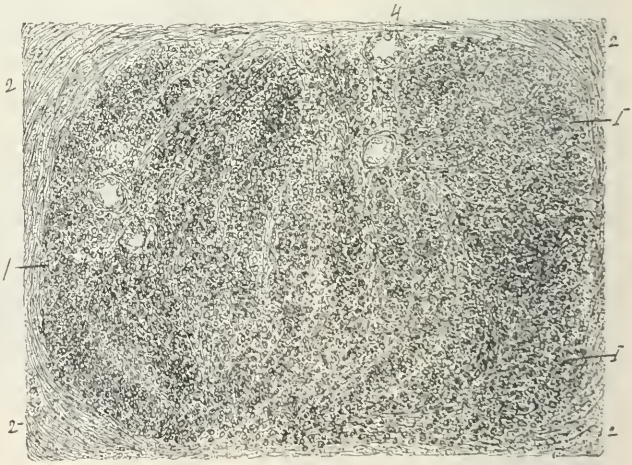

Fig. 8.—1. Muscle Fibers Reduced to Inflammatory Corpuscles; 2. Remaining group of muscle fibers containing granular material.

I studied numerous sections by high and low powers of the microscope. It was a rich field of investigation, full of intense interest and most instructive presentations. It would take pages if I were to attempt to speak of the many most interesting

4. *New York Medical Journal*, August 25, 1888.
5. *New York Medical Journal*, August 25, 1888.
6. Medical Record, February 16, 1901, p. 267.

features and histories, but all showing the same wonderful changes. I had only to read what I saw, as Harvey says: "Nature's book is open and legible."

Professor W. Gill Wylie also very kindly gave me the opportunity of examining all the specimens in his laboratory, some large and most profoundly diseased structures; and their successful removal showed the greatest triumphs of surgical skill; but I was then trying to look into the beginning of these growths, how they commenced, how they were produced, why they came, and how they had the potency in themselves of such destruction.

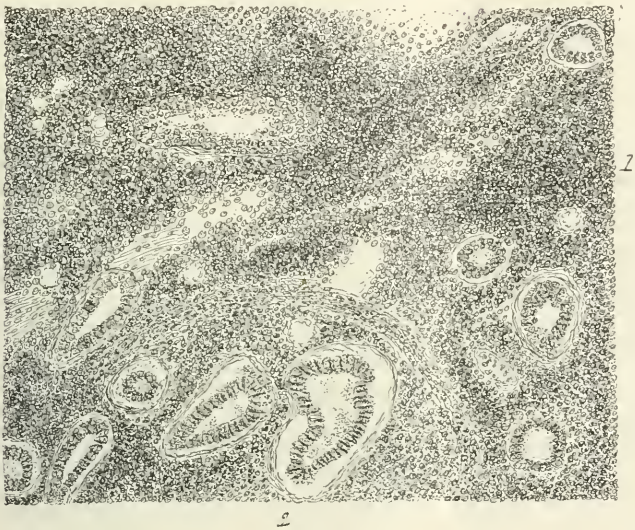

Fig. 9.—1. Inflammation Approaching Suppuration; 2. Glands. × 450.

All the histological demonstrations prove that fibroid tumors are not the giants that produce these results. It is the condition of the tissues that makes the tumors; and it is inflammation that makes the condition of the tissues.

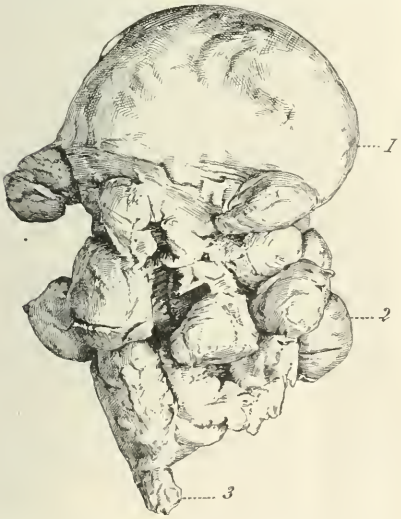

Fig. 10.—Fibroid Tumor. 1. The portion that was in the abdominal cavity; 2. Nineteen smaller tumors that were mostly packed in the pelvis; 3. The cervix.

Heretofore it has been the tumors, their nature, and formation that have been the subjects of interest; but the greater consideration is the condition of the uterus where the tumors are formed and where they grow.

We do not and cannot understand fibroid tumors till we look at the surrounding tissues. Yet in our learned textbooks there are hundreds and hundreds of plates of fibroid tumors, and in no one instance have I seen pictured the surrounding tissues. Fibroid tumors can never be understood till we look at the condition of the vital tissues surrounding them; then we see how they originate, how they grow, and what produces them.

We may call them fibroid growths, myoma, fibromyoma, or what not; they are diseased products, changing formations, abnormal and uncertain growths, and continually giving new manifestations of disease. They are composed of muscular and fibrous connective tissues, sometimes more of the one than the other, apparently no fixed rule of structure or composition. They are of uncertain form and ever-changing pathological conditions. I have never examined a fibroid tumor under the microscope but I have found it not only in a condition of disease, but undergoing some form of degeneration. It is the life tissues at work under pathological conditions. The same primal elements may, in the same tumor, develop into a carcinoma or any other abnormal growth, as I have shown that inflammatory corpuscles change to cancer epithelia.[7]

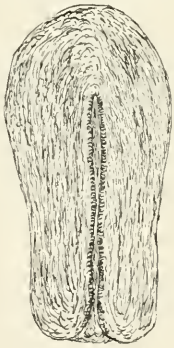

Fig. 11.—A Section of a Normal Uterus.

Fibroid tumors are never like the first creation of the new and perfect being; they are always the outcome of pathological conditions; the life development of abnormal structures, and always from *some infection*. What a lesson this teaches us as to the great and beautiful principles of hygiene! Any violation of the laws of health—the results remain as surely as the fracture in the crystal glass. Physical sins are not forgiven. "As ye sow so shall ye reap."

Many excellent authors have given us most interest-

7. Medical Record, March 11, 1893.

ing accounts of the degenerating changes of fibroid tumors.

Once in removing a fibromyoma of six pounds by total hysterectomy, much of the internal portions of the uterus was reduced to myomatous tissue and apparently a forming sarcoma.

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SOME OBSERVATIONS ON MODERN CARDIO-THERAPY.

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Recent observations in heart-work, at Bad-Nauheim, Germany, and in the application of some of the newer therapeutic methods, in the same department of medicine, in New York, have led me to formulate for publication a series of physiological principles or laws, long ago suggested and now confirmed by these observations, as the basis of the methods of practice herein treated, many ot which I have, for some years, clinically applied in sanitarium and private practice.

Dr. J. Mortimer Granville[12] has presented a physiological law, which is applicable quite universally to morbidly perverted functions, viz., "The best way to stimulate an organ is to incite it to perform its proper function, by performing part of its work for it." To the great majority of cardiac affections, however, the following which I have formulated will perhaps apply more directly, viz., the recuperation of an impaired function of an organ or group of organs is possible inversely as existing obstructions impeding or arresting their normal activity may be removed. As will be seen, the nature of this law is mechanical, but a perusal of this monograph will, I think, convince the reader that the therapeutic action in question is also based on mechanical processes, induced by massage, exercises, baths, medicines, etc.

It is to be observed that the degree of success to be attained in reducing a dilatation and inducing compensatory hypertrophy depends largely upon the amount of work of which the heart can be relieved, and unless the heart muscle has degenerated beyond a possibility of moderate repair, the greater the dilatation, the more marked will be its improvement when a generous portion of its functional task is performed for it, or resistance to it is removed.

The first demand, as well as the first possibility, in a case of heart failure is the reduction of the dilatation, and by the Schott treatment we will begin with the baths, the physiological action of which I will endeavor to analyze.

The essential action of the Nauheim bath is as a cold or cool bath,being administered at from 8° to 13° F. below the temperature of the blood. Baths of this type act primarily more or less mildly to stimulate contraction of the peripheral capillary vessels, *i. e.* those of the superficial muscles and of the integument, the latter constituting the lateral and terminal ends of the former. On the contraction of these peripheral capillaries, the contained blood is pressed into the large splanchnic venous reservoirs, where the existing blood was in a state of stasis, and the arterial blood in meeting the capillary resistance experiences a rise in pressure, which, on attaining a certain point, finally regains entrance to the superficial capillaries, distending them with blood.

With the inauguration of this latter process, the extended action of the *cold*, combined with the stimulating effects of the chemical constituents of the water, the great splanchnic area is stimulated to contraction, thereby pressing forward to the right heart the blood so long in stasis, and coincidentally further raising the arterial pressure and further distending the superficial capillaries, which now become so fully dilated that the arterial pressure falls somewhat, permitting an increase of the heart's output.

On being taken from the bath, the patient is immediately completely enveloped in a hot bath sheet, and an attendant proceeds to administer a brisk frictional rub over the entire person, until the skin is aglow. He is then dressed and retires to his apartment, where he sleeps or rests quietlyf or an hour. As will be seen, the heat of the sheet and the friction of the rubbing combine to produce as perfect a state of hyperæmia of the superficial vessels as is possible, fully compensating for the splanchnic contraction.

Undoubtedly, the foremost of the important physiological factors complicating the heart function is the circulation in the capillary system. It is estimated that this division of the vascular system is approximately from five to eight hundred times that of the arterial system, and it also being the seat of metabolism, the importance of the full capacity of capillary circulation can hardly be overestimated.

Many writers refer to the Nauheim baths as "warm" baths. Air between 80° and 90° F. would be considered hot, but water is a great conductor of temperature, and it is a matter of common observation that exposure, especially of localized areas of the body, to quite ordinary temperatures, if aqueous, often results disastrously, as in getting wet in a warm rain, or in getting the feet wet. This effect, of course, occurs where the immediate effect on the cutaneous nerves is insufficient to insure a reaction, by failing to excite splanchnic contraction. The same general effect may also be produced by unequal refrigeration of an area of the body by evaporation of sweat by drafts of warm air.

The following description of the characteristic physiological action of the Nauheim bath confirms its identity as a *cold* as distinguished from a *warm* or *hot* bath, the difference between cold or cool baths being simply one of degree.

On entering the Nauheim bath, a typical effect of the cold bath is manifested, a slight difficulty of breathing, incident to the peripheral contraction, which quickly passes off with dilatation, followed by an acceleration of the acts of respiration, with a notable increase in their depth and volume. This action necessarily increases the systemic oxygenation, and by so enhancing metabolic oxidation it adds to another effect characteristic of the bath, that of loss of heat, which serves physiologically and directly to compensate for its loss by stimulating more active oxidation of the whole organism. This, of course, is absent in a hot or warm bath.

The Nauheim bath acts directly and ultimately to establish muscular and vascular tone, while a warm bath relaxes the muscles and vessels. The cold bath primarily contracts the peripheral vessels, and secondarily the splanchnics, the reverse being the case with the warm bath, which dilates both.

During the Nauheim bath the arterial pressure primarily gradually rises, followed by a partial fall. It falls primarily with the relaxation of a warm bath.

Oliver[22] observes that a rise of arterial pressure accompanies the Aix-les-Bains douche, which certainly acts as a cold bath, counteracted in a measure by the concussion or massage effect of the play of the water against the body.

During the Nauheim bath the renal function is primarily suppressed, followed by diuresis, with the contraction of the splanchnics. The primary effect of a warm bath is diuretic.

After the Nauheim bath the patient experiences a sensation of warmth; the reverse is the case with

the warm bath, the surrounding air being and feeling colder than the bath.

In the early and latter parts of the bath season at Bad-Nauheim, the weather is both cold and wet, and the air of the bath-houses is at such times often colder than the temperature of the bath. In such cases, it is very difficult to obtain the warm reaction after the bath, and in such event the effect on the patient is more apt to be detrimental than beneficial. Hence arises the importance of the surrounding atmosphere being warmer than the temperature of the bath.

A not unimportant effect of the "cold bath," observed in the Nauheim bath, is the effect of *cold* upon the heart, which is to soothe and slow its action. By a fuller contraction, a more perfect emptying of the cavities and in extension of the period of diastole (period of rest), great benefit and recuperative possibilities are caused. General nerve excitability is lowered by cold, but heightened by heat. That is generally recognized.

The opposite physiological effect of hot and cold baths upon the blood is of interest. Hot baths lower the percentage of corpuscles and hæmoglobin, while the cold bath raises it, and also raises its specific gravity, the analysis of which I will not undertake here.

When the splanchnic vessels are contracted, the blood is deflected from the deep to the superficial parts of the body, and is driven with increased velocity through the muscular areas and their terminals in the skin. We have seen how this can be achieved by the Nauheim or any cold bath.

Other physiological observations, however, impress their importance. Firstly, the capillaries of the muscles are equal to those of the skin and the intestines combined. Secondly, during periods of rest, it has been roughly estimated that the quantity of blood in the various organs of locomotion is about thirty-six per cent., the other sixty-four per cent. lying in the roomy reservoirs of the abdominal and thoracic cavities. During activity, however, the amount in the muscular system is raised to sixty-six per cent. of the total volume of blood.

The above physiological facts suggest the need of a safe form of muscular exercise, and Schott's adaptation of the Swedish exercises of Ling meets the indication. The application of these exercises is, however, so delicate a procedure that there is hardly any line of demarcation between that which will bring about contraction of the heart muscle and the slight overexertion which will cause increased dilatation, the opposite of what is desired.

The graduated mountain climbing, first suggested by Stokes,[32] and put in practice by Oertel[21] and the Schotts, plays an important part in the latter stage of the treatment, when the compensation has been largely restored by the above methods. Mountain climbing, as used as an adjunct to the Schott treatment, at Nauheim, is applied only to cases of the minor heart lesions, especially when complicated by obesity, suboxygenation, etc., and as consequent to the divers processes that cause diminution of the caliber of the superficial vessels. When utilized at all it is applied as the final stage of the treatment.

Notwithstanding the enormous total capacity of the capillaries of the muscles, they are the smallest in caliber in the body, and it is a common observation that when the muscles are at rest, and when, moreover, exercise is insufficient, as in sedentary occupations and in cases of cardiac debility, where dleness and inactivity are enforced, the blood manifests a strong disposition to collect in the internal vessels, resulting in various diseases of metabolism.

It is well known to physiologists that the capillaries of the muscles are so small that, when not distended with blood, as when the muscles are inactive, it is impossible for the red corpuscles to traverse many of them, the result being that suboxidation diseases of metabolism are so common among sedentary and cardiac patients, and this explains why the induced contraction of the splanchnics and the Schott exercises have proved so beneficial to the great mass of cardiac patients suffering from fatty degeneration of the heart, liver, and kidneys, which is due to a condition of oxygen famine, and is often complicated with uræmic symptoms, as a direct sequence. To a consequent state of suboxidation are largely due the subnormal temperature and low resistance to cold observed among subjects of peripheral anæmia.

I will not attempt to describe the Schott exercises here, they having been so many times described and illustrated, in detail, far better than I could do within the limits of this monograph.

To summarize the combined effects of the Schott treatment, baths and exercises, the fact is developed that all act to one end, the rehabilitation of compensatory hypertrophy, not by increasing the demand on the organ, as we would do to induce hypertrophy on striped muscular fiber, nor like that which produced the original cardiac hypertrophy, but by lightening its task, lengthening its periods of rest (diastole), slowing of the rate of contraction, and by lessening capillary resistance and arterial tension, we obtain a more perfect contraction of the heart muscle, with diminished effort, increased output, and diminution of the residual blood.

A thorough discussion of the physiology of muscular fiber as related to muscular tonus and exhaustion is not permissible here. However, in order to develop a point, I will quote from Sanderson:[28] "Exhaustion may be defined as a condition in which the normal relation of tension to length is altered. An excited muscle requires when exhausted, a less weight to extend it to a given length than it did before." "The effect of muscular fatigue is to increase the equilibrium length of the excited muscle." Deducing from these established truths, we are justified in concluding that the phenomenon of heart dilatation is a condition of increase of the equilibrium length of the muscular fiber, due directly to *fatigue*. Such being the case, the local indications are decrease of work, increase of the rest period, and correction of function, in order to promote nature's process of recuperation.

Having now established the physiological status of cardiac dilatation, and the nature of the action of the Schott treatment, I trust the reader will grant that I am justified in assuming that, at least prior to the failure of compensation, the heart encountered a resistance out of proportion to its functional capacity, it probably having been weakened or embarrassed by valvular incompetence, stenosis, or what not. Whether this resistance occurs in the arterioles, the capillaries, the portal system, or the kidneys is not so important, except from a therapeutic standpoint; until relieved the heart must cope with a disproportionately high arterial pressure, and as is always the case under such circumstances, exhaustion, dilatation, and failure of compensation must ultimately follow.

A contemporary has affirmed that the general reversal of pressure, as diminished in the aortic and increased in the venous system, that obtains in cases of severely impaired compensation, confirms his belief that no circulatory resistance is present,

and that no undue arterial tension preceded the compensatory disturbance.

In opposition to the above theory, I will state that in all those diseases complicated by high arterial tension, principally those of the so-called gouty and rheumatic series, in diseases of the liver and kidneys, and in the stenoses of the intra-cardiac orifices, the heart primarily hypertrophies from the overstrain thereby induced, and ultimately dilates from consequent fatigue. Also, when the arterial pressure being normal, as valvular incompetence is developed, and a part of the blood of the ventricle regurgitates, on contraction, the heart, in its attempt to maintain compensation, overworks in pumping against a peripheral or visceral resistance, which in such cases rises above the ratio, and becomes out of proportion to the diminished pressure and force of the heart's output, further reducing it and increasing the residual blood.

It is evident that arterial pressure falls directly with the failure of the heart, the resistance to aortic flow remaining the same, due partly to the enfeebled force of ventricular pressure, and partly to greater adequacy of the diminished caliber of the arterioles and capillaries to the reduced flow of the arterial stream. This explains why the peripheral resistance of states of impaired compensation is not apparent, and yet that the burden of the heart's function is so lightened by an induced hyperæmia of the peripheral vessels, that the heart recuperates from its fatigue.

Drs. W. H. Thomson,[33] Beverly Robinson,[26] and J. M. Bruce[4] have recently contributed valuable monographs, calling attention to hypertrophy and failure of the heart, directly due to peripheral resistance, consequent to general vascular disease.

Oliver[22] goes so far as to declare: "An extremely common if not invariable concomitant of cardiac irregularity is increased peripheral resistance, as expressed in the mean arterial pressure being raised and in the venous pressure being relatively or absolutely lowered."

In the event of failing compensation, the arterial pressure should always be gauged, as heart strain caused by stimulants, especially digitalis, by increasing the force of the cardiac function, may hasten fatigue dilatation, unless the circulatory resistance be first reduced proportionately to the decrease in strength and of the endurance of the heart.

We have in peripheral hyperæmia an explanation why digitalis is so much more beneficial and effective when administered in connection with the Schott treatment, as well as how cardiac recuperation is made possible, *i. e.* by giving the heart relief from the disproportionate circulatory resistance and its resulting muscular fatigue. Normal and even subnormal blood pressures offer no exceptions in such cases. Diminished caliber of vessels consequent to thickening of the vascular walls (arteriosclerosis) (arteriocapillary-fibrosis), thrombosis, embolism, changes in the blood itself (as regards separation of its elements, viscidity, etc.), acute and chronic congestions of visceral organs, and many other conditions might be named which more or less complicate the freedom of circulation. Mechanical strain of the heart due to violent and exhausting exertion produces dilatation directly, by inducing acute fatigue. Thus we see ample illustrations in daily practice.

Galabin[10] calls attention to increase in arterial pressure and in the labor involved in the heart's contraction incident to the impediment to the circulation, due to the altered quality of the blood, as occasionally occurs in the early stages of acute nephritis.

The above analysis of the physiological action of the Schott treatment makes it manifest that the essential beneficial results obtained are not due to percussion, as declared by Heitler[14] and Baruch.[3] And though I acknowledge that pressure of the abdomen by reflex action of the splanchnics proves a valuable means of resuscitation in collapse, especially when visceral venous stasis is marked, I fail to see how any ordinary percussion, as used in physical diagnosis, could accomplish such an effect to any perceptible degree, nor do I see how any permanent good could be realized from such a transient stimulation of the heart reflex as is claimed by Abrams[1] and Baruch.[3] It may also be said that simply slowing of the heart's action alone is of little value, unless the resistance to circulation be reduced in ratio to the diminished heart function.

It may not be amiss here to suggest that the physiological result of blood-letting as practised by the old-time physicians really accomplished, in one respect, the same end as the Schott methods, in that it lowered arterial pressure by reducing the total quantity of blood in the body, which often proved so important in relieving the stress that the serious results of diminution of the vital fluid were, for the time being, at least, overcome. It may also be said that the essential effect of the chemical constituents of the Nauheim bath, in the expansion and distention of the great vascular areas of the muscles and skin, has its analogy in the methods of "counter-irritation" (cupping and vesication) of "ye olden time," as well as in the pine-needle, mustard, and capsicum baths of the present day.

One of the incidental results of the Nauheim bath—namely, its effect on rheumatism—is of great physiological interest. It is a not unusual observation in Nauheim for patients, on taking their initial baths, to have an attack of acute or subacute rheumatism precipitated, of which the exact nature of the physiogical action involved is somewhat obscure.

It always occurs when the patient is on the verge of an attack and when the state of the blood alkalescence is low. A question arises. Is rapid production of peripheral hyperæmia the active cause? In two cases this would seem to be the case, for the subjects were both robust men who took "Sprudel" or carbonic acid baths, unpreceded by the plain saline baths. One was not a patient, although both had rheumatic histories; the first mentioned simply took the baths for the novelty and the pleasure of it; both were inclined to plethora and obesity. The clinical result suggests that the previous freedom from the disease was due to the general torpor of the general circulation, especially that of the muscle arterioles and capillaries, which upon being distended with blood, the acid factors are carried to the periphery and the extremities in sufficient quantity to meet the characteristic requirements of the disease. If this hypothesis be the true one, it throws light on the common complication of rheumatism by endocarditis and other visceral inflammations, suggesting that peripheral anæmia determines the rheumatic processes to the visceral organs, and, conversely, peripheral circulatory activity favors articular and cutaneous affections. This hypothesis would hold good as well in gout as in rheumatism, and it involves all diseases of the so-called gouty and rheumatic series which interchange manifestations.

Another case coming under my observation in Nauheim rather suggests a different *modus operandi*. A thin, pale, and weak woman from England, with a rheumatic history, and coming from a gouty family, was brought to Nauheim for impaired compensation, complicating a valvular lesion. She developed a

severe acute rheumatism after her first bath, which so prostrated her for the entire season that she was unable to continue the baths, and was taken home in October, much worse for her sojourn. Her powers of endurance and reaction were low, and her first bath was the plain brine bath with which most patients begin the treatment, the temperature of the bath being about 92° F. This temperature was not low, but was manifestly too low for her, and undoubtedly her attack was due to spasm or tetanus of the peripheral vasomotors, which, according to physiologists, acts analogously to muscular strain and fatigue, in which sarcolactic acid is formed. This acid by its irritant action serves to prolong and continue its own primary effect. The incidental spasmatic or tetanic contractions of the peripheral capillaries, by impeding circulation, so reduce metabolic oxidation that the rate of oxidation of the formed acids is below the rate of their generation, and so the disease continues progressively.

It is proper to mention here that I have long observed in the so-called acid dyscrasia that its subjects are unusually prone to superexcitability of the vasomotors, and are supersusceptible to shocks of cold. In these cases it is of paramount importance to precede the baths with a course of alkalies or of alkaline mineral waters, continuing with a lighter course, owing to the transient nature of agents acting to such ends.

In cases of lowered vascular tone also, we meet with a condition of remarkable susceptibility to cold, and the excited contractions of the peripheral vessels are excessive in degree and in time length. The contractions vary in approximate ratio to the degree of the relaxation. This is the usual cause of taking cold after hot baths.

An important and constant symptom of the dominant effect of the primary (peripheral) contraction, in which the splanchnic reaction is deficient, is albuminuria, which is due to renal congestion, coexisting with peripheral anæmia, and depending upon the intimate relations existing between the peripheral and renal vessels. The suppression of the renal function when "taking cold" (peripheral contraction) is a common observation.

Therapeutists quite universally recognize the intimate relationship existing between diuresis and diaphoresis. It is almost impossible to cause one action without, in some degree, complicating the other.

In cases of exaggerated reaction to cold, as above described, the temperature and chemical strength of the bath should be heightened and its duration reduced, proportionately to the patient's susceptibility and his powers of reaction. The physician however, should never under such circumstances yield to the temptation to give up the bath entirely, for it must be borne in mind that one of the prime effects of the bath is the production of a lowered state of nerve excitability, together with its well-known effect of slowing and quieting the heart. The bath, therefore, may be begun at an indifferent temperature, and as it is gradually lowered, we lower the state of nerve excitability contemporaneously.

I have already mentioned the relation existing between general nervous states of hyperexcitability and lowered alkalescence of the blood, and the relief derived from alkalies. In this connection, I wish to record an observation: *i. e.* the degree of susceptibility to acids is so great in many cardiac patients who present no particular symptoms of the so-called acid dyscrasia, that even the variations in the acid and alkaline tides are responsible for well-defined symptoms. Particularly has this been observed in the early morning, after the patient has experienced the longest fast in the twenty-four hours, when are developed restlessness, a cough, palpitation, dyspnœa, etc., which are singularly removed either by taking food or alkalies. The effect also from the ingestion of acid foods or beverages, and from gastro-intestinal acid fermentation, produces the same results, only in a more marked degree.

Physiologists have observed that the irritability of the heart is lowered directly as the oxygenation of the blood, a weak heart being an inevitable result of chronic suboxygenation. We are also informed that the oxygen-carrying power of the blood is lessened as the alkalescence of the blood is lowered. Therefore, by a course of alkalies, we may expect to favor the increase of the oxygenation of the body in general, and incidentally raise the state of irritability of the heart muscle, thereby improving its functional action.

Ringer[25] also found that a definite amount of calcium and potassium salts must be contained in the blood in a fixed proportion to admit of the normal functional action of the heart muscle. Acids weaken the contractions.

The normal alkalescence of the blood favors the integrity of both the cardiac rhythm and the vascular tone, therefore it must receive the attention its importance demands.

One of the greatest problems of cardiotherapy is the early treatment of cases, where the prostration and the failure of compensation are extreme, and the circulatory balance approximates that of death, so low is the arterial pressure and so marked is the venous stasis. The heart must have relief from its labors and yet the circulation must be maintained. None of the vital fluid can be spared, the degree of prostration makes both the baths and the exercises of the Schott treatment impossible, and often the further stimulation of the heart by heart tonics is dangerous, the heart being already greatly dilated from excessive fatigue. Consequent to the stagnant circulation, the economy is becoming uræmic, and is suffering generally from deficiency of the oxygen processes of metabolism.

My experience has been that, in these very extreme cases, a fair degree of peripheral hyperæmia can be attained by light, dry, frictional brushing of the entire surface of the body, gradually increased in intensity, until a bright glow of the skin is produced. The direct effect of this on the heart is remarkable, and it is in the direction of the Nauheim bath in its results. This process is followed later by massage, of the whole body in which particular attention is given to the muscles of the arms and legs, serving to promote hyperæmia and oxidation in the muscular tissues.

Another method of benefit in these cases is that of lowering of the arterial pressure, by means of the application of friction, or dry cups, to the lower dorsal and upper lumbar region of the spine. The success of this method, in the hands of the late Dr. J. K. Mitchell[20] of Philadelphia, in the relief of pain in the treatment of rheumatism, led him into the error of formulating the so-called nervous or spinal theory of its etiology. Physiologists do not inform us other than of the effect of lowering of arterial pressure, and I have no theories to offer as to its *modus operandi*, except that I have not observed any depression of the heart's function from it. It may act through the nervous (sympathetic) system, similarly to nitroglycerin, to dilate the superficial arterioles.

My own practice has always been never to permit a patient to suffer from any dyspnœa which could be prevented by the inhalation of any quan-

tity of *nascent* oxygen, which can be furnished from the generating apparatus which I place convenient to the patient's bed. The importance of this, in these cases, is so great that I often use a continuous stream, by direct tubal inhalation, or a highly impregnated atmosphere of the room, to meet the indication. The free use of *nascent* oxygen in these cases vividly elucidates to the attending physician the pernicious effect, on the prostrated patient, of an unrelieved dyspnœa, acting, as it does, to produce fatigue, and as also owing to the consequent suboxygenation. I have never observed an ill effect from too much oxygen. I am, however, careful to wash the gas thoroughly, through four bottles of water, one of a saturated solution of caustic soda, and finally one of lime water, the bottles placed in the following order: water, soda solution, three bottles of pure water, one of lime water, and lastly an empty (drip) bottle.

I am very particular as to diet, and in limiting the patient's digestive effort to the most highly concentrated food, of the highest nutritive value, and in my experience, myosin-albumin, prepared after the recipe of Forbes Ross,[27] peptonized, has proved most successful. After the convalescence is established, I am particular to exclude all the acid foods and beverages, as well as most of the fermentable carbohydrates. As in all cases of cardiac debility, especially associated with suboxygenation, the proneness to acid fermentation is very marked, and it often occurs insidiously in the intestines unobserved. The quantity of cellulose, especially, must be minimized, it being very difficult of digestion.

A subject which I deem of supreme importance in diseases of the heart is the condition of the portal system. I think balneologists are extremely negligent of the proneness of this branch of the circulatory system to become a seat of stasis, which is so little affected by the Schott treatment, and must be counteracted with cholagogues. Dr. Bezly Thorne[34] is prominent among those who have urged giving greater attention to this point, and to the importance of observing the fæces for the biliary coloring, which is so often absent in these cases.

The intimate relations existing between the circulation in the peripheral and renal vessels was long ago observed and set forth by Senator,[40] and later, especially in modern cardiac practice, it has become quite generally recognized

After the physiological effect of the Schott treatment is attained, and continuing while peripheral hyperæmia continues, the urinary function is generally normally active, occasionally hyperactive.

During a period of broken compensation, as above illustrated, however, anuria is a common and almost universal symptom, and prior to the production of some degree of peripheral hyperæmia, we are compelled to take active measures to dilate the peripheral vessels, by medicinal means, and, for this purpose, the proper adaptation of nitroglycerin is of the greatest value and utility. In the use of this remedy, it will be found that the smaller doses, administered uninterruptedly, will generally suffice to guard against renal congestion and anuria, when if permitted to occur, often the largest doses will only with difficulty restore diuresis.

In connection with the renal function, it may be observed that attention to the "hydrostatic balance" of Oertel[21] is of the greatest value. If physicians will cause an accurate account of the fluids imbibed and excreted to be kept, they will be able to compute any amount of fluid that may be exuding into the tissues, and as a prophylactic and therapeutic measure may reduce the fluids imbibed to an amount equivalent to the amount excreted.

Pulmonary congestion, complicating failure of compensation, as well as the resulting hemorrhages, I often treat successfully by oxygen inhalations alone. Cold applications to the chest, in such cases, have within my observation proved very deleterious, and predisposing to thrombus and emboli.

In addition to the nitroglycerin mentioned above, I make liberal use of digitalis, strophanthus, sparteine, quinine, strychnine, potassium iodide, and other remedies, until a degree of compensation is established, and the Schott treatment is well under way, when it can generally be depended upon alone.

Following, in regular order, a graduated course of mechanical treatment, leading up to the Schott treatment proper, I follow the massage, above described, with some specially adapted Swedish movements, very carefully administered, while the patient continues in the recumbent position, in bed, principally flexion, extension, and a rotary movement of the arms and legs.

As soon as the improvement of the patient justifies a daily sitting up in bed, I take advantage of it to begin a preliminary bath, and while sitting on the side of the bed, the patient places his feet in a carbonized brine bath, in a vessel on the floor, of sufficient size to accommodate the feet and to permit the water, which is at blood heat, to reach nearly to the knees. This foot bath is very effectual in accelerating the circulation of the lower extremities, and it produces a well-marked peripheral hyperæmia of the region between the knees and toes, somewhat lowering arterial pressure and relieving the heart.

Shortly following the above-mentioned procedure, I generally find patients are able to take the first full Nauheim bath, it being of course necessary that the bath room should be convenient to the bed chamber, and in these serious cases I have the patient *carried* to and from the bath and *assisted in and out of it*. The attending physician, who should be provided with potent restoratives, should hold the patient's radial pulse, during the bath, and act quickly should collapse threaten. This bath may be begun at blood heat, or at an indifferent temperature, and lowered one degree each bath day, subject, of course, to the indications of the heart and general condition. Such precautions are relaxed with the improvement.

It is customary to begin a course of baths with the temperature relatively high, the chemical strength low, and the duration correspondingly short, but in instances of very low vitality, diminution of the powers of resistance and reaction, together with exaggerated excitability of the peripheral vasomotor nerves, the chemical strength must be raised in order to overcome the depression of the cold.

On removal from the bath, the patient should be carried back to the bed, and all the conditions of environment made favorable to an hour's sleep or quiet rest. The action of the bath is conducive to sleep.

An important effect of the chemical ingredients of the bath is the production of increased tolerance to cold (hardening), and they are also most effective in enhancing vascular tone and oxidation, making possible lower degrees of temperature, as well as directly adding to the stimulative effect of the cold on the peripheral vasomotor nerves.

Great care must be taken never to cool the patient more rapidly than the consequent increasing oxidation will compensate heat for, and the gradual lowering of the temperature of the bath should not exceed the rate of restoration of vascular tone. A pronounced sensation of chill is always indicative of shock, the reflex act of determination of blood to the periphery being apparently paralyzed. The

warm reaction which should always follow indicates the reflex contraction of the splanchnics, determining the return of the blood to the periphery. A mild shivering sensation, however, generally accompanies accelerations of oxidation, as produced from loss of heat, and is not necessarily significant of injury.

In one respect, especially, the baths are indispensable, *i. e.* in the restoration of tonicity to the muscles of the heart, the abdominal walls, and the vascular system.

During the period of prostration, we confine the patient to the horizontal position, in order to escape the extra-cardiac effort required to maintain the circulation against the force of gravity. However, when the patient regains enough strength to reassume the erect position, it is paramount that we restore the tonicity to the splanchnic area. The tonic contraction of the relaxed and dilated splanchnic arterioles and veins counteracts the disposition to œdema of the lower extremities, otherwise present when in the feet down position. The hydrostatic stress of gravity is such, that relative rigidity of these vessels, as well as of those of the abdominal muscles, is necessary to the restoration of a degree of compensation sufficient to insure against stasis of the ascending venous column, when in the erect position.

Another effect of the cold bath, the lowering of the excitability of the cardiac muscle, is of especial value in irregularity of the heart, and this cannot be replaced by the exercises. It is true that both regularity and slowing of the heart may be attained by the application of ice bags to the precordium, as well as by the baths, but notwithstanding the fact that the heart muscle cannot be tetanized, it is certainly not a safe procedure. I have observed a case where the application of ice for such purposes, shortly following a pulmonary congestion and hemorrhage, by increasing the congestion, favored the formation of a thrombus from which the patient soon after died,

Some members of the profession refuse to be convinced that there can be any real virtue in the direct action of the Nauheim bath; *firstly*, all previously accepted methods of establishing the size of a heart were discredited when applied to a demonstration of the reduction of dilatation by the bath; *secondly*, the results obtained have been ascribed to the action of the heart reflex, as stimulated by diagnostic percussion, instead of to the bath; *lastly*, many skeptics give expression to their failure to see how any *permanent* benefit can be attained in organic heart disease by the Schott methods.

It is true that the tonicity induced in the muscular and vascular systems may be gradually lost again, on debilitation of the patient by the relaxing effects of hot weather, etc., the peripheral circulation may be depressed by the action of sudden, severe, or unequal exposure to cold and wet, and fatigue dilatation is also again possible.

We have seen, however, that the principal therapeutic action is the rehabilitation of the peripheral circulation, by gradually increasing distention of the vessels of the locomotor muscular and cutaneous systems. Hermann Weber,[36] Bezly Thorne,[31] and others have observed that by the combined treatment, baths and exercises, not only diminution of caliber of arterioles and capillaries is overcome but also instances of absolute obliteration.

Under all ordinary circumstances, in the subjects of organic heart disease, the altered mode of life is such that when the full caliber of the peripheral vessels is once restored, it is a matter of comparative ease to continue the effect, making it approximately permanent.

I have hinted above at the ultimate curative effects of the restoration of the functions of oxygenation, oxidation, and nutrition in its broadest sense, the reestablishment of compensated circulation and the recuperation of the cardiac muscle.

Taking into consideration the above, with all that it implies, the action on the blood itself, on digestion, and on organic functions in general, substituting a progressive improvement for a progressive decline, it requires no strain of the imagination to perceive the genesis of cardiovascular repair.

I have long been convinced that cardiovascular disease, as manifested in the heart and blood vessels, including the highly vascular organs, especially the spleen, liver, kidneys, and the lungs, is more homogeneous, both in etiology and pathology, than is generally conceded. While I recognize the inflammatory processes instituted by pathogenic bacteria, I am confident that the chronic processes which we term endocarditis, endarteritis, arteriosclerosis, arteriocapillary fibrosis, atheroma, cirrhosis, and calcareous infiltration of the vessels, and in many cirrhotic and inflammatory diseases of the organs, are due to chemical irritants in the blood, and principally to excess of organic acids. These acids are imbibed in acid foods and beverages and are generated by gastrointestinal fermentation and by muscular activity, and may be accumulated to excess by renal and cutaneous retention, and by metabolic suboxidation. A more extended discussion of these etiological factors must be deferred to a later paper. However, their recognition is important in both the prophylaxis and the therapeutics of these diseases.

The general disposition of the animal kingdom, in its continued metabolic changes, as is well known to biologists and medical men, when relieved of morbid agencies, which disorganize tissues or derange organic function, is to recuperate and gradually resume the normal processes. We know that even fatty degeneration of an organ, when artificially induced by a known process of suboxidation, in many cases, when the process has not already destroyed the organ to an extent incompatible with the performance of its function, will undergo restitution when the etiological factor is removed.

To this physiological action the cardiovascular system, barring advanced arteriosclerosis, arteriocapillary fibrosis, and calcification, offers no exception.

Observant practitioners of cardio-therapy are constantly meeting with surprises in the remarkable repair that occurs in all classes of cardiovascular disease, after many or all of the predisposing and exciting chemical and physical causes have been counteracted or removed.

To the late Professor F. W. Beneke of the University of Marburg we are indebted for the first experiments and for the first exposition of the beneficial effects of saline and carbonated waters on the subjects of rheumatic endocarditis and its resulting impairment of compensation; to the late Dr. August Schott of Bad-Nauheim for the discovery and demonstration of the physiological action of the baths, and to him and to his surviving brother, Professor Theodor Schott,[29] for the foundation, application, demonstration, and exposition of the systematic methods of treatment of heart disease in general, by a combined adaptation of brine and carbonic-acid baths and exercises, which now bear the name of "the Schott treatment of chronic heart disease."

The theories of the physiological action of temperature, chemical irritation, and mechanical stimulation of the periphery, and of exercise on the circulation,

metabolism, and other processes and of the relations of oxygenation and hyperacidity as herein set forth, have been independently arrived at and applied successfully in practice, for many years, by the author. Owing, however, to the adverse criticisms of them, by fellow practitioners, their exposition has been deferred until the present time, it being now possible to include their confirmation by other original investigators and observers, whose independent work I also acknowledge.

In concluding, a word of protest should be entered against the promiscuous administration of the Schott bath and gymnastic treatment of heart disease, by bath establishments, masseurs, nurses, and other irresponsible persons, as is now becoming so common, independent of competent heart specialists. It is evident to the discerning mind, that heart disease with its complications, is just as difficult to treat properly and successfully by the Schott methods as by medicinal and other measures, and, moreover, these methods should never be applied entirely independently of medicinal treatment.

This regimen, however valuable an acquisition to our previous resources in this line of practice, requires as much if not more fundamental knowledge and skill than the older therapeutic methods, which have always been admitted as requiring the most delicate and precise adjustment and adaptation of any in the practice of medicine. Errors of management of cardiac diseases are just as fatal in one branch of treatment as in another, and the empirical and promiscuous administration of the Schott treatment is dangerous in the extreme.

We have special hospitals for the ruptured and crippled, for skin and cancer patients, eye and ear cases, and other departments of medicine, but none for those who, above all, require a specially equipped institution.

Here is the opening of the century, for philanthropists, to erect an institution which will fill a long-felt want.

The education of the cardiac patient to conform his future life to the limitations of strength and endurance necessary to the maintenance of compensation, in cases of existing serious organic lesions, is also the province of a special institution.

In a recent round of inspection of the bath establishments of New York which profess to administer the Nauheim bath, I failed to find one which was equipped with the correct shape of tub for the proper administration of the bath, all of them making it necessary for the patient to assume too much of a recumbent position while in the bath. This also is the great fault of the tubs in private houses, such tubs also, owing to the wrong location of the inlet, making it impossible to use ready charged water, which is far preferable to the use of acid cakes.

The uneven porosity and consequent solubility of acid cakes and the unequal dissemination of the carbonic acid through the water, make their use unreliable and far inferior to the methods of charging closed tanks of water under pressure, by liquid carbonic acid, which evenly charges the water, and and it can then be drawn into the tubs, as desired, for either still or flowing baths. Such a plant is another possibility for special institutions. I should prefer an evenly applied pine-needle bath to an uneven carbonic-acid bath, as is ordinarily that produced by the use of acid cakes.

I have been interrogated by a colleague as to whether the newly introduced adrenal extract will supersede the Schott treatment, to which I answer in the negative. It is apparent that this new heart tonic has none of the immediate physiological actions of the Schott treatment, yet, if on ample demonstration it fulfils our anticipations for it, it will undoubtedly largely supersede digitalis and strophanthus, and will serve both to augment and to perpetuate the effects produced by the Schott methods much better than either of them.

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THE FUNCTION OF THE TONSILS,* WITH A FEW SUGGESTIONS REGARDING THE DIFFERENTIAL DIAGNOSIS OF TONSILLAR AFFECTIONS.

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In a town of eight hundred inhabitants there are four practising physicians. I do not know just what their relative popularity is, but as they are all making a good living it may be supposed that the practice is about equally divided. One of them said to the writer not long since that he had performed eighty-five tonsiliotomies in the last year. He said if there is a tonsil to take out he takes it out, and he attempted to justify his practice by saying that in a certain textbook it is recommended. I am sorry to say that he spoke nearly the truth. For you would infer from reading the book that any tonsil which can be seen is hypertrophied, and a hypertrophied tonsil should be removed. Without commenting on the safety or unsafety of following this advice, my purpose is to plead for a more intelligent and conservative treatment of the tonsils and tonsillar affections.

From not knowing what the function of an organ is to saying it has no function is but a short step; or, if not exactly saying that the organ has no function, at least treating it as if it had no function, which amounts to about the same thing. And this has been especially the case with the tonsils. Until recent years most authors confessed not to know the function of the tonsils. Many theories were advanced, some of them vague and indefinite. But as they were mere assumptions they were not generally accepted. It was perhaps natural after a certain familiarity with the tonsils, and the familiarity had brought no definite knowledge as to just what they were for, to take a step farther and to think they have no function, or, at least, a useless function, and so to look upon them as foreign bodies, and their presence inimical to the general bodily welfare. And so the tonsils came to be looked upon as wholly superfluous, and therefore were treated with disrespect. Of course, if they performed no useful function, they must be an evil, and if an evil they should be eradicated. We have become very bold with our increasing knowledge, and we do not hesitate to say of many of the structures of the human body that they are merely relics of a bygone age, and that they are only atavistic tendencies inherited from the time when we were not the highly evolved creatures we are to-day.

But notwithstanding the mistakes of the past in the domain of medicine and the bold but unjustifiable plunges of the aseptic surgeon, both medicine and surgery are making advances to the benefit and relief of the long-suffering race.

What are the functions of the tonsils? Before attempting to answer this question it might be well first, to state what they are. Before proceeding farther, let me say that what is said hereafter refers to the faucial tonsils only, and not to the pharyngeal and lingual tonsils, and no reference is made to them unless specifically stated.

The faucial tonsils, then, are the two masses of lymphoid tissue, situated between the pillars of the fauces, having a not very uniform shape, and varying also greatly in size. It is almost impossible to describe a typical tonsil, about the only uniform characteristic being its structure, and yet the very structure is one which undergoes certain progressive changes throughout life, which are common to all lymphoid tissues. Then, besides, lymphoid tissues undergo very rapid and marked changes under pathological processes, and it is impossible, often, to state whether the tonsils in a certain case are normal or abnormal. It is also impossible to give the boundaries of a normal tonsil. The anterior and posterior boundaries are fixed, being the pillars of the fauces, but the vertical extension cannot be definitely stated. Especially is this true of the lower border, prolongations of the tonsils extending in some cases as far as the laryngeal cavity. The amount of protrusion into the pharynx also varies greatly. And it is on this protrusion that judgment is generally based as to whether the tonsils are hypertrophied or not. This judgment is fallacious, because a tonsil that may be prominent from a lateral hypertrophy may be much smaller than one that is not seen, but which is greatly extended inferiorly. Arbitrarily, the pharyngeal limit has been fixed as a line on a level with the pillars of the fauces. I will not stop to comment on this, but only say that I think it erroneous. The point of commonality, as before stated, is the general structure of all tonsils, being masses of lymphoid tissue, showing on the outer surface numerous orifices, which lead down into blind pouches, and having the general appearance and formation of glands. The similarity, however, between a tonsil and a typical gland ceases with the general structure. For the function of a gland, in general, is one of secretion or excretion. But the normal tonsil neither secretes nor excretes. It was the supposition of its being a gland proper that led to the erroneous conceptions of its function. When it ceased to be considered as a gland, with excretory or secretory functions, investigators began to enquire along other lines. To Chiari of Vienna and Moure of Bordeaux we are indebted for much of the recent literature on this subject, and it seems to me their suggestions are worthy of consideration. The anatomical and histological structure of the tonsil proclaims it to be what? Simply a mass of lymphoid tissue. And what is the function of lymphoid tissue? Preeminently that of an absorbent. Here, then, are two conspicuous bodies on either side of the pharyngeal entrance, whose only function is that of absorbents. But with this idea there suddenly comes upon our consciousness a rather startling revelation. Not only laterally are there these two large absorbing bodies, but posteriorly there is another of identical structure which sends out connecting branches across the entire posterior wall of the pharynx; and also anteriorly, at the base of the tongue, is another mass of the same kind, which, with that posteriorly and laterally, forms a circle of lymphoid tissue, which almost completely encircles the entrance to the respiratory and alimentary tracts. This circle of lymphoid tissue is not there by accident. In the economy of nature it is there for some purpose. Lymphoid tissue, if not the home, is always the rendezvous of the leucocytes. They are there in countless numbers. The function of the leucocyte is manifold and wonderful. We understand but little concerning it, but the little that we do know is marvelous and astounding. The

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phagocytic action is not the least. That proposition, I think, has been abundantly demonstrated.

You are all, doubtless, familiar with the theory. The throat is the great open gateway to the body. Through it pass all the essentials of life's sustenance. And through it also pass most, if not all, of the enemies of health, and the germs of death and disease. The food we eat, the water we drink, the air we breathe, pass this way. One does not have to stop to analyze this compound and intricate mass and volume to imagine the numerous pathological agencies that thus can gain entrance to our bodies. Nature has made an heroic effort to guard this vulnerable point. To use a military simile, she has placed four well-manned forts about this entrance in the form of the four tonsils, and has also thrown out far-reaching columns in the form of chains of lymph nodules, thus completely encircling this entranceway. I think there is no question that this is all for an important purpose, and we divine, at least, its reason. Throughout the earlier period of life, not much respect is paid as to what passes into the mouth or through the nostrils.

The tendency of the infant is to put into its mouth everything that comes its way. And on up through childhood it is pretty much the same. How many disease-producing microbes thus get into the mouth can only be imagined. And that these germs get in their work, we, as physicians, know too well. To limit the effect of all the inflammatory and infectious processes that involve the mouth and nasopharynx, nature has placed between this large field so easily infected and the deeper bodily structures her best defenders, namely, the four lymphoid structures and lymph nodules before mentioned, with their contained leucocytes. If one believes in the leucocyte, and especially in its phagocytic action, these lymphoid masses and nodules are a great preventive of many infectious processes.

I will not dwell longer on this part of my subject except to say that if what I have said is true, one will hesitate before thoughtlessly destroying this wall of defense.

Now, I know that the tonsils and the other lymphoid structures are subject to many inflammatory processes—many of them primary, but many also secondary. And I am familiar with the many arguments that are brought forth, attributing to these inflammations of the tonsils many secondary and remote pathological processes in other parts of the body. Much of this I am ready to admit. But the admission does not carry with it the confession that because the tonsils are subject to many inflammatory attacks, they are therefore useless and should be removed. It seems to me it is something like saying that because the thief enters our house by way of the door, because of a defective lock, we must therefore take out the door entirely. Now I imagine some of you say that by taking out the tonsil you not only remove the door, but at the same time fill in the door space with impassable material. But this is considering the tonsil itself as the only offending organ, and is forgetting altogether the rôle it plays as a guard against a deeper and more serious infection. Very many cases of tonsillitis are secondary; that is, reinfections, and the tonsils simply check a further extension of the infection, and in this case, instead of the tonsil being considered an enemy to the bodily good, it is a friend and benefactor.

With advancing years, and as the habits of the individual become more cleanly, there is less use for the tonsils, and they show a gradual retrograde process. And what are often very conspicuous bodies in childhood become almost unnoticeable in adult life.

I do not admit that simply because a tonsil projects into the pharynx beyond the level of the faucial pillars, it is hypertrophied. Neither do I admit that even if it is hypertrophied it is dangerously pathological. It seems to me the main question is, has it degenerated to the extent that it has lost its function, and having lost its function is it inimical to health? I would state unequivocally that a tonsil should not be excised simply because it projects beyond the faucial pillars, because such tonsil may possess all of its original function and perform a useful purpose. I also do not believe that simply because a child who has had one or two attacks of tonsillitis is seen upon inspection to possess slightly prominent tonsils, therefore the tonsils should be excised. Of course, to eradicate thoroughly such a tonsil would surely exclude the possibility of a future tonsillitis. But can one say that the tonsillitis is not the lesser of two evils, and that it was not in the effort to check a progressing infection that the tonsils bore the brunt of the onset and thus modified the infectious process to the extent that it localized itself in the tonsils and thus saved a more serious infection of a more vital organ? Let me suggest a few analogies. Suppose there is a venereal infection. We know if the initial lesion is not wholly localized or walled off by inflammatory exudate, we soon see the nearest efferent lymphoid structure become enlarged or hypertrophied in the effort to check the onward progress of the virus, and usually with success.

Or suppose a case of malignant growth; the same thing is seen. If the lymph glands (so-called) had not attempted to check the progress of the disease would not more distant and vital organs have become sooner affected? Looking then at the peculiarly arranged circle of lymphoid structures that almost completely encircle the pharyngeal entrance, is it not reasonable to suppose that it is there for a protecting purpose, and when without just cause one removes an important part of these protecting tissues, is one not doing an injury to the patient? Now, I believe that there are many justifiable causes for the excision of the tonsils, but that one of these is not simple tonsillar hypertrophy.

Before referring to some of the conditions which I regard as justifying excision of the tonsils, permit me to say just a few words regarding the pathology of tonsillitis. The error prevailed until a rather recent date regarding tonsillitis, as of many other diseases which exhibited some peculiar local manifestation, that the local process was the disease itself instead of being simply a local manifestation of a general and systemic infection; such, for instance, as the serous arthritis in inflammatory rheumatism or the membranous exudate in diphtheria. The inflamed joint and the membranous exudate were, for a long time, considered the disease itself. Now I think scarcely any one maintains that idea. And so the concomitant pathological processes that were often seen with these specific infections are not now considered as secondary infections (meaning thereby metastatic), but merely other local manifestations of the one general disease. In rheumatism the joint affection does not cause the endocarditis which so often accompanies it, but both are the result of the original specific infection. And so I believe that much that has been said regarding follicular tonsillitis as the cause of secondary infections, such as endocarditis or pleuritis, is based on a similar error regarding the pathology. Acute follicular tonsillitis is not merely a local in-

flammatory process confined to the tonsils but part of a general systemic infection.

Referring now to some of the conditions which justify the excision of the tonsils, I have time only to mention briefly the following:

1. A simple hypertrophy of the tonsils which causes them to occupy so much of the pharyngeal space as to prevent the entrance of sufficient air in breathing. But this would have to be considerable so as to cause the pharyngeal space to be of less caliber than the trachea.

2. In cases in which the hypertrophied tonsils have pressed on or drawn upon the pharyngeal opening of the Eustachian tube so as to close it or distort it and thereby interfere with its function.

3. Hypertrophied tonsils that are subject to recurring attacks of tonsillitis.

4. Tonsils that have previously been subject to recurring inflammations when the function of the organs has been destroyed and which show considerable degeneration.

5. Tonsils whose crypts have become filled with caseous matter which is offensive, conducing to foul breath.

6. Tonsils that are subject to lacunar ulcerations.

7. Cases that have developed a quinsy habit. In these cases the removal of the tonsil generally prevents a recurrence of the quinsy.

8. In cases of lupus or tuberculosis of the tonsil, as well as in cases of malignant growth.

9. When the enlarged tonsils interfere with voice production to the extent of annoyance or incapacity for continued speech, or where they interfere with the production of pure tones in voice culture.

10. After the age of puberty there sometimes remains a mass of more or less fibrous tissue, occupying the tonsillar spaces, which has lost most of its lymphoid characteristics and partakes of the nature of a foreign growth; when these are inimical to comfort or well being they should be removed.

I would like to speak of the differential diagnosis in some of the tonsillar affections, which I deem of great importance, but the limited time does not permit of my doing justice to the subject. However, there are a few suggestions that I beg to make regarding the common use of the term tonsillitis. Tonsillitis conveys no more meaning than the word fever. To say that a person has a fever means but little. The word only suggests a multiplicity of conditions, and one knows scarcely anything as to the real condition of the patient. While the word tonsillitis has not the complex and varied meaning of the word fever, still as it is generally used it may mean any one of many conditions. I will only briefly refer to the most important:

Acute Follicular Tonsillitis, more properly called croupous tonsillitis. The general characteristics of this affection you are all familiar with. Although the name would infer a purely local process, it causes a general systemic infection.

Herpetic Tonsillitis.—This is probably mistaken for follicular tonsillitis oftener than any other affection, and while it possesses much that might suggest the latter it is a radically different disease. As a rule, its onset is very rapid, the temperature quickly rising to from 103° to 105° F.; the headache is intense, chills are frequent, and there is considerable aching in the muscles and bones. As in follicular tonsillitis, during the first day or two it may be impossible to diagnose the condition. The throat symptoms generally manifest themselves about the second day, when the tonsils are seen to be red and swollen, as are also the pillars of the fauces and the pharynx. There soon appear numerous herpetic vesicles, more numerous on the tonsils, but also on the other parts of the pharynx, as well as the uvula. About the third day the vesicles have ruptured, small ulcers appear, which soon become covered with a whitish coating, a veritable false membrane, which may coalesce and cover the entire tonsil and also the posterior pharyngeal wall. The whole process disappears in four or five days, and convalescence is rapid. I have known these cases to be frequently called follicular tonsillitis, and they are doubtless also often called diphtheria. Herpetic tonsillitis occurs most frequently in malarious districts, and is believed to be caused by malarial infection. Be that as it may, quinine is the most efficacious remedy in these cases, and I believe that it is an error in diagnosis which is responsible for the statement often heard that quinine is a useful or even an abortive remedy in tonsillitis. A peculiarity of herpetic tonsillitis is, that it is not accompanied by glandular enlargement.

Ulcerative Lacunar Tonsillitis is sometimes mistaken for follicular tonsillitis, although this error should seldom be made, because the general course of the affection has but few points in common with follicular tonsillitis, although it can be more readily confused with some of the other diseases of the tonsils. Ulcerative lacunar tonsillitis exhibits but few initiatory symptoms, the first thing the patient notices being a difficulty in swallowing, and when an examination is made the lesion is present. There will be seen on one, sometimes on both, tonsils a grayish ulceration covered by a cheesy mass, which can be easily removed, leaving a deep red granular surface. While the borders of the ulcer are clean cut, red, and inflamed, but not much swollen, the rest of the tonsil is but little affected. The trouble is a purely local one, confined to one or a few of the crypts and not extending to the surrounding parts. The ulcer may be as large as a dime, or larger, and generally round or oval in shape. The ulcer may be quite deep, even extending to the floor of the tonsil. There is seldom any, or at most slight, fever. There is usually no swelling of the submaxillary glands. The lesion generally runs its course in a few days. If treatment is instituted it should be confined to mildly antiseptic washes.

The affections that have been mentioned are all promiscuously called tonsillitis, and yet how different are they in their essential characteristics as well as their treatment! I have refrained from mentioning diphtheria purposely, because my intention was to ask your consideration of the other affections of the tonsils rather than of the one of which you already know so much. But I wish briefly to mention diphtheria only for the purpose of saying a few words regarding the diagnosis from a bacteriological basis. It is simply this, that the presence of the Klebs-Loeffler bacillus in the throat of a person suffering from a tonsillar affection does not unequivocally stamp the case as one of diphtheria, and the judgment of the efficacy of a certain line of treatment based on such a diagnostic method is gravely at fault. Now I beg not to be misunderstood. I believe all cases of true diphtheria are caused by the Klebs-Loeffler bacillus, but every bacillus does not cause a case of diphtheria. In very many normal throats the bacilli have been found, but one would not say such persons have diphtheria, nor is it at all unreasonable to suppose that such a throat could have other inflammatory affections than diphtheria? We often find the pneumococcus in normal throats. Have such persons, therefore, pneumonia? Surely not. We often find in the intestines of healthy persons the typhoid bacillus. Have such persons, therefore, typhoid fever? Surely not. And so it seems to me that a diagnosis based on a bacteri-

ological finding only is most unreasonable. And yet I do not underestimate the great value of the bacteriological examination. I believe that every case of membranous sore throat of suspicious character should be most carefully examined, microscopically as well as otherwise, and if the Klebs-Loeffler bacillus is found, the case should be treated and guarded with extreme caution. It might be diphtheria, and until the question is completely settled one cannot be too careful. But the mere presence of the bacillus does not necessarily stamp the case as one of diphtheria. You might have a dynamite bomb in your house, but not necessarily an explosion. There may be an anarchist in your community and yet not anarchy. There may be an incendiary in a city, but not a conflagration.

As to the other numerous affections of the tonsils, such as tuberculosis, lupus, the various manifestations of syphilis, malignant growths, etc., etc., only one will be briefly mentioned, namely, mycosis of the tonsils. When this affection is present, we find on superficial examination what appears to be a yellowish or whitish deposit or exudate on the tonsils, and which might be mistaken for one or another of the various tonsillar affections. It is important to recognize the true nature of the trouble, because if improperly treated it runs a chronic course, and does not yield to the simpler methods of treating throat affections. The disease is characterized by the presence of the leptothrix buccalis—a fungous growth—and sometimes persists with great stubbornness. We may have to resort to a mechanical removal of the growth, but generally a cure can be effected by applications of chloride of zinc solution, 1 to 15, or tincture of iodine, or chromic acid.

A UNIQUE SPECIMEN OF VESICAL CALCULI.

By F. C. LARIMORE, M.D.,
MT. VERNON, OHIO.

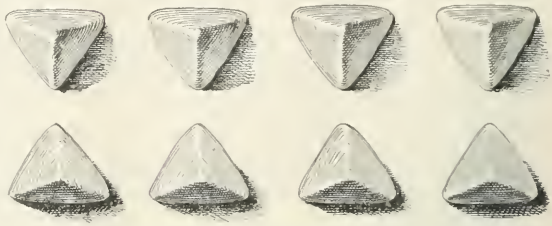
This case is regarded as worthy of report on account of the beauty, uniformity, and shape of the calculi. To the knowledge of the writer, the specimen has no rival in the collections of stones removed by the surgeons in Ohio, Baltimore, Philadelphia, and New York, the nearest approach being the celebrated jackstone calculi removed by Dr. Halsted several years since.

The stones, eight in number, uniform in size, tetrahedral in shape, hard, smooth, weighing one drachm each, were taken from the bladder of a physician. A section of one demonstrates that it was formed from a central nucleus, with concentric layers, each formed in the same way. When all the stones are matched together, a complete hemisphere is formed. I presume they assumed this relative position while in

the bladder, obeying the law of gravity, and always dependent with the changed position of the patient. The following history and report of operation shows that there was residual urine in the bladder for a long time. Hence the stones were always in a fluid medium. They were removed by a suprapubic cystotomy, with the patient in the Trendelenburg position; not by sight, but by the sense of touch, the index finger of the left hand guiding the forceps held in the right hand for seizing and removal.

The stones were all in one place in the bladder, like eggs in a bird's nest. Mounted on cardboard, the stones are seen to be so uniform, with four equal triangular surfaces, that the impression is at once created of their having been made in a mould. The following is the history of the case:

Dr. J. W. W., aged sixty-one years, began to have some trouble with his urinary organs in the spring of 1899. In the winter of 1900-1, he had to give up his practice on account of pain. In February, he passed a catheter, and removed one pint of residual



urine. He then continued to catheterize himself every three hours, with great comfort. From this time on he was unable to void his urine without the aid of a catheter. On February 28, 1901, I saw him first. He had emaciated and changed so much as to be unrecognizable. His bladder was irrigated with a half-strength Thiersch's solution, and sounded, when an audible click determined the presence of stone. The prostate gland was slightly enlarged. The urine was turbid, pale, alkaline. sp. gr. 1.005; it contained no sugar, but pus, bacteria, and a trace of albumin. The patient entered my private hospital March 2d, and was operated on March 7th.

I was assisted by Drs. J. E. Russell, L. W. Armentrout, P. Pickard, J. E. Lee, and Williams, a brother of the patient. The stones were removed by suprapubic cystotomy. The median lobe of the prostate, which was enlarged, was removed by enucleation with the finger-nail and curette. A No. 35 rubber catheter was placed in the lower angle of the wound, and the bladder incision was closed down to the drainage tube with chromicized catgut, the skin and abdominal muscles being united with silkworm-gut. The drainage catheter was connected by glass with a piece of rubber tubing three feet long, the distal end of which was passed through a hole drilled in a cork stopper fitted into a graduated nursing bottle. The tubing almost touched the bottom of the bottle, in which one ounce of 1-100 carbol solution had been placed. The bottle was suspended by a string to the bed rail, the bottom swinging clear of the floor. The drainage was perfect. The nurse could record the amount of urine voided, empty the bottle, and recharge it with carbol solution without disturbing the attachments. The drainage tube was removed on the fourth day. The abdominal wound was completely healed on the fifteenth day. Convalescence was uneventful, and the patient was discharged April 7th with a good appetite and returning body-weight and strength. He writes me under date of July 24, 1901: "I am feeling quite well, have gained in flesh, weigh 143 pounds, and everybody says I look well; sleep well, eat well, and feel strong. I have some tenderness of the prostate, but it does not hurt me any to ride in the buggy. I cannot pass my urine without the catheter, which I have to use about every three or four hours. I often try to do without it, but cannot. I can pass it very readily. I think I am well of cystitis. The urine looks well and contains no mucus. I use Thiersch's solution about once a week now. I feel very thankful that I am as well as I am." The retention of urine is, no doubt, due to paralysis from over-distention of the bladder prior to the operation.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE ATTEMPTED ASSASSINATION OF PRESIDENT McKINLEY.

AT seven minutes past four o'clock on the afternoon of September 6th, President McKinley, while receiving the people in the Temple of Music at the Pan-American Exposition, in Buffalo, was shot twice by an anarchist. The man had a pistol in his right hand, concealed by a handkerchief so arranged as to give the appearance of a bandage. He was in line with others passing before the President, and just as the latter was extending his hand, raised the pistol and fired two shots.

One bullet struck the sternum, and glanced off, producing simply a contusion, and was found in the clothing. The other one, which is thought to have been the first fired, penetrated the abdomen five inches below the nipple, and an inch and a half to the left of the median line.

Word was at once sent to the Emergency Hospital in the Exposition grounds, and Drs. Ellis, Mann, Jr., and Hall of the hospital staff bore the wounded President to the ambulance, and hurried with him to the hospital. This was at 4.14. On arrival at the hospital, the President was fully conscious. He was placed in one of the private rooms, but, on the arrival of Drs. Mann and Rixey, was transferred to the small operating room to the right of the entrance. At 5.07, just one hour after the shot, Dr. Matthew D. Mann arrived at the hospital, and Drs. Mynter and Parmenter arrived almost immediately. At half past five o'clock, Dr. Rixey of the U. S. Navy, the President's personal physician, arrived, and then the operation was begun by Dr. Mann, assisted by Drs. Mynter, Parmenter, and Lee. There were present also Drs. Wardin, Van Peyma, and C. G. Stockton. Dr. Charles McBurney of this city became subsequently associated with the case as consulting surgeon.

The abdomen was opened by an incision including the point of entrance of the bullet. It was found that the missile had penetrated the anterior wall of the stomach. This hole was immediately closed by a Lembert suture of fine silk, and then the organ was turned over, and a search was made for the point of exit in the posterior wall. This was quickly found, and sutured in the same way.

A careful examination showed that the intestine and other abdominal organs had not been injured. After a toilet of the peritoneum, the abdominal wound was closed without drainage. The further course of the bullet could not be traced, and the bullet itself was not found.

Shortly before the close of the operation, Dr. Roswell Park, who had been summoned from Niagara Falls, arrived at the hospital.

The illustrious patient stood the ether and the operation well, his pulse at its termination being 130, and of good quality. At half past seven he was removed in the ambulance to the residence of Mr. Milburn, where he is at the present writing.

For about twelve hours after the operation the temperature was in the neighborhood of 100°, and slowly rising; it then fluctuated between 101° and 102° for thirty-six hours, after which it very gradually declined. The pulse was 120 to 130, and the respiration about 25.

There have been at no time any symptoms of peritonitis or of septic poisoning.

The pistol used was, fortunately, one of slight penetrating power, and the bullet was of small caliber, otherwise the ball which struck the sternum would almost certainly have done far greater damage than that which perforated the stomach, even had it not caused instant death.

The great public interest manifested in the case made it necessary for the MEDICAL RECORD to send a member of its editorial staff to Buffalo to study it from its strictly scientific aspect. The data furnished by this gentleman can be considered, therefore, as thoroughly trustworthy, and based on authoritative statements of the different surgical attendants on the case. The idea was to obtain all the points of real interest from a surgical standpoint, and such as have been furnished can be considered strictly accurate.

A very remarkable feature of the operation was its performance so soon after the infliction of the injury, and in this respect it may be looked upon as unique. The details of the procedure could not have been better arranged if they had been planned beforehand. In fact, the ultimate success of the operation was largely due to this fortunate circumstance. This by no means detracts from the well-acknowledged skill of the operator and the perfection of all his details of modern technique. Fortunately, in consequence mainly of careful handling of the patient before the operation, only a very small amount of stomach contents escaped into the peritoneal cavity. Viewed by itself as a surgical procedure, it may be considered beyond criticism. No chances were taken for any failure of most minute details. In fact, it was the opportunity appropriately met of demonstrating to the public one of the many triumphs of modern surgery.

It is most gratifying to state that at the present writing the distinguished patient is on a fair way to complete recovery. The elevated temperature which for the first few days occasioned so much anxiety to the daily newspapers was largely due to the ordinary effects of secondary shock. Although general peritonitis was quite naturally feared, there was at no time any distinct evidence of such a complication.

During the first few days the stomach was kept quiet by rectal alimentation, and at no time was any nausea, tympanitis, or gaseous retention manifest. There was so little pain that no anodyne was required after the third day. Except for the fact that a portion of the bullet track in the course of the abdominal incision failed to unite—a trifling matter in itself—the case would not have had a

single drawback from a public, sensational, or spectacular standpoint. The only trouble now from the latter view centers in the present uncertainty as to the location of the bullet. Although believed to be lodged in the muscles of the back somewhere in the lower dorsal or upper lumbar region, there has been no means as yet of proving such a point. Of course every hope now rests in the probability of the muscle becoming safely encysted and consequently harmless. It is somewhat difficult to understand why, up to this writing, the *x*-ray, so easily and effectually applied, has not been brought into service. It would hardly be so much a matter of gratifying curiosity—as remarked by one of the eminent surgeons in the case—as of being absolutely sure of the terminal track of the missile. It is to be hoped that the bullet course behind and beyond the stomach is in a safely closed and aseptic condition. This would seemingly be the only absolute guarantee against any future trouble from secondary suppurating processes.

In calculating the naturally direct course of the missile from before backward to its supposed designation, it may be fair to assume that the only serious damage that was done was the double perforation of the stomach wall. Taking the chances of a shot in any other direction would have been more than hazardous. It seems quite evident, in the absence of any positive data to the contrary, that the general direction of the missile must have been in the mid-epigastric plane obliquely backward and to the left.

Such a course would explain the missing of the pancreas, and the splenic artery below, the cœliac axis internally, the spleen to the left, and the left suprarenal capsule and left kidney below. The escape of the liver was easily explained by the track of the ball being just external to the shelving top of the left lobe.

But whatever theories may be offered as to the precise nature of the injury, they can be very harmlessly ventilated in the face of the gratifying fact that the patient seems destined to recover and valiantly defy them all.

OPPORTUNITIES FOR MEDICAL RESEARCH IN AMERICA.

When one pauses to examine the currents in the stream of medical progress in this country, one cannot but see that in the drift of events research in experimental medicine is gradually assuming a more and more important position. The two factors that led to the growth of the present opportunities for research in pathology, bacteriology, and hygiene were the evolution of the American university from a mere "boarding school where the elements of the learned languages were taught to youths," as Mr Pattison, Rector of Lincoln College, once said of Oxford, to a seat of learning and research modeled after the German prototype, and the development of the old-fashioned American medical school, with its two years' curriculum of didactic lectures, into the modern type with four years of thorough training in laboratory and clinic.

Twenty-five years ago there was scarcely any provision for the pursuit of medical research in this country. The laboratory of the College of Physicians and Surgeons of Columbia University was established in 1878—twenty years after the appearance of the first edition of Virchow's *Cellularpathologie* and twenty-eight years after the discovery by Davaine of the first important pathogenic germ—that of anthrax. The Carnegie Laboratory of the Bellevue Hospital Medical College was opened in 1885; the Loomis Laboratory of the New York University (now of Cornell University) in 1886; the Hoagland Laboratory in Brooklyn in 1888, and the Johns Hopkins Hospital Laboratory in 1889. The corner-stones of the other pathological laboratories throughout the country for the most part bear later dates.

To-day there is scarcely a second-rate medical school in these States that does not provide some opportunties for medical research. At Johns Hopkins, Columbia, Harvard, Pennsylvania, Chicago, and some of the other universities there are scholarships and fellowships open to qualified workers in pathology and allied themes. At each of these institutions, there are on the average from three to five such fellowships. Thus, for example, there are at Columbia the three fellowships of the Alumni Association, the Alonzo Clark scholarship and the Maria McLean Proudfit fellowship, five in all. The number of leading laboratories in which such fellowships and scholarships are maintained may be estimated to be, at the highest, ten; so that there are at present about forty men in this country who receive incomes for research in medicine.

The recently organized Rockefeller Institute for Medical Research will make possible the appointment of about forty additional men; in other words, will double the number of men engaged in this work in America who are paid salaries and who are not necessarily occupied in teaching.

The plan of work of the Rockefeller Institute excludes, for the present, any expenditure for a building, though the ultimate desirability of a central laboratory is not ignored by the Board of Directors. In this, we fancy, the directors are following the advice of Huxley as given in his address at the opening of Johns Hopkins University, September 12, 1876: "It has been my fate to see great educational funds fossilize into mere brick and mortar in the petrifying springs of architecture, with nothing left to work the institution they were intended to support."

Mr. Rockefeller placed at the disposal of the directors two hundred thousand dollars, of which the sum of twenty thousand is to be expended annually. It is understood that the gift will be increased as the demands of the work grow. This money is to be divided, according to the present plans of the Board of Directors, into sums averaging about five hundred dollars each, which shall be paid annually to the holders of the scholarships or fellowships established by the institute. In special cases, the salaries will be made larger, but in others the remuneration may be less than the average. The appointments are to be made in each case for one year only, although reappointment for another year will probably be given to such men as require more time for the completion of their work. The candidates will be recommended to the Board of Directors by the heads of the various laboratories, and from the list thus formed the directors will make their selections. Each candidate must be certified as to his qualifications, especially as to

his ability to carry on the research undertaken, and must be pursuing or about to pursue an investigation on some important subject in pathology, bacteriology, or hygiene.

It is evident that this plan is in every way calculated to secure the object of Mr. Rockefeller's gift. Yet, in one respect, we should venture to suggest a change, namely, as regards the salaries paid to these workers. Five hundred dollars may be a bait to the recent graduate, but one cannot expect a man of maturer years and increased financial needs to give most of his time for so small an annual income. While a certain number of beginners in pathological research may be admitted to these scholarships, it would certainly be advisable, if not necessary, for the attainment of results of the greatest value, that men of experience who have already made their mark in science be attracted toward this corps of investigators by salaries representing a modest, but sufficient competence. It must not be forgotten that the attention paid to the results of an investigation by the scientific world is directly in proportion to the amount and value of the investigator's previous work, and that the weight of his conclusions depends upon the same factor.

Again, if the appointments are made for one year only, the personnel of this body of workers will constantly change. What advancement in the ranks of his fellows will be open to the scholar who has completed an investigation on a difficult and unexplored question, and what will become of him after his term of scholarship is at an end? Every one of the forty or more Rockefeller scholars cannot obtain an academic appointment at the end of his year of scholarship—there are too few vacancies in the universities for that. It would seem better to arrange for a system of grades with increasing salaries in which promotion will be secured by length of service and value of work done, for in this manner there would be a survival of the fittest, the lower ranks changing from year to year, the upper being filled by scientific men of the highest type. The Rockefeller scholars would then not be in the position of our army contract surgeons, who have nothing to look forward to except an honorable discharge, promotion or pension being out of the question. The institute would rather support a body of men who could devote themselves entirely to research, and who would not be obliged to teach or to do other work to make both ends meet. A good teacher is not always a good investigator, and one who is unsurpassed in research may not be able with success to impart his knowledge to others. In such cases the universities might contend among themselves for the honor of having a Rockefeller research scholar on their academic staff. In this way the institute will become a nursery for both teachers and investigators and its fellowships will be steps to the highest academic honors.

THE VULNERABILITY OF THE APICES OF THE LUNGS TO TUBERCULOSIS.

Although it is generally recognized that the apices of the lungs are peculiarly susceptible to tuberculosis, and the right more so than the left—there is no agreement as to the cause for this predilection. According to the most commonly accepted view, the comparative immobility of the upper portion of the chest, with diminished functional activity on the part of the apices, is the responsible factor, but neither this nor its modifications or substitutes are entirely satisfactory. According to an explanation proposed by Drs. E. H. Colbeck and Eric Pritchard (*Lancet*, June 8, 1901), the movements of the apices of the lungs, when not properly supported by the soft parts and the external extremities of the clavicles, become inverted—being sucked in during inspiration and bulged out during expiration. At the junction of the tissues thus affected, with those undergoing normal respiratory movement, is an area of minimum activity, and it is especially here that foreign bodies, including tubercle bacilli, find lodgment and set up irritation; and this corresponds with the usual primary seat of pulmonary tuberculosis. The apex of the right lung is more commonly and more early the seat of tuberculosis because it projects higher into the supra-clavicular space and is even less well supported than the left. The theory thus briefly outlined is not without practical bearing, inasmuch as in conformity therewith, development of the muscles of the shoulder-girdle by means of tree-climbing, ball-throwing, horizontal ladder and bar exercises, or any systematic muscular training that brings into activity the great pectoral muscles is indicated as both a prophylactic and a therapeutic measure.

ARTERIAL HYPERTONUS.

By arterial sclerosis is meant a condition of fibrous hyperplasia, with diminished elasticity of the coats of the arteries, particularly those of smaller size. There has been some difference of opinion as to whether the morbid process begins in the middle or the internal coat, but in any event it is generally believed that it is the latter that especially suffers. The process may exceptionally be localized to a circumscribed area, but almost invariably it is general in distribution. It is probably dependent upon the presence of irritants in the circulation, acting directly upon the coats of the vessels and indirectly through a like deleterious influence upon the vasa vasorum. As a secondary result, degenerative fibroid changes take place in the viscera and the tissues generally and in this way physiological senescence and eventual dissolution are brought about. Atheroma, on the other hand, is generally considered a condition of fatty degeneration of the intima of the arteries, with necrosis and ulceration, and which may secondarily be followed by deposition of calcareous matter. In addition to the two morbid processes mentioned, Dr. Wm. Russell (*Lancet*, June 1, 1901) describes a third, which he designates arterial hypertonus and which may occur independently or be associated with the others. In the presence of this condition the normal arterial tone is increased, and the vascular tension may be heightened, with a reduction in lumen and a diminution in the blood-carrying capacity of the vessel, as a result of contraction of the circular muscular fibers of the walls of the arteries. This modification may be detected by a trained and sensitive finger, but it can be more distinctly demonstrated by means of the sphygmograph and the arteriometer. With the aid of the former it can be shown that the artery is in a state of contraction, the swing of the lever being less, the percussion-

stroke shorter and less abrupt, the summit tending to be more rounded and the predicrotic notch less evident, while the arteriometer measures the diameter of the vessel. Arterial hypertonus may occur under many different conditions, probably as a result of the action of toxic substances introduced from without or generated within the body. In the young and the robust it is associated with heightened blood-pressure and a pulse of high tension, while in the aged and the debilitated when the heart is feeble, it may cause lowering of the blood-pressure and heart failure.

If long continued or frequently repeated, arterial hypertonus is likely to be followed by hypertrophy of the muscular walls of the vessel, while the presence of irritants in the blood gives rise to hyperplasia of the subendothelial connective tissue of the intima. The treatment of the condition consists, apart from correction and avoidance, so far as possible, of the etiological factors, in the administration of remedies capable of relaxing muscular spasm, such as the nitrites, with which the iodides, in small doses, may be serviceably conjoined.

News of the Week.

Examinations for the Army Medical Department.—The examination of applicants for appointment as Assistant Surgeon in the Army has been resumed in Washington and San Francisco; the Army Medical Boards convened in these cities will remain in session so long as there are candidates to be examined. Seventy-six vacancies in the Medical Department still remain to be filled, and as it is desired by the military authorities that the Department be filled up to its full legal limit as early as practicable, all eligible applicants will be afforded opportunity for examination; those found qualified will be commissioned at an early date. Information as to eligibility, nature, and scope of examination, etc., may be obtained upon application to the Surgeon General, U. S. Army, Washington, D. C.

Dr. Calmette's Personal Experience with Antivenene.—Dr. Calmette, director of the Lille Pasteur Institute and discoverer of the snake-bite serum, was engaged, one day last month, in extracting venom from the poison fangs of snakes, when one of the reptiles bit him. He immediately gave himself a hypodermic injection of antivenene, which he had himself prepared, and which he had been using in experiments upon animals, with most happy results. The arm swelled a little, and the experimenter had a slight fever but no other symptoms appeared, and recovery promptly followed.

The Omega Upsilon Phi.—The Fifth Annual Convention of the Omega Upsilon Phi Fraternity (Medical) was held August 29th and 30th at Buffalo, N. Y. Dr. Edward M. Thompson of New York City was elected President; Dr. Dean O. Thompson of Hornellsville, N. Y., Secretary, and Dr. George H. Minard of Lockport, N. Y., Treasurer. A banquet was held at the Hotel Genesee on the evening of August 29th. The next Convention will be held in New York City during September of next year.

The Winnipeg Meeting of the Canadian Medical Association, a special report of which appears in this issue, will go down in the annals of that association, our correspondent writes, as the best meeting hitherto held. The number of members registered was 175, a number considerably larger than that at Ottawa last year, and second to that of the meeting at Toronto in 1899. A large number of new members was elected, particularly from Ontario, Manitoba the Northwest Territories, and British Columbia. Every province was represented at the association meeting, with the single exception of Prince Edward Island, one delegate coming as far as from North Sydney, Cape Breton. The meeting was generally voted a pronounced success; and certainly the profession in Winnipeg and Manitoba and the citizens of Winnipeg more than eclipsed in point of social functions any previous meeting. One of the most important discussions took place on the formation of a Medical Defence Union; and it is very gratifying to have to record that such an organization was unanimously supported by the association. All the leading officers of this protective association are located in Ottawa, and Dr. Russell Thomas of Lennoxville, P. Q., and W. S. Muir of Truro, N. S., are deserving of much praise for the great, good work they have performed in this connection. Much regret was expressed at the resignation of the General Secretary, Dr. F. N. G. Starr of Toronto, who has so long and so ably discharged the responsible and important duties of this position.

American Association for the Advancement of Science.—At the recent meeting of this association, in Denver, the following officers were elected: *President*, Professor Asaph Hall, U. S. N., retired, professor of astronomy at Harvard University; *Permanent Secretary*, L. O. Howard, chief entomologist, Agricultural Department, Washington; *Assistant Permanent Secretary*, Richard Clifton, Agricultural Department, Washington; *General Secretary*, D. T. MacDougal, director of the laboratories, New York Botanical Gardens; *Secretary of Council*, Professor H. B. Ward of the University of Nebraska; *Treasurer*, Professor R. S. Woodward, Columbia University, New York City. The next meeting will be held at Pittsburg, June 28-July 3, 1902.

The "Journal of Medical Research" is a new publication, succeeding the *Journal of the Boston Society of Medical Sciences*, to be devoted to the publication of original investigations in medicine. The numbers will be issued at intervals as material accumulates, each part containing fifty or more pages. The journal, which is under the editorial management of Dr. Harold C. Ernst, who also edited its predecessor, will publish the proceedings of the American Association of Pathologists and Bacteriologists, the Boston Society of Medical Sciences, and other scientific bodies. The first number contains most of the papers read at the annual meeting of the American Association of Pathologists and Bacteriologists in April, 1901

Suit against a Christian Scientist.—A suit for $6,000 damages in which malpractice (or is it malpense?) is alleged, and in which Irving C. Tomlinson, first reader in the Christian Science Church at Concord, N. H., is the defendant, has been brought by a woman who alleges that she accepted treatment for appendicitis, and that she did not receive common skill and care. The case has been on the docket of the Supreme Court for some time, but a hearing has been postponed on account of illness.

Gift to the Newport Hospital.—It is announced that Mrs. Cornelius Vanderbilt will erect a new building for the Newport (R. I.) Hospital as a memorial to her late husband. Plans for the building are being prepared, and work will be begun as soon as possible. The building will be at the east end of the hospital grounds, near Powell Avenue. There will be two stories, the upper one to be used for private rooms and the lower one for the out-patient depart-

ment, which has been very successfully operated, as far as accommodations would permit, for some time. The building will be constructed of the same materials and on the same general plan as the buildings already in existence, except that it will be a two instead of a one-story structure.

Army Hospital Corps Men as Nurses for the President.—The male nurses in attendance on the President are men of the United States Army Hospital Corps, who were detailed for this duty immediately after the shooting of the President, from the detachment of the Hospital Corps men on duty with the field hospital exhibit of the Army Medical Department at the Pan-American Exposition. The men selected for this duty were Acting Hospital Steward Palmer A. Eliot and Privates Ernest Vollmeyer and John Hodgins. All of these men have completed the course of instruction at the school for Hospital Corps men at the Army General Hospital at Washington Barracks, D. C., beside which Steward Eliot is a graduate of the Bellevue Hospital training school for nurses, and Private Vollmeyer is a graduate nurse of the Presbyterian Hospital of New York City. Private Hodgins is a soldier of nine years' service in the army and long experience in military hospitals. Much of the attention required in the President's care is of such nature as cannot be performed by the female nurses in attendance, and the efficiency of these men is such as to have elicited much favorable comment from the staff of attending surgeons. Army medical officers are much gratified that the Hospital Corps should be officially connected with the President's case, and have the opportunity of so publicly demonstrating its professional efficiency and the excellence of its personnel.

A Law against Substitution.—Tennessee, as we understand, is the only State in which there is a special law against the substitution by pharmacists in filling physicians' prescriptions of any drug by another not called for in the prescription. This law, as published in the *Southern Practitioner*, is as follows: "Section 1. Be it enacted by the General Assembly of the State of Tennessee, That it shall be unlawful for any corporation, firm, or person, or any combination or association of corporations, firms, or persons engaged in the business of buying, compounding, and selling drugs and medicines, to substitute any drug or medicine in lieu or instead of that given to the patient by the physician on the face of his prescription. Section 2. Be it further enacted, That it shall be unlawful for any agent or employe of such person, firm, or corporation or association or combination of persons, firms, or corporations engaged in the business of buying and selling drugs in this State, to substitute any medicine for the specific medicine mentioned in the physician's prescription. Section 3. Be it further enacted, That any person, firm, or corporation violating the provisions of this act, or aiding or abetting the violations of the same shall be guilty of a misdemeanor and upon conviction shall be fined not less than $25 nor more than $100 for each and every offense. Section 4. Be it further enacted, That this act take effect from and after its passage, the public welfare requiring it." This act was approved in April of the present year.

Malaria Imported from Italy.—In the annual report of the Massachusetts State Board of Health Dr. S. W. Abbott has much to say of malaria in various parts of the State, which he believes to be an imported disease. During the past ten years, he says, every case of malaria investigated in Massachusetts has been traced to the presence in the neighborhood of Italian laborers. He discusses in particular the prevalence of the disease along the shores of the Sudbury and Concord rivers, and especially in the towns of Concord and Billerica. In both these places malaria was apparently introduced by Italian laborers engaged in digging up the roads during the construction of the water-supply and sewerage systems. In Ipswich malaria had occurred in four houses, its appearance in each instance coinciding with the presence of Italian laborers who were working in the vicinity and who came repeatedly to the houses for water.

The Duchess and the Bone-setter.—At a recent garden-party entertainment for the benefit of crippled children in London, the Duchess of Sutherland paraded the grounds with "an eminent bone-setter," who is said to have attended Her Grace on various occasions. Current professional comment was that if the Duchess chose to trust her limbs to a quack she could do so; but if, as was generally believed, she wished to place the crippled children under his care she should be plainly told to confine the results of her folly to her own. The curious inconsistency of the British medical law is shown in the fact that this ignorant man is permitted to practise surgery without molestation.

The Medical Examination of Japanese at Honolulu.—In reply to Japan's remonstrance against the treatment accorded Japanese by the medical inspectors at Hawaii, this country is reported to have promised to investigate the matter and to adopt suitable measures to prevent a recurrence of the complaint.

A Just Fate.—A feminine faith-cure devotee of Urbana, Ohio, is reported to have run against the hard facts of nature. She attempted to cure four cases of smallpox occurring in one family, and not only failed in that, but contracted the disease herself. She then sent for a physician and "took her medicine" in great humility.—*Cleveland Journal of Medicine.*

A New Law Regarding Wet Nurses in Paris.—The Prefect of Police in Paris recently issued an order that wet nurses must not leave their own infants to be bottle fed, but must see to it that they, too, are wholly or in great part nourished at the breast. This has caused a great scarcity of wet nurses, and the Parisian mothers are in despair at having to choose between suckling their own offspring and bringing them up on the bottle.

Opposition to the Cigarette in Scotland.—A petition, signed by two hundred physicians of Edinburgh and Leith, has been sent to Parliament praying for the enactment of a law forbidding the sale of tobacco to children under sixteen years of age. The document is directed mainly against the use of cigarettes by boys.

Meeting of Hospital Superintendents.—The third annual conference of the Association of Hospital Superintendents was held on Tuesday, Wednesday, and Thursday of this week at the Murray Hill Hotel, in this city. The officers serving at this meeting were: Charles S. Howell, Superintendent of the Western Pennsylvania Hospital, Pittsburg, chairman; Dr. Frank E. Baker, Superintendent of the City Hospital, Newark vice-chairman; James S. Knowles of Cleveland, Ohio, Secretary, and A. W. Shaw, Superintendent of Harper Hospital, Detroit, Treasurer.

Gifts to Philadelphia Hospitals.—John D. Lankenau, the well-known philanthropist and member of the Drexel family, who died two weeks ago, left upward of $1,500,000 to be divided equally between

the German Hospital of Philadelphia and the Mary J. Drexel Home for Aged Patients of the Hospital. He was President of the Board of Trustees of the German Hospital and was the founder of the Drexel Home.

The Lane Medical Lectures at San Francisco were delivered this year, on September 2d-6th, by Mr. Malcolm Morris of London, editor of the *Practitioner*. The subject of the lectures was the "Pathology of the Skin in Relation to Certain Social Problems."

Food Poisoning.—One hundred and forty men of the Twenty-seventh Regular Infantry at Fort McPherson were taken suddenly ill with the symptoms of ptomain poisoning, one day last week. All were affected in the same way with cramps, high fever, headache, and extreme restlessness. About the same time, ninety persons who ate clams at a lunch given at the opening of a new public building in Cleveland were also suffering from ptomain poisoning. All were made quite ill, but none died.

Condemnation of a Jersey City Hospital.—Dr. John D. McGill, President of the Jersey City Board of Health, has reported that the City Hospital in Baldwin Avenue is infected with disease germs, and should be burned. The roof leaks badly, the sanitary conditions are bad, and the building is alive with vermin. It is said that nurses are sometimes obliged to move cots in the men's ward to the middle of the room to prevent patients from getting soaked with rain which leaks through the roof.

Additional Accommodation for Smallpox Patients.—At a recent meeting of the New York City Board of Health bids were opened for the erection of two additional pavilions for the accommodation of smallpox patients on North Brother Island. Four bids were received, ranging from $21,000 to $17,000, the firm making this lowest bid being awarded the contract. The pavilions are to be wooden structures, about 100 feet by 50 feet, and are to be one story high. Each one will accommodate thirty patients.

The Plague.—Two men died from this disease in Rio de Janeiro on September 5th. They were employees in a newspaper office.

The King of England is reported by a London paper to be suffering from cardiac trouble. The journal asserts that though he "is conscientiously submitting to the light, water, and massage 'cure' at Homburg, his heart trouble, from which he has suffered since and before his accession, shows no improvement."

Obituary Notes.—Dr. Gates B. Bullard, one of the best-known physicians in Northern New England, died at his home in St. Johnsbury, Vt., on September 4th, aged seventy-two years. He was a graduate of the Dartmouth, N. H., Medical College in the class of 1855. He was surgeon of the Fifteenth Vermont Regiment in the Civil War, and later Surgeon General of Vermont. He had served in both branches of the legislature and as a Commissioner for the Insane.

A Case of Malarial Remittent Fever Treated with Large Doses of Arsenic.—C. J. Gremillion reports a case of malarial remittent fever in a woman who exhibited a marked idiosyncrasy to quinine, that drug producing severe pain in the stomach, cramps in the legs, cold, clammy perspiration, and rapid, labored respiration. She received five drops of Fowler's solution for three days every four hours, then every hour for two days, then every two hours for twelve hours, and afterward ten drops three times a day. She made an uneventful recovery. The case is interesting because of the idiosyncrasy to quinine, and on account of the quantity of arsenic taken without symptoms of poisoning.—*New Orleans Medical and Surgical Journal.*

THE PROBABLE COURSE OF THE BALL IN PRESIDENT McKINLEY'S CASE.

In view of the great professional interest in the case of President McKinley, and in the absence, up to the present writing, of any definite demonstration of the exact course of the bullet, the MEDICAL RECORD presents a study of probabilities which, from anatomical and surgical standpoints, may prove interesting to our readers. The accompanying illustrations have been made with great care, and with special reference to their particular adaptability to the purposes of the article. Figs. 1 and 2 indicate the points of entrance of the missile from the front, and Fig. 3 shows, in a schematic way, the relation of the important internal organs in an anteroposterior section of the trunk.

At best, no absolute theory can be advanced as

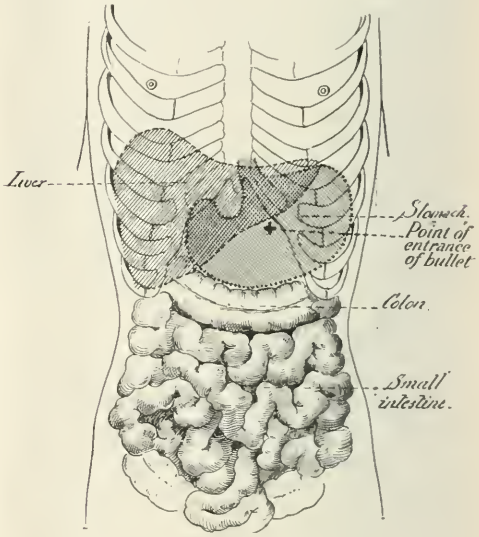


FIG.

to the direction of the ball, as the latter has not been traced beyond its point of exit from the posterior wall of the stomach. Nor can any positive information be obtained as to the relative positions of the would-be assassin and his victim. It was evidently intended that the pistol should be fired point blank, the parties nearly facing each other, and that the heart should be struck. In the absence of any proof to the contrary, it must be assumed that the aim was really in a direction from before backward, slightly to the left, and on a horizontal plane.

In the present aspect of the case, considering the important organs in the region of the wound tract, the great wonder is that so many of them escaped mortal injury.

The opinion of the surgeons in attendance on the President is to the effect that the foreign body is lodged in the muscles of the back somewhere in the region of the eleventh intercostal space and possibly in the substance of erector spinæ muscles. This would give the ball almost a horizontal direction from before backward. It is impossible to believe that it took a more internal course toward the vertebral column, as the cœliac axis

or even the aorta itself would have been wounded. It has been demonstrated by the operation that the stomach was the only important organ injured. The left edge of the liver escaped harm by the merest chance of its position and thus a most formidable if not a fatal complication was averted. There was no injury to the adjacent cartilage of the eighth rib.

In placing the point of exit of the ball on a line with that of its entrance as in Fig. 2, the relative positions of the internal organs in the neighborhood can be easily studied. The only apparent reason why all these important parts escaped injury is on the supposition that the real course of the missile is thus properly placed in the diagram mentioned. Toward the median line are the important blood vessels already named. Inferiorly are the splenic vein and artery, the pancreas, and the left suprarenal capsule and kidney, and posteriorly and externally the spleen. The only point for the safe transit of a bullet would be seemingly in a very limited space within these boundaries.

The operator has given the best of reasons for not probing too much for the lost bullet, as such a

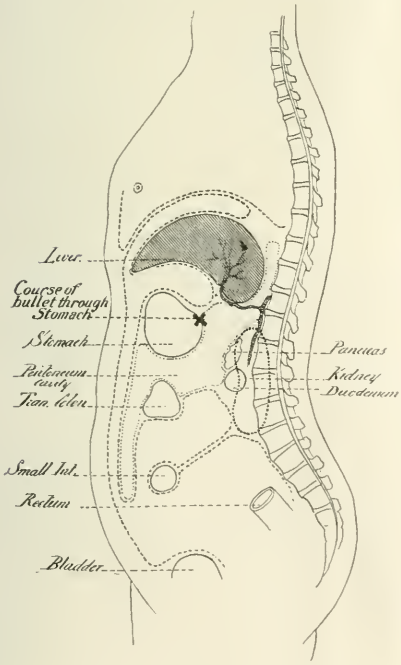


Fig. 3.

course, considering the proximity of important blood vessels, would have been extremely hazardous. Considering also the necessity of shortening the period of shock as much as possible, there was no time for deliberate dissection or prolonged search. Besides it is quite usual under the circumstances for the course of a ball to be lost when it is continued through the loose areolar and fatty tissue usually found in the neighborhood of the parts involved in the operation. It was not impossible for the missile after its escape through the posterior wall of the stomach to drop into the peritoneal cavity.

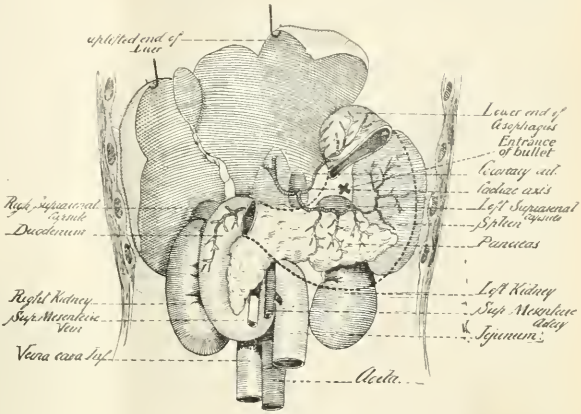


Fig. 2.

If such had been the case, however, the ball would have been easily found by the surgeons during their careful toilet of the peritoneum. If by any chance the ball had escaped detection in that situation there would have been a very prompt clinical evidence of the fact.

If the ball be actually lodged in the muscles of the back it could not be more favorably situated for fulfilling the conditions of encystment nor be more out of the way for resisting the effects of ordinary pressure irritation.

George F. Shrady, M.D.

Malignant Neoplasms.—D. M Currier believes that every symptom of cancer and every characteristic of its many forms are in strict harmony with the parasitical theory of the disease, and can be more readily and rationally explained under this theory than any other. Eiser claims to have discovered an amœba in cancer, for which the name Cancriamœba macraglossa is suggested. The author describes its properties and method of action. As to treatment, the *general* treatment is to aid the local, to check the disease and to keep it in a dormant condition for the rest of life. For these purposes phosphates should be given liberally, and thyroid extract. Sulphur is the laxative to be given: conium is better for the relief of pain than opium. As to local treatment, cataphoresis is opening up a field of vast possibilities. Arsenious acid is excellent in some cases. Chloride of chromium should be used in case of scirrhus situated deep in the cellular tissue with the skin intact. Salicylic acid, lactic acid, and formalin, all have their uses. Eucaine or cocaine should be applied locally when the pain is severe.—*Annals of Gynecology and Pediatry.*

The Surgical Treatment of Varices and Varicose Ulcers of the Lower Limbs.—Alfonso Nardi reviews the various methods of operating for this affection, and concludes by saying that no one of them can be said always to produce the desired effect, while each will give satisfactory results under certain circumstances. The physician must judge in individual cases which is the better operation to choose and not be bound by prejudice or partisanship to any special method. The earlier any form of treatment is applied the better the chances of cure.—*La Riforma Medica.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LAUNDRIES AND FACTORIES ACT—CONTAMINATED FOOD—EPIDEMICS—JURYMEN ON HOSPITAL CASES—DIRECTOR-GENERALSHIP—THE TROPICAL EXPEDITIONS—BEQUEST TO HOSPITALS—RECENT DEATHS.

LONDON, August 23, 1901.

In order to carry the factory bill on which much labor and time had been expended the government abandoned the clause relating to laundries at the last moment. It seems unfortunate that opposition should be made to so useful a measure of protection of public health. But certain religious communities and philanthropic associations conduct laundries and some of them greatly object to inspection. The Irish members accordingly took up the cry that the clause was intended to apply to conventual laundries and that inspection of them was unnecessary and would be an outrage on their good work. The end of the session was so near that the threat to use every form of opposition sufficed to make the government omit the clause. From a public health point of view laundries surely should be brought under proper supervision and conducted in a manner similar to that employed in disinfecting establishments.

The close of the parliamentary session liberates a good deal of space in the newspapers so that many topics come to the fore—among them those which touch hygiene. Quite a commotion has been just raised by statements as to the contamination of our foods, apart from wilful adulteration. Milk, fish, and other foods are particularly liable to absorb noxious matters. Some time ago I mentioned that typhoid was reported to have been traced to a cooked-fish shop, but the evidence was not conclusive. Now the outcry raised has been directed against fish exposed for sale in the shops which are kept completely open for the sake of ventilation. To close them in hot weather would certainly be worse. Some one related that having bought some fine fish in the Strand, he found, after it had been cooked and served at table, it had a peculiar tarry flavor. This he attributed to the fact that the Strand was being repaired. For some time that thoroughfare has been "up"—indeed that is almost its chronic condition—what with telephones, gas, water, and other authorities who never seem to act together. It is not impossible that the tarry-fish story is due to the pen of a press gentleman who works in the Strand or to some one who is intent on putting down the costermonger rather than assailing the shopkeeper. Be that as it may, there is no doubt that our food is liable to contaminations more disgusting and dangerous than tar. The clouds of horrible-smelling dust that are distributed by some of the dust carts ought to engage the attention of the local sanitary authorities. The sweeping machines, too, are sometimes employed without previous watering of the roads, and offensive distributors of disease-bearing dust they then become. Both these sources of danger could be reduced to a minimum by adequate supervision, and some of us are hoping that our new municipalities may be more active in such ways than the superseded vestries.

Glasgow has now got rid of the epidemic of smallpox. There were 1,850 cases during its prevalence and 230 of them were fatal. The money so freely spent by the corporation on vaccination and re-vaccination was clearly a good investment under the circumstances, but the citizens may well reflect that they would have been saved much had they not neglected the preventive.

Belfast is suffering from a serious epidemic of typhoid fever. The notifications in the past month reached 306 and the cases were widely distributed over the city. The deaths were 167. The public health committee are roused to the danger and propose to deal effectually with the sanitary reforms required. Foremost seems to be a new water supply. With this a more efficient system of drainage is necessary. No doubt the many artisans' dwellings, which are constantly on the increase, add to the difficulties of the situation, but Belfast has found out that she must stir herself and put her sanitary system on a better footing.

There is also a rather severe outbreak of typhoid at Rounds near Northampton. Three deaths have occurred and ninety cases have been reported in the last fortnight, so that more deaths may be expected to follow. The outbreak seems to have been traced to a well from which 200 families were supplied, but how it got polluted does not yet appear. The authorities appear to be energetic. Private houses are being converted into isolation hospitals, and extra nurses are engaged to take charge of the patients. The rate-payers are organizing to prevent a lavish expenditure, as they are already burdened with a rate of more than one-third of their assessed rental. But while protesting against extravagance in the panic, they will not oppose measures of precaution if economy is practised.

Juries often pretend to decide what doctors ought to do or not to do in certain cases. They have not seldom censured a doctor who has made a post mortem without the authority of friends or the coroner. At an inquest on Monday on a child aged three who was run over and killed, the opposite view seems to have prevailed. Dr. Louisa G. Anderson, resident surgeon at the Royal Free Hospital, said she saw the child was dead and did not make further examination, as she expected a post mortem would be ordered. Pressed by the coroner as to whether she should not have examined as to the injuries received she said, no—she waited for the authority to make a post mortem and determine thereby the exact cause of death. As the wheels of the van passed over the child, she was asked if that caused death, and answered, undoubtedly. Then, said the coroner, the injuries would be internal? That, replied witness, is hypothesis. Do you not think the injuries must have been internal from crushing? I think it probable. Then the immediate cause of death was shock and collapse? I imagine death was probably due to shock. Yes, said the coroner, that will do, and then charged his jury to the intent that Mrs. Anderson expected an order to perform a post mortem; otherwise she would have, no doubt, made a closer examination, as the jury had suggested should have been done. On which a juryman said: "It seems to me when a child arrives dead they take no further notice of it." Now if Mrs. Anderson had made an autopsy, without the order of the coroner, he would have declined to pay a fee and we should have had the jury and probably the friends raising an outcry against such a proceeding. Juries often seem to desire to find fault with the doctor and Mrs. Anderson was quite right to make no autopsy without the coroner's order.

Sir F. R. Cruise, a past president of the Royal College of Physicians in Ireland, succeeds the late Dr. William Moore as one of the physicians-in-ordinary to the King.

Surgeon-General Jameson, C.B., is to have an increase to the pension proposed to give him on retiring. Perhaps this is a proof that the recent demonstration of the profession was noted by the War Office and is admitted as a proof of the value of his work as Director-General. It would have been more graceful if a step in his order had been added.

After much delay and mystification, it is announced that Dr. W. Taylor, Chief of the Indian Medical Department, is to come home and take the vacant post of Director-General. He will arrive in four or five weeks and will have to complete the reorganization of the R. A. M. C.

Dr. W. Hanna has been appointed Assistant Medical Officer to the Port of Liverpool. He has done three years' plague duty in Bombay, where he also worked in the Government Research Laboratory.

Major Ronald Ross, F.R.S., is on his way home again from the West Coast of Africa. He has visited Gambia, Sierra Leone, the Gold Coast and Lagos, and is now returning in order to arrange for the despatch of a further expedition.

Dr. Daniels of the London Tropical School is on the way to Sierra Leone. It is probable that the next expedition—the seventh from Liverpool—will leave that port within the next week or two.

Mr. A. J. Dettmar, who died on July 25th last, aged fifty-eight, has left a large sum for the benefit of some of the London hospitals. His trustees are to distribute £1,000 a year for fifteen years in such proportions as they think fit among the National Hospital for Paralysis, the Hospital for Epilepsy and Nervous Diseases, and St. Mary's Hospital. A sum to produce £1,500 a year is to be invested and the proceeds applied to charitable purposes on certain stated conditions.

The death is announced of Fleet Surgeon William Brown at the age of fifty-five. He entered the Navy March, 1871, was staff surgeon of the *Monarch* at the bombardment of Alexandria, July, 1882, and during the Egyptian war. He was awarded the medal for the campaign with clasps for Alexandria as well as the Khedive's bronze star. He became fleet surgeon in 1890 and retired the following year.

Surgeon-General C. R. Francis, whose death I mentioned in my last letter, had reached the age of eighty-one. He took his degree at the London University in 1843 and entered the Indian Medical Service the next year and served until 1875. He was at one time professor and principal of the Calcutta Medical College and physician to the hospital. He made important investigations on plague and on snake poisons. He was at one

time editor of the *Indian Medical Gazette*. He was the author of the "Indian Medical Officer's *Vade Mecum*," and several works on Indian medical subjects. Of late years he gave much attention to the temperance question, on which he published two or three essays.

Dr. James Wm. Miller, J.P., of Dundee, died on the 7th instant. He was consulting physician to the Royal Victoria Hospital and director of the Home for Consumptives. He held a high position in the county. He settled in Dundee in 1858 and was connected with the hospital for some forty years. He was also prison surgeon from 1870 to 1898. He was appointed examiner in medicine for the University of Aberdeen in 1880, a post he held for three years.

Dr. J. H. Gornall, J.P., of Warrington, was consulting surgeon to the Infirmary, his first connection with it being as house surgeon, to which post he was appointed in 1865. He had various appointments until 1880, when he became medical officer of health and gave up private practice to devote himself to the duties of that office.

THE EXPERIMENTS WITH CALDAS' YELLOW FEVER VACCINE.

To The Editor of The Medical Record:

Sir: In the interest of truth and medicine, and in order that your readers may form a correct idea of all the facts relating to the experiment made in this city with Dr. Caldas' yellow fever prophylactic vaccine, I ask that you will be kind enough to publish this authorized account of it:

Late in July, Dr. Caldas, of Rio Grande do Sul, Brazil, and his assistant, Dr. Bellinzaghi, together with a business agent, arrived in Havana. A day or two afterward these gentlemen called upon me and Dr. Caldas explained the object of his visit to this city. He stated, in substance, that he had discovered the pathogenic microbe of yellow fever and, from cultures thereof, prepared a curative serum as well as a prophylactic vaccine; that both had been thoroughly tested; that he was convinced of their efficacy, and desired the opportunity of demonstrating this efficacy before an official commission. As he had forgotten letters or recommendations to properly accredit him to the government, he cabled to the United States, and, in due time, letters were received by the Acting Military Governor, one from the Secretary of War commending Dr. Caldas to the consideration of the Governor, and one from the Brazilian Consul General, New York, saying in part: "Dr. Caldas is the inventor of the Anti-Yellow Fever Serum, and desires to make experiments in Havana, which, with the kind protection, which I respectfully beg of your Excellency to extend to him, will no doubt greatly benefit both of our countries."

Thereupon, a medical commission was appointed by the Acting Military Governor, to examine into the propositions and claims of Drs. Caldas and Bellinzaghi and submit, in connection therewith, such recommendations as it might deem best for the interest of science and medicine. This commission consisted of the Chief Surgeon of the Department, of Major Gorgas, U. S. A., Dr. Guiteras, Dr. Finlay, and Dr. Albertini, all yellow fever experts. It met at Las Animas Hospital on August 9th, Drs. Caldas and Bellinzaghi being also present. Upon the invitation of the commission, Dr. Caldas described the process by which he immunizes the horse and obtains his curative serum, and that by which he prepares his prophylactic vaccine, an attenuated culture of his microbe. He also explained his procedure to produce immunization in man; as his vaccine, said he, is liable to develop marked febrile movement and other unpleasant yellow fever symptoms, he previously injects a dose of his serum so as to ward off all disagreeable manifestations. The commission then requested that he would demonstrate his pathogenic microbe and describe the method of its isolation and culture; this he formally declined to do, because of his pledge to the company organized to exploit his discovery, and also because he thought such demonstration would, at this time, result in nothing but useless scientific wrangles. This much, however, he was willing to divulge, namely, that his microbe is not found in the blood, but always in the intestines, having been present in every case examined. If he was permitted, he said, to vaccinate non-immune persons, and these are subjected to the bite of infected mosquitos and do not develop yellow fever, the causative relation of his microbe to the disease would be indirectly proved.

Having been asked by what tests he had convinced himself of the efficacy of his vaccine, he stated that, during the past two years, he had inoculated with it twenty-three young men, mostly students, at Rio Grande do Sul, where yellow fever is unknown, previous to their going to Rio de Janeiro, where yellow fever is endemic, and that none of these young men had, so far as he knew, contracted the fever. Upon the request of the commission, he submitted that statement in writing, but without any other evidence or proof than his own declaration. Referring to his curative serum, he informed the commission that in Brazil, as well as in Mexico, he and Dr. Bellinzaghi had obtained with it an average of eighty-five per cent. of cures, a result which, even if correctly reported, did not appear to the commission sufficiently promising to justify further experimentation.

After careful discussion of the subject, the commission decided that, since Dr. Caldas did not intend to demonstrate his microbe and thus put his claim upon a true scientific basis, it should decline all active co-operation in his tests: it, however, recommended that the necessary facilities be afforded him, and stood ready, in its official capacity, to watch results and report upon them.

Thereupon, Dr. Bellinzaghi engaged four non-immune immigrants and, as required by the commission, made with them a written contract whereby they voluntarily offered themselves to be inoculated with Dr. Caldas' vaccine and then to be bitten by infected mosquitos, for a certain stipulated sum of money, to be paid on the termination of the experiment. These four men were sent to Las Animas Hospital and kept in a mosquito-proof, wire-screened room. Upon examination by the commission, two were strongly suspected of being immune and rejected. The other two, young, robust, recently-landed Spaniards, with no one dependent upon them, were inoculated by Dr. Caldas himself on August 15th, three c.c. of vaccine being injected in the gluteal region, they having received, the previous day, an injection of twelve c.c. of curative serum to prevent any excessive action of the vaccine, as already mentioned. No marked effect was noticed as the result of this inoculation. Dr. Caldas had stated that four days would be required to produce immunization; the commission thought best to wait a week. Accordingly, on August 22d, at four P.M., one of the subjects, Paulino Alonso, was brought to the mosquito room, and there, in the presence of the commission and of Drs. Caldas and Bellinzaghi, the nature of the test and the risk he was running having again clearly been explained to him, he signified his desire that the experiment should proceed.

Two mosquitos were applied to his arm, by means of a test tube, and both sucked blood. The history of these two mosquitos is as follows: They had been hatched in a glass jar, and therefore were free from any suspicion of contamination until July 20th, when they were applied to the arm of a yellow-fever patient, on the third day of his disease, and thus infected. One of them, on August 13th, was permitted to bite a young American, who, within three days, developed a mild case of yellow fever; the other was one of two infected mosquitos which, on August 14th, at her own desire, bit an American female nurse, who, four days afterward, developed a very grave case of yellow fever from which she died It is noticed that a period of thirty-three days had elapsed since the infection of the two mosquitos applied to Alonso.

Dr. Caldas requested that the other vaccinated subject be also bitten by these mosquitos, but the commission refused, thinking it best to await results in this first case before proceeding any further. Evidently, the idea that septic fever could thus be imparted had not yet occurred to Dr. Caldas. Both men were then transferred to Hospital No. 1, away from the painful associations of Las Animas Hospital, where two patients had lately died of yellow fever. There they were placed in a large wire cage, mosquito-proof, but thoroughly ventilated.

The health of the bitten man (Alonso) remained excellent until the 25th; his temperature, taken every three or four hours, showed nothing but the usual normal diurnal variations (from 97° to 99°). Toward the evening of the 25th the temperature rose rather suddenly to nearly 103°, with frontal headache and some backache; the second day the temperature remained about the same, with abdominal tenderness, bilious vomiting, and a trace of albumin; the third day the temperature reached 104°; the vomiting and stools contained specks of blood, the albumin rapidly increased, and an icteric hue became perceptible. The want of correlation between temperature and pulse was also evident. On the fourth day the usual defervescence occurred. In other words, the man had a typical case of yellow fever, a very serious one, but is now fortunately out of danger. That the case was plainly one of yellow fever was recognized not only by all the members of the commission, but by every one of the several Havanese experts invited to examine it. It is hardly necessary to say that Dr. Caldas was given the entire freedom of the ward; but after his patient fell

sick, his visits were few and short, and his examinations perfunctory; on the morning when the commission met for the purpose of formulating its official diagnosis, he declined to be present.

Drs. Caldas and Bellinzaghi would not admit that the disease was yellow fever, and to the last have stoutly denied the possibility of such a thing. For them, it was nothing but a case of septic infection. The commission having asked Dr. Caldas to put in writing the reasons upon which he bases his diagnosis, he readily complied. After describing the symptoms of yellow fever, as he understands them, he proceeds thus: "None of these symptoms were presented by the patient, except the thermic rise (not ushered in by chills) and the strange drops of temperature of the two preceding days, drops that only occur in putrid infections such as those produced by dissecting cuts. No physician experienced in yellow fever can diagnosticate this disease yellow fever in the absence of all the above-described symptoms; on the contrary, any experienced practitioner will affirm that we have here nothing but a septic infection. Any kind of a hemorrhage which may appear, as well as the presence of albumin in the urine, does not invalidate my diagnosis, for it is known that the ptomaines of putrid substances produce these symptoms through a paralysis of the vasomotor nerves. That mosquitos may transmit yellow fever, nobody denies; not because they have sucked the blood of yellow-fever patients, from which they can only obtain septic matters, but because they have lived in an environment contaminated by the dejections and vomit of yellow-fever patients."

This declaration puts Dr. Caldas in a strange and unenviable attitude. He believes that mosquitos which have bitten yellow-fever patients can transmit only septic infection, and yet he proposed that those mosquitos should be used to test the value of his vaccine! True, he believes that mosquitos can convey yellow fever when they have lived in a contaminated environment; but he knew that our mosquitos, hatched from the eggs in glass jars, had been kept away from possible infection, and therefore, according to his pretended belief, were useless for his purpose. His acceptance of our mosquito test leaves no reason to doubt that, had the result been negative, he would have claimed a triumph for his prophylactic vaccine.

Now, Mr. Editor, the transmission of yellow fever by mosquitos is no longer a probability or a good working hypothesis, but a demonstrated fact and an established doctrine. The experiments carried on in Havana by Major Reed and others are as convincing as any mathematical proof. Twenty experimental cases of yellow fever, the direct result of the sting of infected mosquitos, should leave no room for doubt in the most skeptical mind. According to Dr. Caldas, these twenty cases were all of septicæmia, and none of the yellow fever experts of Havana had even suspected it!

That the pathogenic organism exists in the blood is made clear not only from the agency of the mosquito in transmitting the disease, but from the four cases of transmission by direct blood injection successfully effected by Major Reed. Therefore, what are we to think of a serum and vaccine prepared from an intestinal microbe?

The commission having come to the conclusion that the vaccine prepared by Dr. Caldas is useless as a prophylactic against yellow fever recommended that all further experiments with it be discontinued.

V. Havard, M.D.,
Major and Surgeon, U. S. A., Chief Surgeon.

Havana, Cuba, September 2, 1901.

LETTER FROM PERU.

(From our Special Correspondent.)

VEXATIONS OF QUARANTINE—TYPHOID FEVER—VERRUGA.

Areguipa, Peru, July 15, 1901.

There was a report that yellow fever existed in Guayaquil, so a steamer coming from San Francisco and Panama, which touched at Guayaquil and subsequently had a death of a passenger, on reaching Peru was ordered into quarantine. I understand that if proper evidence had been taken it would have been discovered that the passenger did not die from yellow fever. The steamer, to avoid quarantine, did not enter any more Peruvian ports, but went direct to Chile with its passengers and mails for Peruvian ports. In Chile she was admitted as clean—sufficient time having passed to show there was no yellow fever on board, and perhaps Chilian officials took a little more trouble to ascertain the cause of the passenger's death.

For the last six months there has been a slowly progressing epidemic of typhus fever. It began in a village about five miles distant from the town. Thence it spread to other villages and at last reached the town. The epidemic is not very general, as contagion, probably owing to dryness, sunlight, and fair ventilation, is not very marked. How it began in the village I have been unable to ascertain, the condition of the village and villagers being very different from those that existed in Edinburgh forty years ago, when I saw epidemic typhus. A medical student, Barton, of the University of St. Mark, Lima, is said to have discovered the micro-organism of the disease called Peruvian "verruga." I heard that he was preparing a pamphlet on the subject, and wished to give you some extracts, but as yet it is not published. A plant, "Budleia Incana," native name "Quishuar," has been recommended as a remedy in this disease, being so used by the natives of certain districts affected. It is to be tried in a hospital in Lima. In the south of Peru "verruga" does not exist. I have seen only a few cases which came from the North.

Progress of Medical Science.

Boston Medical and Surgical Journal, September 5, 1901.

The Chemical Properties of Leucocytes.—Edward T. Williams adopts Ewing's classification of leucocytes (substituting English for Greek names) into acid, neutral and alkaline. The neuclei of all these classes are acid, since they stain best with alkaline dyes. The bodies of the normal uninuclear leucocytes are also acid; those of the normal multinuclear cells and of the neutral myelocytes (the latter found only in disease) are neutral; those of the eosinophile leucocytes and myelocytes are alkaline, since they take only acid stains. The alkaline leucocytes are found in large numbers only in disease. The author assumes that the acidity of the bodies of the uninuclear is due to the presence in them of nuclein. This disappears, possibly as the result of decomposition, from the bodies of the multinuclear (neutral) cells. The author inclines to the old doctrine, rejected by Ewing, that young uninuclear leucocytes ultimately develop into multinuclear by division of the nucleus. The alkaline leucocytes, which are almost universally the products of disease, are regarded by Williams as dying forms, their protoplasm being in the process of breaking up and of resolution into nitrogenous alkaloids (xanthine, spermine, etc.)

The Indications for Operation in Malignant Neoplasms of the Stomach.—Charles Green Cumston holds that the surgical treatment of carcinoma of the stomach is indicated not only when stenosis is present, but also as a radical cure of the cancer itself. If under the actual conditions, which are bad, resection has radically cured only a few patients, it has at least given, in more than thirty-three per cent of the patients operated upon, a new lease of life, without suffering, of from one to eight years. Under the same conditions the operative mortality has been reduced to twenty, fifteen, and even ten per cent. In every case in which carcinoma of the stomach is suspected, an immediate exploratory laparotomy should be advised, he says, and every neoplasm that can be removed from the stomach should be excised, no matter what its nature may be. The surgeon should not wait for a clinically confirmed diagnosis of cancer of the stomach, because an exploratory laparotomy is justified in every case where the patient is afflicted with gastric troubles, when (1) analysis of the gastric juice shows an absence of pepsin, and the presence of lactic acid, and (2) when medical treatment carefully conducted is incapable of increasing the body weight and retaining it there.

Under what Circumstances (Excepting Emergencies) is it Desirable to Operate upon Gallstones for Radical Cure or for Relief.—Maurice H. Richardson discusses this question at some length, weighing the arguments for and against early operation, himself taking the view that gallstones should be removed at the earliest favorable moment after the diagnosis has been made, unless there are contraindications in other viscera or in the patient's general condition. Inasmuch as the diagnosis of gallstones can be made only when they begin to offend (excepting, of course, during abdominal operations for other causes), gallstones should be removed either as soon as they begin to offend or at the most favorable period after their immediate ill effects have had time to subside. By the earliest favorable moment he means that period of time when there is no infection of the gall-bladder to contaminate the field, no impaction in the common duct to increase the difficulties and dangers of dissection, and no jaundice to induce hemorrhage or to impair the patient's power of recovery. In many cases the favorable moment follows recovery from the disturbances of a transitory biliary colic unattended by jaundice; in others it follows the disappearance of jaundice after passage of the stone; in others, the subsidence of fever and other signs of a biliary affection. In

all cases of jaundice one should wait a reasonable time for that favorable moment, in the hope that the stone may escape from the common duct into the duodenum, and that bile may reappear in the stools.

New York Medical Journal, September 7, 1901.

An Unusual Case of Gastric Ulcer.—F. H. Murdoch reports a case of this kind occurring in a hotel keeper, aged thirty-three years, whose trouble began with distress after eating, bloating and belching. From time to time he had attacks of severe gastric pain, obliging him to lie down. Temporary relief followed the vomiting of a large amount of hot, sour fluid. Examination of the stomach contents after a test breakfast, revealed absence of free HCl, but rennet and pepsin were present. Lactic acid was absent. Later examination showed the presence of HCl in the vomitus. On one or two occasions he vomited blood. The peculiar feature of the case was the large amounts of hot, sour fluid vomited. This proved to be gastric juice mixed with particles of food. Stomach washing afforded great relief. Intense thirst was a feature of the case.

This periodic continuous flow of gastric juice was first described by Reichman, and is known as Reichman's disease, or gastrosuccorrhœa continua periodica, to distinguish it from the chronic form of the disease.

Imperative Conceptions.—H. T. Patrick says that by imperative conceptions he means ideas, mental impressions or emotions, nearly always painful or disagreeable, morbid in their intensity and in the persistence with which they recur in spite of the wish, will, and unimpaired judgment of the patient. The term "imperative ideas" is synonymous. With few exceptions, cases may be divided into two categories: phobias, or fears, and the doubting or questioning psychosis. In many instances both fears and doubts are present. These symptoms are peculiar, often puzzling, and apt to be confounded with hysteria, hypochondria, neurasthenia, and insanity. It is not fair to rank imperative conceptions as manifestations of neurasthenia or hysteria. At least, if this is done, the bounds of these two diseases must be considerably extended—extended, indeed, to such an extent as to overlap each other by a very considerable margin. The same individual may have neurasthenia or hysteria and imperative conceptions. While in certain persons the strain and worry of imperative conceptions may bring about a neurasthenic state or induce hysterical outbreaks, relatively few of these patients have hysteria, and many of them have no neurasthenia. Some of the phobias bear a striking resemblance to hypochondria—at least, to paroxysmal hypochondria, if there could be such a thing—but in hypochondria the patient is continually convinced of the existence of some malady. He may be apparently convinced to the contrary by the arguments of his physician, but this conviction is never deep and always evanescent. On the other hand, the phobic patient, even in the throes of a paroxysm, has no real conviction of danger or disease.

The Therapeutics of Whooping Cough.—T. J. Mays advocates the application of counter irritants over the region of the pneumogastric nerves in the neck and states that, in his experience, this method is the only one which leads to any notable amelioration of symptoms. His method is thus described:

Trace the pulsating carotid artery from behind the angle of the lower jaw to the clavicle on both sides of the neck. This will be a landmark for finding the pnuemogastric nerves, which lie in close proximity and slightly behind the carotids. Gentle massage and kneading of this region of the neck, every hour or two, yield beneficial effects in many cases of this disease. The application of a strip of mustard plaster, about two inches wide, from the angle of the lower jaw to the clavicles on each side of the neck two or three times a day, until the effects of the mustard are evident, is almost sure to cause amelioration of the spasmodic cough. Equal parts of gum camphor, chloral hydrate, and menthol, applied over this region, are also very useful. Painting the same area with tincture of iodine, twice a day, until irritation of the skin is produced, is a beneficial procedure. Finally, in very stubborn cases the hypodermic injection of silver nitrate over the vagi must be resorted to in accordance with the following plan: Lift the skin over the vagus between the thumb and the forefinger of the left hand, introduce the hypodermic needle just under the elevated skin, and inject five minims of a two-and-a-half per-cent. solution of cocaine hydrochloride. Detach the syringe from the needle and allow the latter to remain in the puncture. Wash out the syringe with water, draw a two-and-a-half per-cent. solution of silver nitrate into the syringe, attach the latter to the needle, and throw in from three to six minims of the silver solution.

Journal of the American Medical Association, Sept. 7, 1901.

Traumatic Affection of the Uvula.—S. Oppenheimer reports a case in which the end of the stem of a corncob pipe was violently forced into the throat of a man of thirty years. Pain was severe and there was considerable bleeding. There was a deep laceration on the left side of the tongue and the uvula had been partially perforated by being jammed back against the posterior pharyngeal wall, the posterior mucosa of the organ, however, was not pierced. Ichthyol was applied and an astringent mouth wash ordered. Relief followed in a few hours.

Albuminuria in Disease of the Kidney in Infancy and Childhood.—J. R. Rathmell says that renal disease in children generally consists of active hyperemia and inflammation following the contagious diseases, especially scarlet fever. Under the age of fifteen years there is less likelihood of disorders of the circulation than in later life. Cachectic conditions often lead to amyloid changes and this in turn to chronic albuminuria in children as well as in adults. Physiological albuminuria may occur at any period of infancy or childhood, but is most common between the ages of five and fifteen. Occurring alone without the presence of blood cells or other abnormal elements, it indicates absence of pathological change. The author gives a full list of the causes of albuminuria and then, the clinical history of a case occurring in a boy of four years in which the cause was probably a chronic parenchymatous nephritis immediately followed by an acute nephritis, a condition rarely found in children. This case resulted fatally. Another case with similar symptoms recovered. In such cases the prominent symptoms are albuminuria, high specific gravity, and œdema. These symptoms are especially found in interstitial and chronic parenchymatous nephritis, active hyperemia, catarrhal nephritis, parenchymatous degeneration, passive hyperæmia, and acute nephritis. In acute nephritis the amount of albumin depends upon the extent of involvement of the glomeruli, and the amount of casts depends upon the extent of the tubules affected.

Diabetes Mellitus in Childhood.—A. C. Cotton gives a general review of etiology, symptoms and treatment of the disease. Dietetic treatment offers the only palliation and the author believes that more ought to be done than is done along the line of prophylaxis. He states that it is now believed that diabetes, if not an hereditary disease, at least develops along the lines of a somewhat positive diathesis. To the extent that the function of the family physician is supervisory over his patients, may he hope to avert such disorders by controlling their development through attention to hygiene, in order that the young, whose immediate or remote ancestry show diabetes, gout, tuberculosis, neuroses, or even syphilis, should be sedulously guarded. Dietary errors, such as ingestion of food beyond the child's capacity for absorption and assimilation, preponderance of saccharin substances, as sweetmeats, confections and pastries, must be carefully avoided.

Especial attention should be paid to the functions of elimination and to the entire gastroenteric tract. Especially should we protect these children from mental strain, shocks, frights, trauma, and exposure to inclement weather, since cases are reported in which the development of glycosuria was preceded by such disturbance. In a child thus carefully observed, diabetes may be anticipated by the appearance of preglycosuric signs, such as incontinence of urine, muscular debility, irritability, with progressive emaciation in spite of voracious appetite, even though a single test of the urine fail to reveal sugar. The importance of an early diagnosis is evident, for it is admitted that success in treatment bears an inverse ratio to the previous continuance of the disease.

The Immediate and Remote Effects of Brain Injury.—D. S. Fairchild offers the following conclusions: 1. Violence of no great intensity when applied to a limited area of skull may cause a fracture with only momentary displacement with a rupture of a meningeal artery, or a rupture of an artery without fracture. 2. A localizing injury, which may lead to a fracture without displacement and hemorrhage does not, as a rule, cause a serious permanent brain lesion if early and judicious surgical treatment is employed. 3. A fracture may occur without apparent displacement, yet a real localized pressure on the brain exist which may cause irritative changes involving a more or less extended sclerosis and remote secondary results, as epilepsy or mental impairment. 4. A blow may be received on the head which may produce a more or less extensive laceration of the scalp which in itself is not serious. But the fall from a height or from a rapidly moving train may produce more or less extensive contusion or

laceration of brain tissue leading to serious immediate or remote effects. 5. A fall from a height or moving train may without a fracture cause, directly or indirectly, a contusion or laceration of brain tissue, or so disturb the cerebrospinal fluid as to primarily bring about such changes, and cause immediate results or secondary serious remote effects by inducing degeneration and final interstitial changes producing insanity. 6. An injury may be of such a character as to produce a localized wound of the brain that may heal with the production of scar tissue which may extend, may or may not undergo cystoid or other degeneration with serious remote effects. 7. In the absence of localizing or other definite symptoms to indicate the nature of the lesion, the character of the accident and the manner in which the force is applied is of great value in reaching a conclusion as to the probable nature of injury to the brain.

American Medicine, September 7, 1901.

Methylene Blue in Tuberculosis.—Cornelius R. Lane reports that he has had two cases of tuberculosis pulmonalis in the second stage, to whom he administered one grain of methylene blue three times a day, and the patients improved very rapidly. This substance is eliminated in the bronchial mucus, and the cellular elements, while some of the bacteria in the sputum are stained blue.

The Manifestations of Rheumatism in Children.—William Fitch Cheney, in discussing this subject, speaks first of manifestations in joints. These are far less severe than those that occur in adults. The swelling is less, as is also the pain, while the redness is often entirely absent. As to the heart, the endocardium is very readily involved in children, being nearly twice as common as in adults. The writer is led to believe from his own personal observations that the place of chorea among rheumatic manifestations is rather a doubtful one. Some believe that chorea is in itself a rheumatic manifestation, no matter whether others occur or not. He has observed two cases of rheumatic purpura and one case of subcutaneous nodules. He thinks it very doubtful whether tonsillitis should be spoken of as a rheumatic manifestation at all. Finally, every pain in the limbs of a child should receive careful attention, and should never be considered trifling. Endocarditis is always to be feared in the rheumatism of children, and it is far better to keep a child at rest, if the case is not rheumatism, than not to keep it at rest if it is.

Medical News, September 7, 1901.

Generalized Vaccinia.—John H. Huddleston states that the cause of this affection is disputed. Some authors believe every case to be an autoinoculation. When the skin is eczematous, autoinoculation may produce an almost unlimited number of pustules over the affected area, and such cases are often reported as generalized vaccinia. The presence of eczema or other skin disease does not in itself constitute a marked predisposition to generalized vaccinia. The diagnosis, although usually easy, may be very difficult. Differential diagnosis must be made in some cases from varicella, pustulous syphilides, miliaria, the pustular eruption of bromides, impetigo contagiosa, and the vesicular eruption which sometimes follows vaccinia. This vesicular eruption, exactly like a roseola or an urticaria, sometimes follows vaccination, just as all three sometimes follow antitoxin or drug administration. Eruptions of the roseola type may come on in the first three days, vaccinia usually not. The resemblance may be extremely close and the final test in any case is inoculation.

A Study of the Temperature Laws in Epilepsy, Based on One Thousand Observations.—William P. Spratling gives the following conclusions. After making due allowance for diurnal variation, the general grand average of cases of all types showing increased temperature after seizures is fifty-five per cent. In many petit mal and psychic attacks, in which muscular activity plays so small a part, and in which the temperature is often increased after seizures, such increase is undoubtedly due to a disturbance either of the heat center that is thought to exist in the cortex of the brain, or of the center or centers that observers believe have been located in the corpus etriatum and optic thalmus. Subnormal temperatures follow epileptic seizures in greater proportion after grand mal than after petit mal, or pyschic seizures, the proportion being fifteen per cent. to ten per cent. Although certain of these cases have abnormally low temperatures in health, there will usually be found in these cases some chronic disease or general asthenic condition of long standing that lowers the vitality. The temperature in serial attacks runs uniformly higher than in isolated attacks, but not so high as in status epilepticus.

Autotoxæmia.—William W. Pennell declares that this condition is dependent upon the absorption of harmful substances from the intestinal or genito-urinary tracts into the blood; these poisons are the result of either defective metabolism and elimination or fermentative and putrefactive processes, or both, and they produce well-defined symptoms. There is a possibility of convulsions and death from autotoxæmia. If a patient is constipated, sallow-faced and pessimistic, with an offensive breath, it will probably be found that he drinks very little water. He has headache and backache, takes cold easily, dreads impotence, has palpitation of the heart and gastric distress. He is bilious, subject to attacks of vertigo, has a muddy skin, and fetid breath. In the female, there is, besides these symptoms, leucorrhœa, and often irregular and suppressed menstruation. If there be a tendency to phthisis, the toxæmic condition increases the asthmatic attacks. These patients are also liable to skin diseases. Troublesome erythæmia often results from intestinal infection. Spirit-drinking both produces intoxication and is the cause of the many autotoxæmias. Lithæmia, or modified gout belongs to this list of maladies. Biliousness and hepatic torpor are for the most part now looked upon as autotoxæmias. As to treatment, creosote has an antibacterial effect in the bowels. Water, calomel, resorcin, salol, tetanaphtol, sulphate of magnesia and colonic flushing are agents at our command to cleanse the body of harmful materials and to give renewed vigor.

Philadelphia Medical Journal, September 7, 1901.

The Treatment of Carcinomatous Growths by Roentgen Rays.—George G. Hopkins, in his work with the *x*-ray, uses the soft tubes entirely. The theory of their use in the treatment of carcinoma is, that their power of altering tissue is in proportion to the power of that tissue to resist any destroying agent. The embryonic cells which largely compose carcinomatous tissue, are made up of unstable molecules, and can readily be rearranged or even destroyed. In the former case, they assume a normal action once more. For a protection to those parts which are not to be treated, the writer uses several layers of lead foil glued to pasteboard or more flexible material. He varies the distance of the diseased part from the tube from twelve to thirty inches, according to the desired effect. The first change noted in the tumor is the decrease in its density. The results of this treatment have been most happy so far.

On Streptothrical Infections.—John H. Musser states that, from a clinical standpoint, but little distinctly new is presented in streptothrical infections. In bacteriology the streptothricæ stand between the moulds (hyphomycetes) and the bacteria, both of which organisms they partly resemble. It is now known that besides the two streptothrical infections, actinomycosis and madura foot, there are various conditions due to other members of this group. There are, undoubtedly, many species of streptothrix having morphological and cultural differences of greater or less degree. The writer concludes from his study of the subject: 1. That the streptothrix in some varieties is pathogenic to man, and gives rise to inflammatory, suppurative, and necrotic lesions in (*a*) the lungs, and (*b*) the skin, and (*c*) by metastasis, probably in the brain and spinal cord and rarely other organs (the kidneys). 2. That, while this pathogenicity is more than likely, and is primary, yet it must be remembered, it may be a secondary growth in the course of other infections.

Post Typhoidal Ulceration, and Abductor Paresis of the Larynx; Tracheotomy; Recovery.—D. J. Gibb Wishart reports the case of a man aged forty-one years, who, in the course of an attack of typhoid fever, suffered from time to time with laryngeal irritation. There was periodic attacks of dyspnœa. The writer gives the following description of the condition found on examination. There was no tenderness, swelling, nor fixidity revealed by palpation of the neck. Tracheal tugging was marked. There was decided anæmia of the mouth and oropharynx. The vocal cords were almost in contact, and the patient seemed unable to abduct them, except very slightly. The cords were congested, and appeared swollen and somewhat nodulated, the swelling being chiefly confined to the inferior surface of the cords, the infracordal portion of the larynx appearing to be bounded on either side by a rigid wall, extending diagonally outwards from the free edge of each cord. The left cord was notched towards its posterior extremity, the notch being filled by a pure white slough, and measuring about 6 mm. in each direction. The edges of the notch were congested, uneven, and undermined. Later, the condition became so much worse that the trachea was opened in the high position. In a little over a month the tracheotomy tube was removed, and the patient made a good recovery.

Berliner klinische Wochenschrift, August 19, 1901.

A Contribution to the Study of Tetany.—A. Westphal reports two cases in which this condition was associated with epilepsy. Both patients were women, one of whom, six years ago, was operated upon for a goiter, the tumor, however, not being entirely removed for fear of causing cachexia strumipriva. In spite of this precaution, typical attacks of tetany developed on the second day after operation, and with the exception of a single period of remission, during a pregnancy, continued until the patient came under observation, in January, 1900. Shortly after the onset of the original trouble the condition was complicated by the development of true epileptic attacks, while the patient's mentality underwent a steadily progressive degeneration, and in addition a gradual failure of vision was noted which was found to be due to double cataract formation. Under treatment with thyreoiodin, in doses of three grains three times daily, great improvement resulted, and from the beginning of July to the time of discharge, six months later, neither tetanic nor epileptic attacks took place, while the mental condition returned nearly to the normal. The other patient was an epileptic dement, also presenting the typical picture of tetany, Trousseau's, Chvostek's, and Erb's signs all being present. An attempt at treatment with the thyreoiodin had to be abandoned on account of the development of toxic symptoms.

Experimental Contributions to the Question of Tuberculous Toxins and Antitoxins.—L. Frenkel and O. Bronstein endeavored to reproduce the various forms of toxin described by Maragliano, and to determine to how great an extent the serum he has elaborated is specific, and whether it is able to neutralize the effects of the toxins on the animal body. Maragliano's aim was by the use of his toxins to immunize horses, and thus produce specific antitoxins, his idea of therapy being to neutralize the toxin which is constantly being produced in the tubercular foci under the supposition that the body will then be able to take care of the infection. The conclusions reached by the authors as the result of work extending over ten months, and during which 150 guinea pigs were used, are as follows: By simple technical processes it is possible to obtain a whole series of products from cultures of tubercle bacilli. The most important of these are the fluid and precipitated toxin, the watery tuberculin and its precipitate, the fat-free bacilli (bacilli digrassati). Most of these bodies have well-marked toxic properties which may be accurately estimated, and when injected in sufficient amounts kill the animals under the production of typical manifestations. It is possible, by the administration of graduated doses slowly increased to the maximum, to produce in the animals an active immunity, and the serum of such animals possesses a marked antitoxic power which can experimentally be demonstrated for each separate toxin.

Münchener medicinische Wochenschrift, August 20, 1901.

Typical Albumosuria in Genuine Osteomalacia.—G. Jochmann and O. Schumm describe a case in which complete microscopical and chemical examinations were made and it could be definitely shown that the Bence Jones body can occur in true osteomalacia. The patient was a woman of thirty-seven, who, after an illness of about six months, died of what on autopsy was found to be osteomalacia of the spinal column, sternum, ribs, pelvis, and long bones. The urine gave reactions showing the presence of the Bence Jones body, and from the blood obtained post mortem a substance which proved to be a deuteroalbumose was obtained. The authors call attention to their case as disproving the relationship which Kahler and Rosin assert exists between albumosuria and multiple myeloma, and state that the presence of this symptom does not assist in the differentiation of sarcomatosis of the skeleton of the trunk and true osteomalacia.

A Type of Tracheal Hæmoptosis.—G. Avellis for a long time was unable to discover the origin of a daily matutinal hæmoptysis of moderate severity, and accompanied by cough, from which an otherwise healthy middle-aged man was suffering. All the usual sources for such bleeding, mouth, nose, pharynx, and larynx, gave no clue, and the examination of the lungs was also negative. Finally, on examining the larynx immediately after an attack of the trouble, a few drops of blood were seen oozing from the anterior portion of the upper tracheal rings, and cauterization of this spot with chromic acid remedied the trouble. The author explains the formation of this place of weakened resistance on the ground that the very marked chronic constipation from which the patient suffered caused him to do a great deal of abdominal straining. This means a preliminary closure of the glottis, with a subsequent relaxation and rapid escape of the air formerly compressed in the lungs, and therefore an often repeated aspiration of the tracheal mucous membrane, this being the region over which the air travels fastest. A relaxation of the tracheal mucosa follows, which permits the formation of varicosities which may be the site of bleeding.

Two Cases of Suture of the Diaphragm, with Trans-Diaphragmatic Suture of the Liver and Kidney.—C. Schlatter, who has already reported a similar case, adds two more to the small number of perforating wounds of the diaphragm described in the literature. Both patients were young men who received their injuries at the hands of a band of Italian street thieves. On coming under observation shortly afterwards one of them was very anæmic, and there were signs of rightsided pneumothorax with rapid respiration. Between the eighth and ninth ribs in the axillary region there was a perforating wound about one and one-half inches long. On resecting the ninth rib and enlarging the pleural wound an opening through the diaphragm was discovered with two wounds of the liver and a deep wound of the right kidney. These were disinfected and closed by five sutures in the kidney, four in one liver and one in the other, and the diaphragm was similarly repaired by a row of interrupted silk sutures. The skin wound was closed without drainage and the patient discharged entirely well one month later. The other patient's injury was much less serious in that there was no damage to the abdominal viscera, and he, too, made an uninterrupted recovery after suture of the diaphragmatic incision. The question of whether or not to resect a rib and inspect the diaphragm after perforating wounds of the pleura is often a difficult one to settle and the operator must take into consideration the force and direction of the injury, together with the nature of the instrument with which it was inflicted. In one of the above cases the severe anæmia and vomiting gave the clue.

French Journals.

Paramyoclonus Multiplex.—G. Carrière believes that the affection described in 1881 by Friedreich under the name of *paramyoclonus multiplex*, is due to a functional hyperexcitability of the motor neurosis, the hyperexcitability being exceptionally due to an anatomical lesion, in relation sometimes with neurasthenia, but more often with hysteria. Practically, he thinks that treatment of this affection should always begin by an attempt at hypnotic suggestion.—*La Presse Médicale*, August 7, 1901.

Influence of Lecithine on Nutrition.—According to G. Carrière the administration of lecithine to normal children has produced a striking increase in weight. However, this effect decreases in proportion as the organism becomes accustomed to it. As to its influence on the urine, the quantity is not modified. The reaction remains acid, although the acidity is slightly diminished. The rate of urea increased greatly during the first weeks, after which the increase becomes less noticeable. Phosphoric acid is diminished during the first three weeks, then rises to normal. The sulphates are not modified.—*Le Bulletin Médical*, August 17, 1901.

Concerning Microbes in the Brain, the Cerebrospinal Fluid, and the Blood, in Two Hundred Cases of Mental or Nervous Troubles.—Maurice Faure and Laignel Lavastine from their researches in this subject, state that they have never discovered in the brain, cerebrospinal fluid or blood of patients affected by the nervous infections, a microbe to which they could impute a rôle in the genesis of the disease. This result of their work differs from the reports of many others who have worked in the same lines. They believe these mental troubles occurring in the course of infections to be toxic in origin. —*Le Bulletin Médical*, August 14, 1901.

Koch's Bacillus in the Stools of Tuberculous Patients.—Anglade declares that the rectal passage plays a most important part in the elimination of Koch's bacillus. Pulmonary tuberculosis is often, if not always, accompanied by intestinal tuberculosis. The latter may be primitive, and indeed, may exist by itself. In tuberculosis ulcerations of the intestine, Koch's bacillus possesses an extraordinary activity. And even among patients whose intestines seemed healthy, examination of the stools has given positive results. The writer says that he will speak more at length from the prophylactic standpoint, after he has completed his work on the subject.—*Gazette Hebdomadaire, de Médicine et de Chirurgie*, August 1, 1901.

Sudden Death in the Course of Diphtheritic Intoxication.—Ch. Aubertin and L. Babonneix report the case of a young man of twenty-five years, who died suddenly a month after he was stricken with diphtheria. Autopsy disclosed a diffuse leucocytosis in the myocardium. The most striking interstitial lesion was the diapedesis. The parenchymatous lesions were far less intense. The his-

tological examination in fact, showed the acute interstitial lesions to be predominant, the parenchymatous lesions to be slight. The bacilli which were found resembled those of putrefaction. There was an absence of Loeffler's bacillus; of the streptococcus and of the staphylococcus. The authors believe, from the study of this case, that diphtheritic myocarditis with predominating interstitial lesions is sufficient of itself, independent of any nervous lesion to determine sudden death. —*Gazette des Hôpitaux*, August 8, 1901.

Foreign Work on Methylene Blue.—J. Castaigne and X. Bender give a resumé of experimental work on methylene blue, and among the results obtained by various authorities, they describe those of Pédenko who has observed seventy-nine cases. Of these, seventeen were acute nephritis, two of which were verified anatomically; ten were cases of chronic parenchymatous nephritis; sixteen were cases of interstitial nephritis (nine autopsies). This author concludes that elimination of methylene blue depends to a great extent on the anatomical condition of the kidney; the more deeply and extensively the excretory power of the kidney is affected, the greater are the alterations in elimination. It is important always to use the same preparation of the blue, and to study its course systematically. In nephritis, if the maximum degree of coloration of the urine by the blue is near type I, which is taken as a standard, and if the duration of elimination does not last longer than from fifty-five to sixty-five hours, then no renal alterations exist, or at least, the lesion is very slight.—*Gazette des Hôpitaux*, August 3, 1901.

Annals of Surgery, August, 1901.

An Operation for Saddle Nose.—Fred. Walker Gwyer describes the operation which he employs, which is a plastic flap operation, and consists, as he expresses it, in utilizing the material at hand, and like a landscape gardener by a system of grading and equalization destroying the ugly portions by filling in hollows with matter taken from elevations. The advantages of his operation are: The absence of foreign bodies, correction made with living attached tissue having its own blood supply, ability to correct at the same time minor deformities, the field of operation being in sight, and a minimum of scar.

The Artificial Production of Connective Tissue by means of Injection of Agar-Agar.—Simon Pendleton Kramer obtained excellent results in his experiments on rabbits. The process by which connective tissue replaces the agar jelly is precisely the same as that by which a thrombus becomes organized. A neutral four per cent. solution of agar-agar in physiological salt solution is used, with the addition of formaldehyde in the ratio of 1 to 2,000 to insure an aseptic condition of the jelly, which should be injected at a temperature of 40° C., the syringe having been previously warmed. In the treatment of inguinal hernia, aneurism, hydrocele, bone cavities, tuberculous cavities, etc., it may often be desirable to produce an artificial growth of connective tissue, and the author proposes that experiments be made on the lines here suggested.

Forward Dislocation of the Semi-Lunar Bone.—Percival R. Bolton reports the case of a man of forty-eight years who stumbled and fell heavily upon the thenar and hypothenar eminences of the hand, with the wrist presumably in dorsal flexion. The fluoroscope and radiographs showed the semilunar to be displaced forward, to lie anterior to and against the margin of the articular surface of the radius, and to be inverted, *i. e.* rotated about a transverse axis through 180°. There was also a fracture of the styloid process of the radius. From the diagnostic standpoint the injury simulated in some respects a Colles' fracture, with moderate displacement of fragments, but the radiographs cleared the diagnosis at once. The patient refused incision and passed from observation.

Congenital Anterior Dislocation of the Tibia Treated by Arthrotomy.—John B. Roberts describes a deformity in a child of five years. The tibia was displaced forward on the femur, so that when the child lay on her back the tibia extended upward, making an angle with the plane of the bed of about 50 or 60 degrees. A skiagraph confirmed the diagnosis of anterior displacement of the tibia. Operation was performed by incision, division of the ligament of the patella and lateral ligaments, and reduction of the dislocation. The ligament of the patella could not be reunited, but the four-headed muscle was lengthened by incision, and strong catgut sutures were passed through the tendon of the quadriceps and the lower piece of the ligament of the patella and the tissues in front of the tibia. The result was a straight limb, with restricted motion at the knee joint.

Cancrum Oris Successfully Treated by Excision of the Cautery.—A. Z. C. Cressy, in the case of a child of seven years, cut through the upper lip and cheek very nearly as far as the zygoma, the knife passing through the sloughy mass, which was then dissected away from the cheek and from the gum. Two teeth were removed. The dentoline cautery was then freely applied to all the old tear laid bare. Finally the edges of the incision were drawn together with sutures. The after-treatment consisted chiefly in irrigation of the mouth with boracic acid lotion every two hours, the mouth being also washed out after food. The result is a linear scar across the cheek, somewhat fixed to the upper maxilla, with consequent immobility of the upper part of the cheek. The lower lip moves freely and the upper one fairly well.

The Journal of Tropical Medicine, July 15, 1901.

A Case of Multiple Abscesses of the Liver.—W. E. de Korte reports a fatal case in a man of thirty-five years. The chief points of interest are that symptoms, considered by the patient to be dyspeptic, had lasted four years; that there were attacks of pyrexia during this period, diagnosed as malaria; no sweating or rigors; the very rapid development of the abscess towards the end. Operation was performed, and about four pints of pus escaped. Abscesses were found subsequently to the operation, and further interference was necessary. In spite of this, death occurred twenty-three days after the first operation. The relation of the multiple abscesses to the original one is not known.

Notes on Cases of "Sleeping Sickness" Occurring in the Uganda Protectorate.—J. Howard Cook reports eight cases of this disease, of which two were fatal, one after three and the other after two and a half months. The chief symptom of constant drowsiness seems to be ushered in in different ways, sometimes with giddiness, cough, hiccough, fits (in one case), an unsteady gait, etc. The appetite is increased rather than diminished. One case has already lasted three years. In the blood of five out of seven patients, the *filaria perstans* was found. The facility with which the worms are found in any one case varies from day to day, and there is apparently no relation between the condition of drowsiness and the facility with which the filaria is discovered in the peripheral circulation. As to treatment, arsenic, tonics, and quinine were tried, but had not the slightest effect. Two illustrations of sleeping patients accompany the article.

Archives of Pediatrics, August, 1901.

Nodding and Rotatory Spasm of the Head with Nystagmus in Rachitic Children.—Augustus A. Eshner states that this affection is noted specially during the first year of life, always in children suffering from rickets or other disorder of nutrition or metabolism. The spasm may be rotatory or nodding, or both forms may be present in the same patient. The associated nystagmus may be lateral, vertical, or rotatory, is usually in both eyes, and not always in the same direction as the motion of the head. This condition is to be distinguished from spasmodic torticollis.

The Treatment of the Nasopharynx in Scarlatina.—A. Seibert advocates energetic local treatment in cases of scarlatinous sore throat, and believes that local measures cannot be safely abandoned until an effective serum therapy for scarlatina and its complications is secured. Before the nasopharynx has become obstructed, he uses irrigations of one to five per cent. warm solution of ichthyol; in more advanced stages of scarlatinous nasopharyngitis he uses local applications of fifty per cent. resorcin solution in alcohol. He considers this latter treatment applicable and very easily carried out in the case of young infants.

A Case of Appendicitis in an Infant Seven Weeks Old.—George Blumer and H. L. K. Shaw report the case of an infant in the Albany County Almshouse, who about the fifth week developed an ischiorectal abscess with external and internal openings, followed by general anasarca, and, near the end of the seventh week, by coma. The child died two days after the onset of coma. On autopsy a diagnosis of acute gangrenous appendicitis was made. There were adhesions between the head of the cæcum and the sigmoid flexure, and an abscess cavity between the cæcum and sigmoid flexure, into which the appendix projected; the distal portion of the latter was necrotic. Diagnosis during life was impossible, as there were no symptoms indicative of special abdominal disturbance

Book Reviews.

THE RETROSPECT OF MEDICINE. Edited by JAMES BRAITHWAITE, M.D., London, and E. F. TREVELYN, M.D., London. Vol. 123. London: Simkin, Marshall, Hamilton, Kent & Co., Limited. 1901.

THIS half-yearly journal not only keeps up its reputation, now enjoyed for many years, but in some particulars, shows improvement. The synopsis, arranged alphabetically, gives the most important indications of treatment from the year's output of medical journal articles.

ESSENTIALS OF REFRACTION AND OF DISEASES OF THE EYE. By EDWARD JACKSON, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic, etc. Third edition; revised and enlarged. Philadelphia: W. B. Saunders & Co., 1901.

THIS third edition contains more page space, and the work, embracing ocular injuries and ocular symptoms of general diseases, and containing 82 illustrations, is more complete and symmetrical than those preceding it. Recent advances have been noted, in so far as they fall within the scope of the work. It is by not means a textbook nor a deep treatise upon the eye, but contains the essentials to enable one fairly well up in medicine to make tests, reach a diagnosis, and apply treatment.

TRAITÉ DE CHIRURGIE CLINIQUE ET OPÉRATOIRE. Par A. LE DENTU et PIERRE DELBET. Tome dixième. Paris: J. B. Baillière et Fils, 1901.

THERE are two parts to this tenth volume of the series, published under direction of the editors named. The first part contains a treatise upon the testicle and diseases of the genital organs of woman. The second part continues the same subject, taking up diseases of the uterine adnexa. The greater portion of the volume, however, is given up to affections of the limbs, dealing chiefly with orthopedic deformities and operations. The present volumes are well illustrated, and published in a manner to conform with those that have already been given out. The articles bear evidence of having been written with much care, and the editors may well be pleased with the results, now that the work has been completed. The choice of authors has, so far as can now be judged, left them nothing to regret.

OUT OF THE PIGEON HOLES. By E. S. GOODHUE, M.D., author of "Verses from the Valley," "Beneath Hawaiian Palms and Stars," "Salt." Alma, Mich.: The George F. Butler Publishing Co., 1900.

THIS is a collection of short essays with an occasional poem written by a medical man in his leisure hours, apparently without special aim and only to think on paper; but later collected together and put into print, chiefly for the author's own satisfaction. That, at least, is our diagnosis, but we may add that they will certainly give pleasure to others that read them, as they have to him that wrote them. They are not all interesting—at least not all equally so, but all of them will bear reading, and many contain food for thought. The reading of essays is like chatting with the author, and we judge from these that Dr. Goodhue is an entertaining conversationalist.

SURGICAL APPLIED ANATOMY. By Sir FREDERICK TREVES, K.C.V.O., C.B., F.R.C.S., etc. New Edition. Revised by the Author with the assistance of ARTHUR KEITH, M.D., F.R.C.S., etc. Illustrated with 80 Engravings. Philadelphia: Lea Brothers & Co., 1901.

THIS little volume is one of a series on various subjects which has proved very popular with students and instructors. The subject of anatomy is gone over rapidly, with special reference to surgical landmarks and relations, and naturally the detail of larger works is omitted, though the anatomy of many surgical conditions is thoroughly described. This edition has brought the book up to the requirements of a modern textbook, and its usefulness will be maintained.

DIE SERUM-, BAKTERIENTOXIN- UND ORGAN-PRÄPARATE; ihre Darstellung, Wirkungsweise und Anwendung. Für Chemiker, Apotheker, Aerzte, Bacteriologen, &c., dargestellt von Dr. Pharm. MAX V. WALDHEIM. Wien, Pest, Leipzig: A. Hartleben, 1901.

THIS work, as its name implies, treats of the preparation, effects, and mode of administration of the various agents employed in orrho- and opo-therapy. It is with astonishment, indeed, that one learns from this book of the number of preparations of this sort—twenty-five antitoxins and twenty-eight organotherapeutic agents, and one wonders how the few kernels of wheat are to be sifted out of this great heap of chaff. The first preparation mentioned is the antitoxin of alcoholic intoxication, the last are the extracts of the ciliary body and of the vitreous humor. Between these, however, we find the unequivocably useful diphtheria antitoxin and thyroid extract, the doubtful tuberculin and ovarian extract, and others of greater or lesser fame. The book is written apparently without prejudice, the author's aim being merely to describe the preparations and their mode of employment, leaving to others the commendation or condemnation of them as therapeutic agents, and it ought to be very useful as a work of reference for all interested in this new therapeutic development. Each of the two parts of the work is preceded by a brief explanation of the theory of action of antitoxin and of organic extracts respectively.

MOSQUITOS: How They Live; How They Carry Disease; How They Are Classified; How They May Be Destroyed. By L. O. HOWARD, Ph.D., Department of Agriculture, Washington, D. C. New York: McClure, Phillips & Co., 1901.

THE mosquito, which was formerly regarded simply as a vixenish vampire and an unmitigated nuisance and disturber of rest, has now been proved to be an active agent in the transmission of at least two, and possibly more, widespread and often fatal diseases of mankind. Its study has therefore become one of very practical importance to the medical man, as well as to the entomologist. Dr. Howard, than whom no one is better qualified to treat of the subject, has done a real service to medicine in writing this book. He describes the different kinds of mosquitos, especially those known to be guilty of spreading human diseases, and shows how they can be distinguished, in their various life cycles, one from the other. The author is an optimist as regards the question of freeing districts and countries from the plague of mosquitos, and believes that the insects may be wholly exterminated by care and perseverance in the execution of proved methods of repression and destruction. Apart from its scientific value, the book is one of absorbing interest to any lover of nature or student of the lives and habits of the lower orders of creation.

ETIDORHPA; or, The End of the Earth. The Strange History of a Mysterious Being and the Account of a Remarkable Journey. By JOHN URI LLOYD, author of "Stringtown on the Pike." Eleventh edition, revised and enlarged. New York: Dodd, Mead & Co., 1901.

A LARGE fraction of mankind has always shown an appetite in its literature for the sort of fairy tale or fable which purports to tell the unrevealed and unknowable secrets of other states of existence; and so it is natural that every now and then some one should be found willing to record his guess at what evolution may do for us some day. Great and sane imaginations have more than once tripped over this rock, as witness the dull, portentous, and unbeautiful "Seraphita" of Balzac. It would seem that the human imagination is capable of dealing only with human experience, and when it soars or sinks beyond that the results are not happy. "Etidorhpa" is no exception to this rule. It is probably intended to be an allegory, but that does not make it any better reading. The story is that of a man who announced his intention to reveal the mysteries of a secret order, and in punishment therefor was kidnapped, dropped into a hole in the ground in Kentucky, and conducted thence, by a creature without clothes and with a forehead extending to the alæ nasi, to and past the center of the earth, to the domain of an entrancing female (whether human or not we are not told), whose name gives the title to the book. This name is that of the goddess of love in mirror-writing, and is borne by a creature who, we are led to believe, is all that the heart of man or angel could desire, more beautiful than a houri, and with a soul, or something akin to it, purer than the driven snow. But that is all we learn of her. As soon as the weary wanderer finds her he soars back to the surface of the earth, to recount his journeyings to an unwilling witness in Cincinnati, who is made to listen to him at the point of the knife. The author of this tale has shown himself admirably fitted to deal with human experience in his most interesting "Stringtown on the Pike," and we hope that he will in future follow this lead rather than that of the uncanny Etidorhpa. He has the talent of the story writer in full measure, and it will be a pity to waste it in the fabrication of weary allegories and unhuman imaginings.

LECTURES ON THE HISTORY OF PHYSIOLOGY DURING THE SIXTEENTH, SEVENTEENTH, AND EIGHTEENTH CENTURIES. By Sir M. FOSTER. New York: The Macmillan Company, 1901.

No more fitting subject could have been chosen by Sir M. Foster for the "Lane Lectures," delivered at the Cooper Medical College in San Francisco, in the autumn of 1900, than the history of physiology. That it is an old-world history need scarcely be stated; that much of the work of those early seekers after truth was done against opposi-

tion from both Church and State is equally true. Moreover, the force of tradition, chiefly Galenic, had to be overcome. The scientific attitude of mind, as we know it to-day, had not developed. The testimony of the senses counted as nought if Galen contradicted; yet in spite of these obstacles, great truths were observed and taught, and finally published. The seeds of the present day scientific harvest were sown. Except for the opposition of the anti-vivisectionists, scientific research along all lines is now encouraged to the fullest extent.

In the limits of a review it will be impossible to refer to many details of this absorbing story. Some of the discoveries were made before the world was ready for their acceptance and died almost in their birth. Under the influence of Stahl, such was the fate of Mayow's discovery of oxygen in 1668. More than a hundred years later, in 1777, Lavoisier rediscovered oxygen and gave it its present name. Richard Lower showed, in 1665, that the heart would beat for awhile severed from all its connections, and that ascites could be produced by ligating the vena cava. Perhaps still more remarkable was the discovery by Brunner (*circa* 1687) that removal of the pancreas from dogs produced polyuria and bulimia, his own statement of one experiment being that "it was especially to be seen that the animal made water very frequently, and that he was very thirsty, drinking largely of water in proportion to the discharge of urine." Foster truly remarks, "What a zigzag path, how unlike a straight line, is man's progress in search of truth. Here is Mayow reaching a point far ahead, and Boyle, a little later, had grasped the same fact . . . . and more than a hundred years afterward Lavoisier reaches the same point as Mayow. . . . If a discovery is made before its time, it withers up barren, without progeny, as did Mayow's."

Compendium der Physiologie des Menschen. Für Studierende und Aerzte, Zweite verbesserte und vermehrte Auflage. Von Dr. Paul Schultz, Privatdocent und Assistent am Kgl. Physiologischen Institut der Universität, Berlin. Berlin: S. Karger, 1901.

The very modest pretensions set forth by the author in his preface are more than justified by the little book he has produced. There is a perfectly legitimate field for such concentrated textbooks and they are not to be criticised on the score of incompleteness any more than is a school dictionary, for example; and so long as they are regarded by their users simply as adjuncts and keys, as it were, to the larger works, and not as short cuts to knowledge, they may be held to serve a useful purpose. The author has confined himself strictly to the true scope of a compend and, without indulging any tendency to theorization, has given the essentials of his subject in a simple and concise way. The letter press is aided by a moderate number of diagrams, and a useful set of physiological tables is appended.

Municipal Sanitation in the United States. By Charles V. Chapin, M.D., Superintendent of Health of the City of Providence. Providence: Snow & Farnham, 1901.

This large volume is a mine of information upon municipal sanitation in the United States, and its author has evidently been to great pains in collecting his material. Every subject closely or remotely related to sanitation receives attention, and the information is of the most detailed kind. We are able to learn from the book how every sanitary problem is solved in almost every city in the country. Chapters are devoted to nuisances, plumbing, water supply, the examination and care of food products, the control of communicable diseases, and refuse disposal. Naturally the last two subjects occupy a great proportion of the space, and what is said on each subject is valuable. Much statistical information is also given. An appendix is added which shows facsimiles of the various blanks and documents used in different towns, and which also contains copies of various health regulations. The volume is an excellent work of reference for the practical sanitarian.

A Treatise on Orthopædic Surgery. By Royal Whitman, M.D., Chief of the Orthopædic Department in the Vanderbilt Clinic in the College of Physicians and Surgeons of Columbia University, Adjunct Professor of Surgery in the N. Y. Polyclinic, etc., etc. Illustrated with four hundred and forty-seven engravings. Philadelphia and New York: Lea Brothers & Co., 1901.

This new work on orthopedic surgery is a reference textbook which aims to place the subject before the reader in a concise and comprehensive manner. The author has begun his work with a consideration of the pathological conditions of the spine which are seen usually by the orthopedist, and which form such an important fraction of his cases. The treatment and sequelæ of Pott's disease are carefully considered and elucidated by numerous illustrations, in a way to make these chapters a valuable adjunct to clinical teaching. Hip-disease, its pathology and treatment, is discussed in all its phases, and the relative value of the different plans of treatment is considered. The remarks upon the operative treatment of abscess in connection with hip-disease are well worth reading. A number of pages is devoted to disease of other joints, such as the knee, ankle, and wrist, but disease of these joints is more amenable to general surgical treatment, than to that called orthopedic. To deformities of the foot are devoted several of the most important chapters in the book, and the various forms of club-foot are described and commented upon. The author describes all methods, but the operative treatment of the various forms of talipes is so important that it would have been better to have given it more prominence, and to have described more fully the operative detail. The author has drawn his material from an enormously rich source, and has exercised judicious selection, so that he is able to place before his readers examples of all the conditions which the orthopedist will meet, and he has furthermore called photography largely to his aid in making his illustrations which are many and excellent. The volume should have a warm reception and will no doubt prove popular.

Die Chronische Gonorrhöe der männlichen Harnröhre. Von Dr. F. M. Oberlaender, Dresden, und Professor A. Kollmann, Leipzig. Leipzig: Georg Thieme, 1901.

While literature on chronic gonorrhœa has, in the past ten years, assumed prodigious dimensions, it has been but commensurate with increasing comprehension of the importance of the subject. Much of this literature is of genuine value to the profession, but most of the excellent contributions are either scattered in journals or made parts of large collective volumes, which are inaccessible to physicians at times when they are most needed. When, however, two acknowledged masters of the subject combine in one work, all that modern science demands of the diagnostician, and the therapeutist requires for the examination and treatment of chronic gonorrhœa, the medical profession is warranted in congratulating itself. Aside from its value as a work of instruction, the terse form in which the book is written, makes it an invaluable one for ready reference. It is a matter of regret that this first volume, which has just appeared, has not been provided with an alphabetical index. The list of contents, however, at the beginning of work in great manner supplants this, giving, as it does, under each chapter-title, an excellent synopsis of the subjects discussed therein. The authors make clear the exact principles upon which the location and character of pathological changes in the urethra and its adnexa can be determined. They show how a precise diagnosis is obtained by the urethroscope and the microscope, and they detail the bases upon which rational instrumental treatment must follow. Chapter I. (Anatomy of the Urethra) explains that, when at rest, the urinary channel has almost no lumen; one is formed only when urine, semen, or instruments separate its mucous walls. The form of the urethra varies considerably at different points and it is very dilatable. Its expansibility varies materially in regions and in individuals. Chapter II. is devoted to the gonococcus. The various manners of staining are so fully described that an error of technique therein becomes impossible. Its form, size, grouping, and situations are carefully detailed, as are the methods of culture, the biology of cultures, and inoculation. Chapter III. discusses acute gonorrhœa sufficiently for a foundation to the understanding of chronic gonorrhœa. Stress is laid upon the fact that an apparent absence of gonococci, even for a prolonged period, does not warrant declaring that infectiousness has ceased. This outcome is determinable only after all the tests, including urethroscopy, have been employed. Chapter IV. is devoted to the pathological anatomy of chronic gonorrhœa. Chapter V. discusses the discharge. It shows that not rarely the absence of visible discharge and the absence of visible filaments in the urine do not prove the absence of urethral infection. In this chapter the various macroscopic tests of urine are described. Chapter VI., on the disturbances of sensation, shows that these vary considerably and oftentimes bear no relation to the intensity of the disease. The functional symptoms, and the diagnostic value of each, are freely discussed. Chapter VII. treats of inspection and palpation of the genitalia, and the use of exploratory instruments, but warns the student against the insufficiency of these methods of diagnosis. In Chapter VIII. urethroscopy is most fully and satisfactorily discussed. Over one hundred pages are devoted to the technique of this invaluable diagnostic means, without which no chronic gonorrhœa can be intelligently treated. Throughout, the subject of chronic gonorrhœa is presented by the authors in such a practical, reasonable form that an English translation of this work would be exceedingly desirable.

Society Reports.

CANADIAN MEDICAL ASSOCIATION.

Thirty-fourth Annual Meeting, Held at Winnipeg, Manitoba, August 28, 29, and 30, 1901.

(Special Report to the MEDICAL RECORD.)

First Day—Thursday, August 28.

DR. H. H. CHOWN OF WINNIPEG, PRESIDENT, IN THE CHAIR.

Address of Welcome.—In the absence of Chief Justice Killam, Dr. J. H. O'DONNELL, one of the oldest practitioners in the West, delivered the address of welcome. He referred to the conditions present in 1869 when Winnipeg was an outpost of civilization, and spoke of Dr. Cowan, Dr. Curtis J. Bird, Dr. Beddon, and Dr. Bund, who were already in the West when Dr. O'Donnell moved there in 1869.

Dr. CHOWN briefly thanked the association for the honor they had conferred upon him at the meeting in Ottawa one year ago.

Dr. STARR, the Secretary, presented his annual report. It referred to the meeting at Ottawa last year, to the attendance of 153 members, which was an increase over former meetings in that city; to Dominion Registration, and to the formation of a Physicians' Protective Association.

Dr. Edebohls of New York and Dr. Sutton of Pittsburg were welcomed to the Convention and requested to participate in the discussions.

The Question of Medical Defence.—This was introduced by Dr. RUSSELL THOMAS of Lennoxville, Que., who had been delegated by the St. Francis District Association to present this subject to the Canadian Medical Association. He made a strong plea for the formation of a Medical Defence Union, and thought that all were agreed on the necessity for such. He supported his contentions by citing two or three cases already well known to medical practitioners in Canada, and after showing that such defence unions were a success in England, he concluded by outlining the plan of medical defence already in vogue and supported by the St. Francis District Medical Association, which he was authorized and prepared to hand over entire to the Canadian Medical Association. The discussion of this important matter was deferred until later on in the session.

Address in Medicine.—Dr. J. R. JONES of Winnipeg delivered this address, taking for his subject "The Question of Medical Education." In opening his remarks he referred to the unsolved problems of medical education, the importance of which were especially manifest in view of the establishment of a Dominion Medical Board. Uniform or equivalent curricula, he thought, would greatly facilitate paving the way for the accomplishment of this object. He thought that the great aim of the Canadian Medical Association should be to create a Dominion Medical Board upon such a sound and enduring basis that the qualifications could be registered in every province of the Dominion. They should not only be Canadian but Imperial, capable of registration in Great and Greater Britain. There should be no special education for the profession of medicine, and the defect in the preliminary education of medical students should be corrected. The standard is not high enough. Many students came into the medical college, their minds totally unprepared, undisciplined, not competent to engage in the different studies of a profession with advantage. Dr. Jones would not eliminate Latin, but would go a step further and advocate a more general knowledge of Greek, as Greek was *par excellence* the language of science. He quoted from two eminent authorities, who favor the retaining of "classical education" as training for professional studies—Dr. Alexander Hill, a medical man and master of Downing College, Cambridge, and Professor Jebb of Dublin. He referred to medical matriculation examinations and deplored the lamentable defects in the English paper, the most neglected subject in our primary schools. From an experience of many years as an examiner at the University of Manitoba, Dr. Jones has concluded that the teaching of English takes a very subordinate position in our schools. The defect was a universal one; and it was obvious that if English should become a prominent subject of medical matriculation examination every student ought to be able to express his thoughts coherently and intelligently. The didactic lecture came in for adverse criticism, and defects and useless wastes of time which could be more profitably employed were pointed out. Persistent work in the dissecting room under the guidance of an experienced demonstrator who will describe, discuss, and constantly orally examine the student is a rational and effective method of teaching anatomy. Medical jurisprudence and sanitary science were not properly taught.

Dr. Jones supported the "case" method of teaching; and from personal experience he favors the English system of clinical clerkships and dresserships as the most feasible, practical, and thorough for the development of medical teachings. He referred to the question of Dominion registration and pointed out two serious objections to Dr. Roddick's Bill: First—the great number of the representatives of the Council, entailing expenses beyond at least our immediate resources; and, second, the fact that one of the contracting parties to Dominion Registration may secede, and the elaborate fabric, the work of many years, tumble to the ground. The able paper of Dr. Jones was received with much gratification by the association.

Dr. R. B. NEVITT, Dean of the Woman's Medical College, Toronto, in moving a vote of thanks to Dr. Jones for his able paper, stated that he had placed his finger on the weak point of medical education. Dr. S. J. Tunstall of Vancouver seconded the motion for the vote of thanks and also congratulated Dr. Jones for the excellent manner in which he presented his subject.

Dominion Registration.—Dr. T. G. RODDICK of Montreal, who had so long and so ably advocated this much-to-be-desired measure, delivered a stirring address on the subject, ably reviewing the subject of Inter-Provincial Registration from the time of its inception to the introduction of his bill at the last session of the House of Commons. The special committee appointed on this subject had not yet reported, so the discussion was postponed until the committee had a chance to meet and report later on in the session. Dr. Roddick now seems to hold to the opinion that the suggestion of Dr. Britton of Toronto, that representation by population, for Ontario at least, would be advisable.

Infectious Pneumonia.—Dr. W. S. MUIR of Truro, Nova Scotia, read this paper. He reported four cases, all of which had occurred between the 1st and the 13th of April of this year, in the same house and in the same family. The first occurred in a child of ten years, the disease terminating by crisis on the sixth day, the child making a good recovery. A sister, aged fourteen, contracted the disease; terminated by crisis on the ninth day, but followed two days after by left-sided pleuro-pneumonia. This proved fatal. The third occurred in a sister, fifteen years of age, beginning with a pain on the left side, and terminated on the tenth day by crisis and recovery. Number four developed pneumonia, but recovery was quick, the patient being about in two weeks. There was no influenza in the town at the time. Dr. Muir spoke of the organism of pneumonia, its cultivation, and its detection.

President's Address.—Dr. CHOWN, in beginning his address, said that, as this was the first time that the Canadian Medical Association had met in Manitoba, he would refer briefly to the future of that province. Although less than

ten per cent. of the arable land was under cultivation, Manitoba's farmers would this year have a crop estimated at 85,000,000 bushels of grain. He then referred to the work performed in Winnipeg for the purpose of making that city a healthy one, and in spite of the level nature of the land, an excellent system of sewers had been introduced through all the streets; and efficient arrangements had been made for regular flushing of the sewers by means of tilting basins at the upper end of each of the main sewers. As Winnipeg has two rivers at her door, the problem of removing sewage was easily and safely solved. Dr. Chown then referred to the water supply, and said that the people of Winnipeg enjoyed as pure water as could be found in the world. An examination of the city water would show that there was in it only nine to thirty colonies of bacteria. The water is taken from an artesian well seventeen feet in diameter and forty-eight feet deep, and although they have been pumping for months a supply of from two million to three million gallons per day, there is not the slightest evidence of any diminution of the amount flowing in. This well is supposed to tap an underground passage which runs from Lake Manitoba, and as this lake is 130 miles long, the supply is inexhaustible. The underlying rock formation in that section of Manitoba is a magnesia limestone, and, consequently, the water contains a large amount of the carbonate of lime and of magnesia, and is too hard for satisfactory use in boilers and hot-water appliances. This is overcome by using Clarke's method of softening by precipitation of these carbonates through the action of lime water; and the softening plant is unique on this side of the Atlantic. Dr. Chown then referred to the question of tuberculosis, and thought that Koch's tentative denial of the oneness of tuberculosis of man and tuberculosis of cattle still needs the proof of non-inoculability from cattle to man. He instanced cases of young farmers free from tuberculous taint living in newly built houses, harboring no bacilli, and separated by long distances from their neighbors, in whom tuberculosis constantly makes its appearance; and we have here an experiment on a wide scale; and if you can eliminate heredity, house infection, and contagion from other cases, to what cause can you ascribe the origin of these outbreaks? Medical education, the plan of Dominion registration as introduced by Dr. Roddick, malarial fever, proprietary drugs, the progress in surgery, and the future of bacteriology and hæmatology were subjects ably dealt with. In concluding, Dr. Chown said that a duty rests upon the medical profession to get at the true cause of all forms of disease and rescue the public from both the honest fanatic and the ignorant pretender by doing not only all what these claim, but doing more and doing it better.

Epidemic Cerebrospinal Meningitis.—Dr. James McKenty of Gretna, Manitoba, presented this paper, which gave an account of an epidemic occurring in North Dakota during the winter and spring of 1893. It occurred within an area extending fifty miles from east to west and twenty miles from north to south, and was comparatively definitely limited. About seventy persons were seriously ill, and almost as many others suffered from mild manifestations of the disease. Of the seventy cases, twenty-five ended fatally—a mortality of about thirty-five per cent. In the practice of Dr. McKenty there occurred some thirty cases, a brief record of twenty-two of these being kept. The average age was seventeen years; the youngest fifteen months; the oldest thirty-eight years. The duration of the disease extended from twelve hours to fifteen weeks. No post mortem was made in any case. Dr. McKenty then described in detail the clinical aspects of several cases.

Splenic Anæmia.—Dr. A. J. Macdonnell of Winnipeg contributed this paper with the history of the case. This was an exceedingly rare disease. In 1898 the number of cases recorded did not exceed thirty, but since that time there have been fifty additional cases reported. R. N., aged twenty-seven years; environment good, has never had malaria; habits and mode of life good; positively never had syphilis. The present illness began in August, 1899. He complained of heaviness on the right side, with a feeling of fulness and weight. In January, 1900, he gave up work on account of muscular weakness. There was no vomiting at any time. The patient consulted Dr. Macdonnell in March, 1900, walking into his office with considerable difficulty. There was no enlargement of the lymphatic glands. Enlargement of the stomach could never be made out by percussion or palpation. The liver dulness was practically normal, and there was no jaundice or pain in the liver region. The patient succumbed to the disease, but no post mortem was held. Another case occurring in a patient, aged seventeen, was reported. Dr. Bell made a blood-count in this case, which at different times ranged from 3,400,000 to 3,600,000 red blood cells, with 7,602 leucocytes. In this case all the other organs were normal; and there seemed to be no predisposing cause in this case. Dr. Macdonnell stated that only ten autopsies had been made on people dying from this disease. He referred to the conditions found post mortem in these cases. The treatment for these cases was stated to be rest, diet, and vigorous doses of arsenic. The mortality is set down at twenty per cent. As far as operation is concerned, physicians will not be satisfied until it is clear that the patient recovers from the operation as well as from the disease. If we are sure of our diagnosis, then surgical intervention is deemed advisable.

Physical Development.—Dr. J. N. Hutchison of Winnipeg read a carefully prepared paper on this subject. The paper did not deal with anything new, but called attention to and emphasized certain facts of considerable importance. He considered that children were sent to school at too early an age, and as a result there was danger of brain overwork. He insisted upon the necessity of having healthy parents and deplored the system of education which develops the mind at the expense of the body. He was an advocate of periodical lectures by duly qualified physicians to separate classes of boys and girls on the subject of sex; but the primary responsibility in this matter he placed upon the parents. There would be real progress in the prevention of tuberculosis when people subject to the disease recognize that they should not marry. The paper, which was listened to with close attention, closed with a reference to the problems of those unfortunates who are neither mentally nor physically qualified for the duties of life.

Report of Cases Treated with Superheated Dry Air.—Dr. W. H. Pepler of Toronto introduced this subject in a paper which cited his experience and observations in the treatment of certain cases by this plan or process. He briefly described the apparatus and the method of treatment. It only takes twenty minutes to reach a heat of 300° F. The average duration of the application of the heat is forty-five minutes. The physiological and therapeutical effects noticed were referred to, as dilatations of blood vessels, etc. He administers the treatment one hour after meal-time with due regard that there shall be as little as possible excitement and exertion. He has not seen any ill effects from the treatment. He first gave notes of the case of a patient, a man aged thirty-five years, who had suffered for some time from varicose ulcer of the right leg, with considerable pain. This patient had a treatment of thirty-five minutes' duration, and was able to walk home with very little discomfort. After three times in ten days the ulcer was very much reduced in size. The second case was a patient, twenty-two years of age, who had been troubled with rheumatism for two years past. A temperature of 320° was employed with good satisfaction. Several other cases of rheumatism and eczema were reported. The

treatment in each case proved highly satisfactory, patients never complaining of any discomforts, and all expressing satisfaction with the treatment. Dr. Pepler subjects a considerable portion of the patient's body from a temperature of 280° to 320° F. The results are often not apparent for some time after treatment.

Dr. McAdam of Battleford asked Dr. Pepler if he had ever tried the treatment with high temperature where he had any doubts of the condition of the heart.

Dr. MacDonald of Brandon referred to a case which had come under his observation in which there was heart trouble. Perspiration occurred freely, but with no effect in a depressing way upon the circulation. Treatment in this case was continued for two weeks, but he had never determined that there had been any effect upon the heart, although there was a small heart lesion at the time.

Dr. Pepler in reply said he could not speak personally as to any deleterious results from weak heart. Of course, there were many cases reported where heart trouble was present. He personally had never noticed any heart or head symptoms in his cases. He thought with care there would be no bad results.

Orthopedic Treatment of Deformities and Disabilities Resulting from Diseases of the Nervous System.—Dr. B. E. McKenzie of Toronto read this paper, making special reference to tendon transplantation. He spoke of disabilities and deformities resulting from paralysis, some of which were commonly regarded as hopeless; but the conditions of a great majority of them were remediable and should receive a considerable amount of attention. He was at some pains to explain the respective motion of joints, particularly the ankle joint and knee joint, especially calling attention to the normal conditions of equilibrium, and then showed how the muscles of some of the groups at times become paralyzed and the balance and equilibrium thereby destroyed. Mechanical treatment was often necessary and often efficacious as well; massage and electricity had their respective places, but he had made particular reference to the method of treatment that had been in vogue for twenty years and had been introduced on this continent by Dr. Parish of Philadelphia. He went carefully into an explanation as to how muscles can be transferred from their usual point of action, and then he gave an account of several cases in which he had successfully accomplished this. In his opinion amputation of a limb because of apparent disability should seldom or never be resorted to. He disapproved of jackets in treatment of curvature of the spine.

Dr. Clarence Starr of Toronto said that the subject was of great interest to him, as he was interested pretty largely upon the same lines of surgery. Dr. McKenzie had indicated a large number of cases of paralyses which can be wonderfully helped by operative procedures. He thought that Dr. Bowlby of Boston deserved a great deal of credit for the work he has performed in this connection.

Dr. H. B. Small of Ottawa referred to a case Dr. McKenzie had operated on. In this case previous to operation, the boy had great difficulty in arising from the sitting posture, and when walking he had to rest every few yards. After the operation he was very much improved, and when Dr. Small last saw him about a week ago he could walk very easily, and never had to support himself. The improvement during the last four or five weeks was especially very marked.

Second Day—Friday, August 29.

Mild Smallpox.—Dr. G. A. Kennedy of McLeod, Alberta, presented this paper. It dealt with the recent outbreak of the disease in the Northwest Territories, an outbreak which was widespread and which had existed for some time before its true nature was recognized. Dr. Patterson, Quarantine Officer for the Dominion Government, was satisfied that there had been 1,500 cases. A noteworthy fact was that the greatest number of cases occurred among the French halfbreeds who had never been vaccinated, and, further, Indians on reserves had not suffered to any great extent, as annual vaccination is the rule. Not one case was seen or heard of among Galicians, Doukhabors, or Roumanians, which was due to the fact that compulsory vaccination was the rule in youth and then they had been revaccinated on their recent passage across the Atlantic and at Halifax. Fifty per cent. of all cases were extremely mild in character; forty per cent. were cases of typical varioloid; ten per cent. were severe, almost confluent. The mortality was slight, only thirteen deaths occurring; and the disease prevailed fully as much among adults as among children.

Dr. Muir of Truor, Nova Scotia, discussed the merits of the different vaccines on the market, and the paper was further discussed by Dr. MacDonald of Brandon, Dr. Inglis of Winnipeg, Dr. D. H. Wilson of Vancouver, and Dr. Montizambert of Ottawa. The latter considered it would be unfortunate if the impression went abroad that any doubt existed in the minds of the members of the Canadian Medical Association as to the true nature of the disease which had been epidemic for some years. He considered the facts presented in Dr. Kennedy's paper relating to Doukhabors and Galicians were perhaps the most valuable portion of it.

At the close of this discussion the following resolution was moved by Dr. R. S. Thornton, seconded by Dr. J. L. Bray, and unanimously adopted: "*Resolved*, That in view of the general prevalence of smallpox throughout the continent, this association desires to urge upon the profession and the public generally the necessity of vaccination and revaccination."

Chronic Ulceration of the Stomach, Simulating Cancerous Disease.—Dr. J. F. W. Ross of Toronto reported this case, in which he performed gastroenterostomy with the Murphy button. This occurred in a woman twenty years of age, the condition of whose stomach had been bad for three years. She was a nurse in the training school of a hospital. As her gastric condition grew gradually worse and worse, Dr. Ross was asked to see the patient by Dr. E. B. O'Reilly of Hamilton, in December, 1899. He found her emaciated with the opium habit already formed. In January, 1900, he again saw her, with Dr. Griffin of Hamilton. At this time rectal alimentation was being persevered in with considerable benefit. In March, 1900, she was discharged from the hospital and remained well for two weeks. As soon as food passed into the stomach great rigidity of the right rectus muscle was noted. When the patient came under Dr. Ross's attention she weighed about seventy-five pounds. As malignant disease of the stomach is rare at this age of life, it was difficult to diagnose the tumor as such, and the symptoms pointed to the pyloric end of the stomach. It was not possible to say whether cancerous or not. The symptoms pointed to the presence of ulcer, but the thickening easily made out led to the belief that malignant disease had been grafted on to the ulceration. Some dilatation also could be made out, but the rhythmic muscle waves so characteristic of pyloric obstruction could not be found; but a large growth was found at the pyloric end. The case was looked upon as hopeless, and decision was arrived at not to remove the growth, but to give temporary relief by gastroenterostomy. This was done and the patient made an uninterrupted convalescence. Eleven months after the operation the patient weighed 140 pounds and looked the picture of health. On examination of the abdomen no mass could be felt, and the patient was not suffering from any gastric symptoms at all. Dr. Ross then went into the literature on the subject, quoting Fagge, Sydney Martin, Monihan, and Mayo Robson.

Dr. Lapthorn Smith of Montreal said that the case was especially interesting to him, but rather from the general practitioner's point of view. He believed that no case of cancer of the stomach ever begins as cancer of the

stomach. First, there is some sort of irritation of the mucous membrane, and this irritation finally becomes a chronic ulcer, upon which the germ of cancer is engrafted or whatever it is which is the essential constituent of the cancerous process.

Some Forms of Hyperacidity and Their Treatment.—Dr. C. F. Martin of Montreal presented notes of some interest, judging from the results of systematic examination of the gastric contents. The unfortunate general employment of the term dyspepsia is responsible for the disregard of this condition. In the case of organic disease producing excessive secretion the diagnosis is often difficult. He gave the history of two cases in illustration, the second being an individual, forty-five years of age, who gave the usual history of having been ill for six months. There was no obstruction of the pylorus, but simple dilatation, and the diagnosis was hyperchlorhydria with simple dilatation of the stomach. He also referred to the medical treatment following gastroenterostomy.

Medical Defence.—The report of the Committee on Medical Defence was then presented by W. S. Muir of Truro, Nova Scotia. It reported favorably on the formation of a medical union, and the organization thereof was immediately perfected. It will be known as the Medical Protective Association, will be incorporated, and will have for its object the protection of the character and interests of medical practitioners in Canada. It will further promote honorable practice, will aid in suppressing or prosecuting unauthorized practitioners, and will seek to advise and defend or assist in defending members in cases where proceedings involving questions of professional principle or otherwise are brought against them and other like matters. Dr. R. W. Powell of Ottawa was elected president; Dr. McKinnon of Ottawa secretary, and Dr. James Grant, Jr. of Ottawa treasurer.

Report of Committee on Dominion Registration.—It is proposed to secure an amendment to the B. N. A. act, or to take advantage of section 91 of that act and under it obtain legislation from the Dominion Parliament, by which the profession in Canada may form a Dominion Council, and which can be supplemented by legislation by the various provinces recognizing any certificate of standing issued by the Dominion Council as entitling a holder to practise in such provinces. Dr. Muir approved of Dominion registration, and spoke for the Province of Nova Scotia. Dr. Jones voiced the sentiments of the profession for Manitoba. Drs. A. A. MacDonald and J. L. Bray endorsed the scheme for Ontario. Dr. Russell Thomas spoke for Quebec. Dr. Christie said that New Brunswick was in favor of Dominion registration. Dr. Lafferty said the Northwest Territories were favorable.

Cancer of the Uterus, with Lantern Demonstrations.—Dr. Thos. S. Cullen made an interesting demonstration of this condition. In introducing Dr. Cullen, Dr. Chown spoke of him as a young Canadian who had gone wrong in having removed to the United States and having never returned. Dr. Cullen showed a large number of slides from microscopic examinations of tissues, each view being lucidly explained by the demonstrator. At the close of his excellent demonstration Dr. Cullen was accorded a hearty and unanimous vote of thanks, moved by Dr. Eccles of London and seconded by Dr. Gray of Winnipeg.

Skin Diseases, with Lantern Demonstrations.—Dr. Francis J. Shepherd of Montreal made another valuable demonstration. He first exhibited cases of blastomycetic dermatitis, and further spoke of a few cases which he had seen of this disease. Views were given also of cases after treatment with iodide of potassium. Some interesting views were those caused by drug eruptions, of which he showed two or three due to salicylate of sodium. In one of these, Dr. Shepherd said that the lesions first came out with large welts like those of urticaria. This is rather a rare form of drug eruption. It appeared after two doses of ten grains each of the drug. One patient almost died of acute laryngitis from the eruption in the throat. Other views shown were of papular purpura, which is generally associated with rheumatic attacks; psoriasis of the nails, *x*-ray burns as the result of one application, and several of smallpox, one showing pustules upon the palm of the hand; this was particularly interesting, as in adults one never sees chickenpox upon the palm of the hand, but smallpox invariably shows itself there. Views of feigned eruptions were also shown.

The Varieties and Distribution of Bacillus Diphtheriæ and Their Clinical Significance.—Dr. F. F. Westbrook of the University of Minnesota presented a paper on this subject, primarily from the laboratory point of view. He exhibited a carefully prepared chart showing in tabulated form the results of numerous examinations in schools, and stated the conclusions which he deducted from these facts. Formerly, it was believed that the bacillus remained localized at its point of entrance, but now within recent years, however, careful observations have showed that the toxins had been distributed throughout the body, and the bacillus itself found in organs far removed from the atrium. From evidences of 230 cases of diphtheria at autopsy, observers had called attention to the frequency with which the bacillus of diphtheria was found in the organs of the body. The bacillus and its toxins have been shown to be capable of producing lesions which differ greatly from each other, as in ulcerative endocarditis, meningitis, etc. In summarizing, Dr. Westbrook said where each school was reported, and where great care was taken in the isolation of clinical cases with typical form, the percentage was very small.

Removal of a Large Hairy Tumor from the Stomach.—Dr. H. A. Bruce of Toronto reported this case. The subject was a woman aged twenty-six; she had been married six years and had two children. A lump was noticed in the abdomen two months previous to the birth of the last child. The patient had no symptoms. The lump was about five inches in width and it could be lifted forward. It reached to within three inches below the umbilicus. It gave the patient no special discomfort, there being absolutely no symptoms present. Dr. Bruce advised exploratory incision. This was done on July 22d at St. John's Hospital, Toronto. On opening the abdomen in the middle line, the spleen and kidneys were found in a normal condition, but there was a large mass in the neighborhood of the stomach. The surgeon could make out a mass lying free in the stomach, a portion extending through the pyloric end of the stomach. An incision was made into the stomach and the mass removed. After removing the mass of hair, the opening of the stomach was closed in the usual way. Hot salt solution was given for two hours, and nutrient enemata for six hours. Twenty-three hours after the operation sips of hot water were given by the mouth. Forty-eight hours after the operation the patient was given one-half an ounce of milk and lime water every hour. She left the hospital on the twentieth day. The tumor was entirely of hair, exactly the same color throughout and the same color as the hair on her head. It was about twenty-four inches in length, being about two inches in diameter at one end and gradually tapering to a point at the other; it weighed twenty-three ounces. Dr. Bruce considered this case rare, but offered no solution as to how the hair got into the stomach. There were no evidences of hysteria present in the patient.

Third Day—Saturday, August 31.

A Case of Transplantation of the Ureter for Cure of Uretero-Vaginal Fistula.—Dr. A. Lapthorn Smith of Montreal reported this case. It occurred in a married woman thirty-four years of age, who came to Dr. Smith on the 1st of July, 1901. During parturition, forceps was employed and the vagina was lacerated. Ever since there has been a constant flow of urine by the vagina. Operations for her relief had been performed in England without success. Dr. Smith had seen Sanger

perform an operation of this character in Leipsic when he was there three years ago, namely, to open the peritoneum running over the large vessels at the brim of the pelvis, feel for the artery, see the vein, and pick up the third tube, which was the ureter. The operation was done in the highest Trendelenburg posture. A very small incision was made in the peritoneum lining the pelvis in the line of the ureter, a silk ligature was passed around it and then the ureter was severed a little above the ligature. The end of the ureter was split open to a distance of a third of an inch. A slit was then made obliquely into the right upper corner of the bladder and the ureter stitched into it—the mucous membrane of the ureter to the mucous membrane of the bladder—with very fine chromicized catgut. This is the first time this operation has been done in Canada and Dr. Smith stated that not a drop of urine had passed through the fistula since.

Syphilis as Seen by the Ophthalmic Surgeon.—Dr. F. Buller of Montreal in commencing his paper expressed the hope that it would elicit a little discussion. It often falls to the lot of the ophthalmic surgeon to discover the presence of active syphilitic virus where the disease had long since been considered cured or that the subject cherished the belief that there was no more to fear from it. The ophthalmic surgeon is scarcely, if ever, called upon to treat the disease in the primary stage. The largest share of his work is in connection with the tertiary period, and in this class of cases the disease has been apparently cured for a long period of time. Dr. Buller considered that the time at which the syphilitic lesion makes its appearance is always a very important element in the diagnosis. Discussing medication the speaker did not believe that the protiodide of mercury, at least as ordinarily administered, is a reliable anti-syphilitic. He appeared to favor the inunction method first, and then the administration of grey powder.

The Present Outbreak of Smallpox in America.—Dr. H. M. Bracken of Minnesota in this paper outlined the origin and traced the course of many outbreaks in various parts of the State of Minnesota. A porter on the Great Northern Railway, who arrived in St. Paul in March, 1899, was mentioned as the source of the outbreak. He was supposed to have contracted the disease in Seattle and when told that he had smallpox he said that if so there was plenty of the same disease where he came from Other epidemics were spoken of in various parts of Minnesota with a total of 9,429 cases and the disease has still many centers in that State. It is impossible to locate positively the source of the present widespread epidemic farther than that it spread from the Southern and Southwestern States into North Dakota, Minnesota, Nebraska, Montana, and Texas. Dr. Bracken showed that returning soldiers from the Philippines were not responsible for its introduction. He suggested that it was probably imported into the United States by Cuban refugees before war broke out between that country and Spain. Vaccine, he said, was frequently spoilt by not being kept in proper temperatures as it was frequently being shipped in cans which were too hot and subsequently kept in warm offices. The Health Commissioner of Minneapolis kept all his vaccine in an ice-box, but, of course, not frozen, and had obtained good results. Replying to a question in regard to isolation Dr. Bracken favored eighteen days' quarantine.

The Necessity of a Recognition and Isolation of Trachomatous Patients in Canada.—In the absence of Dr. W. Gordon M. Byers of Montreal, Dr. C. F. Martin of the same city read this paper. The paper recited the history of a young girl from Glengary County, Ontario, who came to the clinic at the Royal Victoria Hospital, Montreal, with a most intense condition of granular lids. She had been unable to open her eyes properly for months past and her vision was reduced to the counting of fingers. The seriousness of her disease had not been recognized at home, as she mixed freely with other members of the community. Another case was referred to in the County of Leeds, and in this case as well no precautions had ever been taken to prevent the spread of the disease. Dr. Byers believes that there are many unrecognized and untreated cases scattered here and there throughout the Dominion. The disease is said to be prevalent in districts of Manitoba and certain centers in the eastern counties of Ontario and others in Quebec. The trachoma problem has had to be faced by one Government in Europe and the matter has been brought to the attention of the Dominion Government, which has not yet taken any action in the matter. Dr. Montizambert stated that the question of exclusion of trachomatous immigrants had been under consideration by the Government for some time. He considered these people somewhat undesirable immigrants.

A Few Notes on the Treatment of Typhoid Fever.—Dr. J. L. Bray of Chatham discussed this subject under medicinal, dietetic, and hygienic headings. The first he thought might be eliminated except in cases where complications arise and he thought a certain amount of medicinal treatment useful during the initiatory stages. He was in the habit of employing calomel. Tympanites could be avoided to a great extent by a proper diet. In feeding he now gives very little milk, but that little always peptonized. He believes in making the patient drink two or three quarts of pure water in the twenty-four hours. Albumen water with sugar may be given from the first; after the first two weeks he gives liquid peptonoids, or some of the numerous preparations of beef, jellies, mutton broth, or a soft boiled egg. As regards the hygienic treatment, the bedding and the night clothes should be changed daily. The room should be kept thoroughly ventilated, admitting plenty of fresh air and sunshine. The patient should be sponged frequently with tepid water and you get just as good results from tepid water as from sponging with very cold water or the cold bath, and it is not so distasteful to most patients. In hospital practice, Dr. Bray used the electric fan after using the tepid water. He has found this plan very satisfactory, especially in young and sensitive children.

Dr. Russell Thomas said that he had found the ice-cap beneficial, that it did not disturb the patient and had a decided effect in reducing the temperature.

Address in Surgery.—Dr. O. M. Jones of Victoria, B. C., opened his address with a reference to surgical diseases in Western Canada as compared with those in the East and stated that he had often found Western sufferers more impatient, which often demands severer methods. He illustrated this by citing a humerous incident. A lodging-house keeper, on learning that one of her lodgers was to have an operation performed on a Wednesday, wrote to the surgeon asking that it might be postponed until Friday, as her daughter was to be married on Thursday, and they didn't want the corpse home until after the wedding. The address dealt mainly with surgery to the stomach and related the deductions Dr. Jones has arrived at from his own experience of twenty-six cases. His first operation upon the stomach was in 1893—a case of pyloric obstruction in a wiry woman. Senn's plates were used. This patient died in three days, the result not being encouraging, and Dr. Jones attributed the failure to the use of catgut instead of silk sutures. The introduction of Senn's plates and the Murphy button gave a great interest to intestinal surgery, as before 1890 operations on the intestines were rare. He discussed the preparation for operation, and first spoke of gastrostomy, an operation which he had performed five times for ulcer of the œsophagus. In four of the cases the operation was performed with very excellent results He then discussed the

class of cases in which pylorectomy is indicated, and said that rapidity of operation in these cases is the very important factor; prolonged operation has generally proved fatal. A suitable case should be cancer of the pylorus. The time occupied in performing the operation is not great. In one of his cases he performed posterior gastroenterostomy. This patient still lives and it is now nearly three years since the operation. Gastroenterostomy was next discussed. This Dr. Jones considered the most important and most interesting part of the whole subject. It is the most frequent and the most useful and the simplest of all the operations performed upon the stomach. It is performed for pyloric cancer, ulcer, and stenosis and for gastric ulcer, dilatation, etc. Nothing can be simpler than this operation performed with the Murphy button. Dr. Jones has used it in fourteen cases and in only one case was there any trouble. In two of his cases, which died from shock, he examined one and found perfect union. He has found that the passage of the button has taken from fourteen days to four months; and in several cases he has not been able to obtain the button. A recital of several cases followed, which proved very interesting. Dr. Jones closed his paper with a few words on perforating duodenal ulcer.

Dr. F. J. Shepherd of Montreal proposed a vote of thanks. Dr. A. A. MacDonald of Toronto seconded this; Sir James Grant of Ottawa supported the motion, which was unanimously passed by the association.

A Surgical Procedure for the Relief of Ovarian-Tension Pain.—Dr. Henry Howitt of Guelph, Ont., read this paper. Pain, he said, is frequently, if not usually, caused by tension on some nerve filament. The operation Dr. Howitt employs is quite simple. The ovary is exposed and then a number of cross-sections are quickly made through the tense capsule in such a manner as to divide it. Then the larger Graffian follicles are opened. They are merely touched with carbolic acid. If the capsule is thickened a portion should be removed. Hemorrhage has never been troublesome. Adhesions give rise to no complications. Dr. Howitt recited the histories of two or three cases in support of the operation.

Dr. Lapthorn Smith stated that he had never heard of this operation before, and considered that it was original with Dr. Howitt.

Symposium of Tuberculosis.—Professor Russell of the University of Wisconsin introduced this subject in a careful, yet exhaustive paper on human and bovine tuberculosis and their inter-relation. The importance of any phase of investigation relating to tuberculosis and its relation to milk is unquestioned in these latter days when the general public is beginning to appreciate, for the first time, the magnitude of the problem that confronts them in attempting to lessen the ravages of the "great white scourge" of the human race. This subject may be approached from two points of view: (1) from the standpoint of animal industry, and (2) from that of public health.

Bovine Tuberculosis.—The rapid extension of the disease among cattle within the last few decades has forced upon breeders and dairymen the necessity of considering this subject, whether they desire it or not. It is customary in many quarters, even yet, to decry all consideration of this matter as unnecessary, inexpedient, and harmful to the dairy interests. But, as is too frequently the case, the motive for such action rests upon a financial foundation, and many breeders are averse to a calm, judicious discussion of the matter simply because it may mean financial loss to them. Since the introduction of the tuberculin test as an aid in the diagnosis of the disease in cattle, it has been positively determined that the malady, at least in its incipient form, is very much wider spread than was formerly supposed, but it by no means follows that all animals that react to the tuberculin test are actually in a condition in which they or their products are dangerous to man and beast

The slow, insidious nature of the disease that characterizes it in the human is also to be found in the cattle, and not infrequently an animal may be infected with the seeds of the disease for a considerable time—even a year or so—without showing in any degree physical symptoms that are manifest to even the animal expert. Such animals are not diseased in the ordinary meaning of the term, *i. e.* they are not capable of transmitting the disease, either directly or indirectly, through their milk or meat. The affection in such cases is latent, generally confined to various lymphatic glands; but animals so affected are, however, potentially dangerous, for the latency of the disease may be overcome through the operation of various factors, and the chronic type may thus be awakened into an acute phase. It is in this way that the disease spreads slowly and unperceived through a herd. Before it has made such inroads as to cause actual death of any considerable number of animals, many more have acquired the trouble, at least in the earlier phases. Necessity of controlling its spread and eradicating it is evident for the sake of the herd itself, if from no other point of view. Successful animal industry, especially with cattle, requires that herds shall be kept free from all taint of this disease. As to treating milk, Professor Russell said Pasteurization and sterilization were the two best forms of applying heat to destroy the organism. He recommended the rotatory Pasteurizing machine, one of which has been used in Winnipeg for some years, as the best method of removing organisms from milk.

Dr. Good of Winnipeg in discussing the paper said that it afforded him some relief to learn that milk is not so dangerous after all. He stated that he had been avoiding milk and all organic fluid for the past year or two, but he was glad to know that he could now go back to its use with the same freedom as in its younger days. He then moved a vote of thanks to Professor Russell, seconded by Dr. McArthur, which was unanimously adopted.

Sanatorium Treatment of Tuberculosis.—Dr. A. J. Richer of Montreal contributed a paper on this subject. This treatment had been introduced by Dr. Trudeau in America under great difficulties, and at the present time this distinguished scientist was able to house and treat over one hundred individuals in his institution. According to Dr Richer, the treatment is made up of rest, outdoor life, over-feeding, and medical supervision. This latter was described as the keynote to success in phthisical treatment. The importance of over-feeding was also emphasized.

Early Diagnosis of Tuberculosis.—Dr. Gilbert Gordon of Toronto read a paper on the etiology and the early diagnosis of pulmonary tuberculosis. He spoke of the early stages of the disease, and thought that we ought to be able to diagnose it before the appearance of the bacilli in the sputum. Direct inheritance he considers very rare. The inhalation of dried sputum is the most direct cause Dr. Gordon considered that we are wofully behind in Canada in fighting this plague, and more money should be spent by governments and philanthropic individuals in fighting this disease. He went carefully into the symptoms of the pre-tubercular stage and considered that a persistent cough was a very dangerous symptom.

An important discussion took place upon this topic. Dr. Lafferty warned the profession in Ontario against sending advanced cases of tuberculosis to the North-West Territory. Dr. Barrick of Toronto pointed out that Ontario was leading in regard to the treatment of tuberculosis, and he hoped to see the sanatorium brought with a wide open door to all conditions of life Dr Brett of Banff suggested that the association should pass a resolution pointing out to the Parliament of Canada the neces-

sity of providing for the establishment of sanatoria for the benefit of the community.

Election of Officers.—The report of the Nominating Committee was presented by Dr. W. S. Muir, Truro, N. S., who expressed regret at having to accept the resignation of their General Secretary, Dr. F. N. G. Starr. Montreal was selected as the place of meeting in 1902, and a suggestion was left with the members of the association that they meet in British Columbia the following year. These officers were elected for the ensuing year: *President*, F. J. Shepherd of Montreal; *Vice-Presidents*, S. R. Jenkins of Charlottetown, T. F. Macdonald of Hopewell, Wm. Christie of St. John, J. Alex. Hutchinson of Montreal, Bruce L. Riordan of Toronto, A. J. Macdonnell of Winnipeg, H. G. McKid of Calgary, and J. M. Lefevre of Vancouver; *General Secretary*, George Elliott, 129 John street, Toronto; *Treasurer*, H. B. Small of Ottawa; *Executive Council*, Jas. Stewart, T. G. Finley, and J. M. Elder.

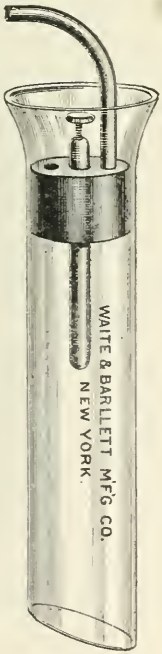
New Instruments.

A NEW ELECTRODE.

By WILLIAM H. ROGERS, M.D.,
NEW YORK.

Having for several years felt the necessity for stronger galvanic currents in the treatment of uterine fibroids and all chronic inflammations of the female pelvic organs, I have been searching for and devising electrodes and methods by which I could get a current of one hundred to one hundred and twenty-five milliampères without causing an ulceration in the vagina or on the cervix.

I have never been able to use a galvanic current of over fifty milliampères for any length of time without causing these erosions and being forced to



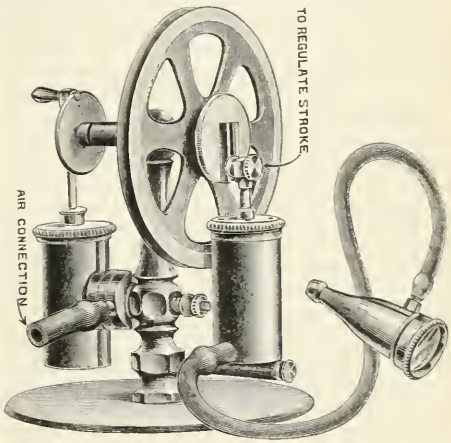
interrupt my treatment. I have now, however, an electrode with which I can use one hundred to one hundred and twenty-five milliampères with almost perfect comfort to the patient, and without the danger of causing a sore. The electrode is simple and easily sterilized.

The accompanying illustration represents a hard rubber speculum (which can be bought in nests of five sizes), closed with a rubber stopper with three holes through it, one for the electrode, one to allow the escape of gas, and one to facilitate the emptying of the speculum, which is filled with a weak solution of bicarbonate of sodium. It is necessary to use a good rheostat, so that one can put on and take off the current without shocking the patient. I believe that the application of a current of one hundred to one hundred and twenty-five milliampères is as effective as puncture in the reduction of fibroids. I hope those who may use this electrode will find it as effective as I have.

225 West Twenty-second Street.

A NEW EAR MASSEUR.

Many attempts have been made to construct an appliance for the massage of the membrana tympani, but most of the appliances have contained more or less serious defects in the mechanical construction, which led to uncertain results. The accompanying illustration shows a new ear masseur made by George P. Pilling & Son which, it is claimed,



does the work properly and safely. It is on the double cylinder principle, which insures a smooth running apparatus. The length of stroke can be regulated by the adjustable piston, and to the apparatus is attached an otoscope with magnifying lens to enable the operator to watch the operation. The apparatus is operated by compressed air from the usual compressed air tank commonly found in physicians' offices.

The Nose and Throat in Their Relation to Diseases of the Chest.—William Scheppegrell states that the normal nasal passages form a distinct barrier to the entrance of pathogenic germs, and emphasizes the fact that abnormalities of nasal respiration may develop irritation of the lower respiratory organs, hence this possibility should not be overlooked in treating diseases of the chest. No case of bronchitis or asthma should be deemed incurable until the upper air passages have been examined and existing abnormalities corrected. He considers that examination of the upper air passages should always be made without delay in treatment of diseases of the chest, and believes that correction of existing deformities there will often give relief even when secondary changes have occurred in the deep respiratory structures.—*New Orleans Medical and Surgical Journal.*

Surgical Suggestions.

Various Suggestions.—In delirium tremens, when the action of sedative drugs is apparently insufficient to obtain rest and sleep, a blister or a mustard plaster applied to the back of the neck often has an excellent effect.

Little children should never be operated on during very hot weather if the surgeon can choose his own time. They are very apt at this time, however carefully they are fed, to develop a severe form of intractable diarrhœa.

Atheroma of arteries does not contraindicate amputation so much on account of the danger of hemorrhage as because, in these cases, the flaps slough easily, owing to lowered vitality. Hence it is necessary to select the operation that will give the best blood supply.

Discard carbolic acid entirely in the treatment of wounds in children. Not only do they develop gangrene very readily from its continuous effect in wet dressings, but fatal cases of poisoning have been known to occur from the application of so weak a solution as 1–40.

In any operations in which the muscles and fasciæ are divided, it is well to remember that these structures are apt to become further separated on account of the handling of the parts during the operation. Hence it is well, when suturing these structures, to pull the skin at the angles of the incision in order to make sure that no divided tissues extend beyond the limits of the original incision.—*International Journal of Surgery.*

Furuncles and Felons cured without pain.—Inject with a very fine needle a few drops of cocaine solution. Introduce a larger needle and inject several drops of a ninety-five per cent. carbolic-acid solution.—*Sanative Medicine.*

Hemorrhoids.—Introducing enough carbolic acid into the mass to produce a slough has no advantage over the ligature or clamp and cautery and may cause disastrous consequences. Injecting a sufficient quantity to obstruct circulation and cause resolution is a method applicable to a large number of cases. The sphincter should always be relaxed to avoid strangulation, there should be no ulceration, and simple internal hemorrhoids alone should be operated on this way. After the rectum is flushed and the parts are scrubbed, the needle is inserted at the juncture of the tumor with the mucous membrane and carried across its base until the mucous membrane on the opposite side is reached. Inject little by little as the needle is slowly withdrawn, and carried again first to one point then to another. A small barrel syringe is best, and from three to ten drops are sufficient. The needle should be left in position one or two minutes. Inject one hemorrhoid at a time, with a three days' interval between the injections. The bowels should be confined for 48 hours. Shuford's modified solution is recommended:

℞ Acidi carbolici ..... ʒiss
Sodii biboratis ..... ʒi
Acidi salicylici ..... ʒss
Glycerini ..... ℥i

This should be made a clear solution to avoid obstructing the syringe and producing irritation.—James P. Tuttle, *International Journal of Surgery.*

Obscure Fracture near the deltoid in a very obese subject.—A piece of poroplastic material, oblong in shape, and wide enough to take a good hold of the trunk, was folded lengthwise so that the arch of the fold fitted into the axilla and the outer limb acted as a support to the arm, reaching as far as the bend of the elbow. At the axillary bend lateral incisions were so fashioned that the edges of the poroplastic material could be bent outward, encircling the arm, forming a sort of trough splint; the ears formed by the lateral incisions passing up in front and behind the shoulder, acted as a shoulder cap—the thoracic piece was fixed to the trunk by broad strips of adhesive plaster, and the parts enclosing the arm were secured also by pieces of strapping.—R. B. Nevitt, *Dominion Medical Monthly.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 31, 1901.

	Cases.	Deaths.
Measles	47	9
Diphtheria and croup	108	6
Scarlet fever	66	6
Smallpox	19	4
Chickenpox	..	..
Tuberculosis	194	130
Typhoid fever	114	25
Cerebro-spinal meningitis	..	3

The Action of Ovarian Juice on Blood Crasis.—Antonio Rondino states that the injection of ovarian extract in moderate doses is well tolerated by animals. Pregnant animals are the most sensitive to its action, so that the dose must be reduced one-half. The effect upon the blood is to increase the number of the red blood cells, and of the leucocytes and hæmoglobin. The system, however, does not become tolerant of the juice, for the injection of 5 c.c. in a rabbit, or 3 c.c. in a pregnant rabbit, will cause death within a few hours. A little while before death, there is marked diminution of the red blood corpuscles and other constituents of the blood. —*Giornale della Associazione Napoletana.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending September 7, 1901:

		CASES.	DEATHS.
Smallpox—United States.			
California, Los Angeles	Aug. 17-24	1	
San Francisco	Aug. 18-24	2	
Kansas, Wichita	Aug. 24-31	1	
Louisiana, New Orleans	Aug. 24-31	1	
Massachusetts, Boston	Aug. 24-31	6	
Minnesota, Minneapolis	Aug. 17-24	5	
Nebraska, Omaha	Aug. 24-31	2	
South Omaha	Aug. 23-30	2	
New Jersey, Newark	Aug. 24-31	5	2
New York, New York	Aug. 17-31	37	12
Pennsylvania, Philadelphia	Aug. 24-31	31	2
Utah, Salt Lake City	Aug. 19-24	2	
West Virginia, Wheeling	Aug. 18-31	1	
Smallpox—Foreign.			
Austria, Prague	Aug. 10-17	1	
Belgium, Antwerp	Aug. 3-10	1	
Brazil, Rio de Janeiro	July 28-Aug. 4		42
Colombia, Panama	Aug. 19-26	10	
France, Paris	Aug. 3-17		19
Great Britain, Dundee	Aug. 10-24	4	
London	Aug. 10-17	13	2
India, Bombay	July 30-Aug. 6		2
Calcutta	July 27-Aug. 3		5
Madras	July 27-Aug. 2		9
Italy, Messina	Aug. 10-17	7	1
Naples	Aug. 10-17	119	17
Mexico, City of Mexico	July 18-25	2	
Russia, Moscow	July 27-Aug. 10	4	3
Odessa	Aug. 3-17	2	1
Warsaw	July 27-Aug. 10		5
Yellow Fever.			
Brazil, Rio de Janeiro	July 14-23		7
Colombia, Bocas del Toro	Aug. 21	1	
Costa Rica, Port Limon	Aug. 11-18	8	4
Cuba, Cumanayagua	Aug. 17-24	1	
Matanzas	Aug. 31	2	
Cholera.			
India, Bombay	July 30-Aug. 6		8
Calcutta	July 27-Aug. 3		17
Madras	July 26-Aug. 2		26
Japan, Yokohama	July 20-Aug. 3	2	
Straits Settlements, Singapore	July 6-13		1
Plague.			
Brazil, Rio de Janeiro	July 14-28		4
China, Hongkong	July 13-27	37	35
India, Bombay	July 30-Aug 6		158
Calcutta	July 27-Aug. 3		11

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PATHOLOGICAL PHYSIOLOGY OF THE ANIMAL HEAT ECONOMY AND ITS RELATION TO THE MODERN THEORIES OF FEVER.

By ISAAC LEVIN, M.D.,
NEW YORK.

An animal body is normally warmer than the medium which surrounds it. This is true not only of the warm-blooded animals, but of the cold-blooded as well, whose temperature is higher than that of the medium, though only a small fraction of a degree. The only difference that exists between them is that the latter change their temperature with that of the medium, while the warm-blooded animals keep their temperature constant, with very slight periodical variations, whatever may be the change of the temperature of the medium. The first are called, therefore, poikilothermic (animals of varied temperature), and the latter homoiothermic (animals of constant temperature).

For a warm-blooded animal, as well as a human being, this constancy of temperature is an absolute necessity for the continuation of life. As certain bacteria can grow only at a certain temperature, so is a human being able to live only when his temperature has not gone below 34° C., or above 42° C. Further, even in these narrow limits, the organism is in an entirely normal condition only when its temperature is 37° C., or very near it, otherwise it must be considered pathological.

The pathological physiology of animal heat, in its every phase, is so closely connected with the normal that the study of the first cannot be begun without at least a superficial perusal of the normal physiology of animal heat.

Physics teaches us that heat is one of the forms of energy innate in every substance or body. A certain state of such a body with respect to heat, in comparison with other bodies or substances surrounding it, is what we call temperature. A certain temperature is consequently only a comparative quantity, and does not show at all the real amount of heat in a body. On the contrary, physics has shown that in order to raise the temperature of different bodies one degree we need different amounts of heat. The real amount of heat is measured by another unit, the calorie, *i.e.* the amount of heat necessary to raise one kilogram of ice-cold water 1° C. (small calorie means the amount necessary for one gram of water).

As has been mentioned before, every organism needs a certain amount of heat to exist. But a warm-blooded animal has always, under ordinary circumstances, more heat than the medium it is in; consequently, by the law of physics, it must constantly distribute part of its heat to that medium. It is self-evident that the organism cannot retain its constant amount of heat without just as constantly acquiring or producing new amounts of heat. What are, then, the sources of animal heat?

The food introduced into an organism undergoes different analytical changes until its final oxidation into CO_2, H_2O, and urea. During these processes a certain amount of energy is freed, of which a smaller part manifests itself in different work of the organism, and a great deal larger part in heat. This amount of energy will be the same whether some organic matter will be immediately oxidized into CO_2, H_2O, and urea, or it will previously undergo some intermediate stages before its final oxidation.

Food, or, rather, the process of its metabolism, is practically the only source of animal heat in the normal state of the organism. The fact that a starving organism is able to preserve pretty nearly its normal temperature for a certain time does not refute this theory. It only shows that a starving organism oxidizes some constituents of its own body, thereby freeing at least some amount of energy. This can be seen from the fact that a starving organism constantly loses its weight.

This influence of food on the production of heat in the organism must not be construed in such a manner that the amount of heat simply depends on the amount of food taken. Mechanics proves that in order to produce a certain amount of work, every machine needs a far greater amount of potential energy, the rest of which manifests itself in heat. The animal organism is the most economic machine in this respect, and still it is able to use only about a fifth of its energy for actual work (Rubner). There is some work that an organism is always bound to perform, for instance, the work of the heart, glandular system, and so on, and all of this increases the amount of heat production. Far greater yet is the influence of the work of the muscular system on the production of heat (Roehring and Zuntz). It is a well-known fact that an hour or so of a good run may raise the temperature of the body as high as two degrees. We can see, then, that an organism at work produces more heat than one resting. They may both consume the same amount of food, but the latter organism will oxidize and realize the energy of only a part of the food, while the rest of the food will undergo some preliminary changes (into fat, for instance), and with a part of its energy will be left over, so to say, in storage. The working organism, on the other hand, will fully oxidize and use up all the energy of the food ingested.

It easily follows from this that the measuring of the heat produced in an organism is closely connected with the knowledge of the amount of food oxidized in the organism. This measurement can be accomplished in one of the following ways:

1. Determine during a rather long period of time the amount of food necessary to keep a certain organism perfectly balanced in regard to the state of its heat and its weight, and then measure the potential energy of that food.

2. Determine during twenty-four hours the amount of food introduced into an organism and the amount of the products of metabolism eliminated; measure the respective energy, and the difference between the two last determinations will show the amount of heat produced in the twenty-four hours.

3. Determine the respiratory coefficient or the relation between the formed CO_2 and consumed O_2.

This is the best method of determining the heat production.

Lavoisier, and later Pflueger and Voit, have shown that an animal put in an atmosphere of pure oxygen consumes not more of it than in an ordinary atmosphere. The amount of oxygen consumed depends only upon the amount of the metabolism in the body. Consequently, by the amount of the oxygen consumed we can judge the amount of food oxidized, and thereby the amount of heat produced in the body. But different foods require different amounts of oxygen in order to be oxidized to their last products of decomposition: 100 gm. of O_2, for instance, can oxidize 35 gm. of fat, 84.4 gm. of carbohydrates, 74.4 gm. of albumen. We must, therefore, determine also the amount of eliminated CO_2, as the relation between these two agents $\left\{\frac{\text{(eliminated } CO_2)}{\text{(consumed } O_2)}\right\}$ is fairly constant for every kind of food; we shall then be able to determine what kind of food was oxidized, and what quantity of it. Having determined this, we can easily infer the amount of potential energy, and consequently of heat, produced within the body. It has been calculated that there is constantly produced within our body an amount of heat sufficient to raise our temperature two degrees an hour, or forty-eight in twenty-four hours. It is obvious that this amount of heat would be sufficient to burn the organism if it were not constantly distributed into the surrounding medium.

Like every other physical body of a temperature higher than that of the surrounding medium, an animal organism loses its heat through radiation and conduction. This loss takes place at the surface of the body only, and depends upon the relative size of the surface and the weight of the body; smaller animals, therefore, lose more heat for every kilo of their weight than do larger animals. The difference between this distribution of heat through radiation and conduction in an inanimate body and that in a living organism consists in the ability of the latter to change the temperature of its surface, and consequently the amount of heat lost, by means which will be shown later.

It will be appropriate to mention here that in a human body the clothing has a great influence upon this loss of heat. The heat from the skin is transferred to the so-called inner atmosphere, or to the air existing between the skin and the clothing. The last being a worse conductor of heat than the skin, there is always a part of the distributed heat left over in the inner atmosphere, the temperature of which is consequently higher and more even than that of the atmosphere surrounding it. This fact is of great importance, as we would be otherwise unable to withstand the great climatic changes. All other animals are protected by felt, fur, or feathers, that are all worse conductors of heat than human skin.

Besides radiation and conduction, there are some other means by which animal heat is lost. The most important of them is the evaporation of the water secreted through the perspiration of the skin and with the expired air. Such evaporation is always accompanied by an expenditure of a considerable amount of heat. And lastly, some part of animal heat is consumed in warming the air and food we are taking in.

The full amount of heat lost by an animal during a certain period can be measured by an apparatus called a calorimeter. There are two kinds of such apparatus in existence, the water-calorimeter and the air-calorimeter. The idea of the water-calorimeter is as follows: An animal is placed in a metal box with double walls. The space between the two walls is filled with a measured amount of water. The heat lost by the animal warms the water. Knowing the difference in the temperature of the water before and after placing the animal in the box, and the amount of water, we can measure the amount of calories consumed by the water, and consequently lost by the animal. The outer wall of the apparatus is covered by a nonconductor of heat, in order that the heat of the water may not be easily lost in the atmosphere.

Recent researches of D'Arsonval, Rosenthal, and Rubner show that the air-calorimeter is a great deal more sensitive, and gives better results. The construction of this calorimeter is based upon the physical fact that heating a gas always increases its volume, or, if that gas be inclosed in a certain space, increases its pressure. The air-calorimeter is also a box with double walls, but in the space between the two walls there is air connected with a manometer. When an animal is placed in the box it raises the temperature of the air between the walls to a certain degree, raising thereby at the same time its pressure to a certain amount, and this is shown on the manometer. The manometer is measured previously by placing in the box a hot object, of which the loss of heat was determined beforehand.

We have previously mentioned that the difference between the poikilothermic and the homoiothermic animals consists in the ability of the latter to keep a nearly constant temperature, notwithstanding the different conditions the organism may be in with regard to the amount of heat produced and lost. There must be, no doubt, a very sensitive mechanism which can effect such constancy of the temperature of a homoiothermic animal. To get a clear understanding of this regulative mechanism, we must know, on the one hand, its nature, and, on the other, the ways and means of its action. The latter part of the question is a great deal easier to comprehend, and has consequently been worked up better; we will therefore begin with it.

Let us consider a case in which, for some outside reason, say the low temperature of the surrounding atmosphere, a greater amount of heat has to be lost from the surface of the body. The regulative mechanism works against it in the following manner: Through the circulation of the blood, heat is constantly transferred from the internal parts of the body to its surface. Under the influence of cold, the minute blood-vessels of the skin contract, the amount of blood passing in a certain time through the skin, and thereby the amount of heat, is lessened. Consequently, the temperature of the skin, which is always lower than the inner temperature of the body, becomes lower still. The loss of heat through conduction depends upon the difference between the temperature of the atmosphere and the surface of the body; it diminishes, consequently, under the influence of cold. The perspiration of the skin and the resultant evaporation of water cease entirely. All this tends to decrease the loss of heat. Besides this, the production of heat increases under the influence of cold. An animal under the influence of a low temperature digests a greater amount of food in general, and more fat in particular, the latter producing more heat by its oxidation than any other food; there are more voluntary muscular contractions, as well as involuntary ones in the form of chills, which are fibrillary contractions of the whole muscular system. Pflueger and Zuntz have endeavored to prove that there is also, under the influence of cold, an increase of metabolism in the muscles independent of their physical work; in other words, that cold increases the chemical tonus of the muscular system. But this has been since dis-

puted. as they could not exclude in their experiments the smallest fibrillary muscular contractions.

Exactly the contrary takes place if the temperature of the atmosphere increases. The blood-vessels of the skin dilate, thereby bringing a greater amount of heat from the internal organs to the skin, which increases the amount of heat the skin loses through conduction. The secretion of water by the skin and lungs increases; consequently, a greater amount of heat is lost by evaporation. The animal digests less food, lies still, without any muscular movements, which all tends to decrease the heat production.

All these physiological actions of the circulatory, muscular, and glandular systems before mentioned, by the aid of which the heat of the organism is regulated, are themselves under the influence of the nervous system. The regulative mechanism of heat itself is so sensitive that there can be no doubt as to its nervous nature.

But is there a part of the nervous system that has for its office the regulation of heat, and if so, where does it lie? This question is far from being answered conclusively as yet. The most striking proof that the constancy of temperature of the homoiothermic animals is produced by the influence of the nervous system is given by the experiments of Zuntz and Pfluege, showing that a curarized animal, or an animal whose spinal cord has been severed between its cervical and dorsal parts, becomes practically poikilothermic, and changes its temperature with that of the atmosphere. This explains the seeming disagreement between the earlier works of Fischer, who found a decrease of temperature after severing the spinal cord, and those of Tscheschichin and Nauny and Quinke, who found even a slight increase if they covered the animal or put it into a warm medium. All these works certainly do not show any specific influence of the nervous system on the production of animal heat. The severing of the spinal cord produces a dilatation of the blood-vessels and a paralysis of the muscular system, thereby increasing the loss of heat and doing away with the most important source of heat production.

We find far greater difficulty when we search for the influence of the brain upon animal heat.

Tscheschichin and Wood found that an injury of the brain between the pons and medulla raises the temperature of the animal, and they promulgated the theory that there must be near the pons a nerve center, whose function is to inhibit or repress the production of animal heat, the injury of which increases this production. But the constancy of this phenomenon was refuted by Rosenthal and others. Landois and Eulenburg, Hitzig and Wood have also shown that injury of the motor regions of the brain raises the temperature of the body; but this fact seems to throw little light upon the rôle the nervous system plays in the regulation of the animal heat, for such an injury produces in the animal epileptic convulsions, which are alone sufficient to raise its temperature. A great deal more promising seem to be the investigations of the deeper parts of the brain. Aaronson and Sachs, Richet and Ott have almost simultaneously shown that a lesion of the corpus striatum near the nodus cursorius, and of the adjacent places of the brain, raises the temperature of the body three to four degrees. This increase of the temperature may last for three or four days, and does not depend upon the temperature of the medium surrounding the animal. It is sufficient to prick this place in the brain with a needle to raise the temperature, and the experiment can be repeated on the same animal with the same result. The deeper a needle goes in, the higher will be the temperature.

White has found later some other places in the brain injury of which produces the same effect. In other places of the brain, again, the effects of such an injury would be to lower the temperature (Ott). We can now see that, though the last-mentioned works do not seem to leave any doubt that the brain has a direct influence on the regulation of the animal heat, we are still unable to determine whether there is a special center for it, or whether different parts of the brain, through their influence upon the circulatory, muscular, or other systems, do the work of regulating the animal heat. Just as little is known through what channels, through what kind of peripheral nerves, this regulation is produced. Cl. Bernard's "nerfs frigorifiques et calorifiques" are not proven to be special nerve fibers transmitting heat reflexes, but are most probably vasomotor nerves.

The constancy of temperature, as we have mentioned already, is an absolute necessity for normal animal life. Temperatures above or below the normal show that the organism is in a pathological state. The temperature depends upon the relation between the heat produced and lost, and this, in its turn, upon the relation between the animal heat and amount of heat in the surrounding atmosphere. Consequently, the decrease and rise of temperature may depend upon the changes in the temperature of the atmosphere or in the amount of internal animal heat.

The capacity of an organism to regulate its state of heat against the influence of low atmospheric temperature is limited; if this temperature is too low or if its influence continues too long, the organism must undergo certain pathological changes. The action of the heart of such an animal becomes very slow, the arterial pressure low, the breathing frequent and superficial; the secretion of urine decreases, the reflexes cease, there appears a general paralytic state of all the organs, and at last the animal dies in convulsions. These facts are proven to be true clinically, as well as experimentally, in the case of animals put into ice-boxes, or into whose veins a cold physiological salt solution is injected (Horwath, Walter, and Knoll). The action of a low atmospheric temperature on the organism, a so-called "cold," was considered of the greatest importance in pathology before the science of bacteriology was developed. The origin of almost all acute infectious diseases was ascribed to its influence. But with the advent of bacteriology there seemed to be a tendency to deny the influence of a "cold" entirely, though this certainly controverted long clinical experience. Such an influence upon the organism of a rapid decrease of the temperature of the atmosphere certainly exists, though this decrease is not always great enough to injure the organism directly. There are a great many theories in existence explaining the influence of a "cold" on the organism, as, for instance, that the decrease of the atmospheric temperature injures the action of the skin, that it irritates the sensitive nerves, alters the trophic nerves, etc., but none of them is capable of explaining fully the phenomenon. Lately, Lipari, Filehne, and Lode have proven experimentally that animals previously cooled off yield to bacterial infection easier than normal animals. Thereby the existence of a "cold" is proven not only clinically, but experimentally as well, though we still do not know its mode of action. Possibly the influence of a rapid decrease of atmospheric temperature consists in decreasing the force of resistance of the animal cells against the bacteria and their toxins.

There are, also, undoubtedly pathological conditions, when the temperature is below the normal, consisting in some lesion in the regulative mechanism. At least, the most plausible explanation of the death

of animals after extensive burning, or experimental varnishing of the skin, is the cooling off of the organism through an abnormal loss of heat. Falk has proven experimentally that the loss of heat after the burning of the skin is increased, and Valentine and Winternitz have also proven that the death of an animal after varnishing the skin can be delayed, and even stopped, if it is put into a warm medium.

But temperatures above normal are of much more importance in pathology. They can also be produced by an outside cause, *i.e.* the high temperature of the surrounding atmosphere.

Rosenthal has shown experimentally that, if we put an animal in a box and raise its temperature above 32° C., the temperature of the animal increases to about 41° or 42° C. The animal lies still, the peripheral vessels are dilated, and the pulse and breathing are accelerated, though the last is more superficial. If the temperature of the box is raised to 40°–42°, then the temperature of the animal increases to 42°–45°, and it dies under symptoms of general paralysis, exactly with the same symptoms we meet in cases of insolation or sunstroke, where an organism is just as abruptly put under the influence of an atmosphere with an unusually high temperature, as in the experiment.

Besides the symptoms of the high animal temperature produced by a high temperature of the atmosphere, which we mentioned already, it will be interesting to state that Simanowsky has shown experimentally, and P. A. Levene on sunstroke patients, that, notwithstanding the high animal temperature, the N elimination, and consequently the metabolism, is not increased. Richter, however, has refuted Simanowsky's results.

The cause of death from overheating cannot be clearly defined as yet. Cl. Bernard believed that coagulation of muscular albumin (myosin) was the direct cause of death, but this theory was refuted by Heubel, who proved that a heart that has stopped beating under the influence of very high temperature (45.5°), if cooled off may begin to beat anew. More probable seem to be the opinions of Ide, who says that through the influence of overheating the work of the heart is arrested by the action of some toxic substances accumulated in its muscular tissue, without its morphological structure being injured, and of P. A. Levene, who thinks that the symptoms and death from sunstroke are due to autointoxication of the organism.

FEVER.

We turn now to the study of the pathological increase of the animal temperature, due to causes emanating from the organism itself. Hippocrates and Galen recognized such a "calor præter naturam" as a disease, and called it πυρετός, febris, fever. Formerly, fever always meant a certain disease manifested by an elevation of the temperature, changes in the action of the heart and lungs, altered metabolism, and morphological changes in the parenchymatous organs. But all these symptoms accompany so many entirely different pathological processes that there can be no doubt in anybody's mind that a great variety of processes, often having nothing in common among them, are called by the same name—fever. What else but the name is there in common between hysterical fever and the fever in malaria, for instance? A great many pathologists have endeavored to correct the misuse of the word fever.

It is easily comprehensible that fever does not mean a certain disease, but a certain pathological condition of the system, that may be the result of or simply accompany a great many different diseases. Of all previously mentioned manifestations of fever, the elevation of temperature is the most important, for where there is no high temperature there is no fever. Fever, consequently, is a diseased state of the heat economy of the organism, in which the temperature of the body is raised above the normal.

The question arises, now, whether every elevation of temperature can be called fever. It seems somewhat unwarrantable to assume that a person who has been running for some time, and has thereby raised his temperature one or two degrees, is in the same pathological condition as one having malarial fever. Different measures have been, therefore, taken to differentiate one kind of elevation of temperature from another. The best of these would seem to be the one expressed by Liebermeister and, later, developed by Filehne, Richter, and Stern. They hold that there exist simple elevations of temperature, and febrile ones. A febrile elevation of temperature, or fever, they consider to be present only in cases in which the temperature is not only raised but leveled on this raised point. What they mean by it is as follows: If we forcibly reduce the temperature of a person with a simple elevation of temperature by some agent, we can reduce it to the norm, and it will remain there, even after the agent has ceased to act; while if we do the same with an individual having fever, the temperature will not sink entirely to the norm, and will rise again to the former height as soon as the agent has ceased to work. In other words, the organism, in its febrile state, just as strenuously opposes the reduction of its high temperature as the normal organism does the reduction of its normal temperature, while an organism in a state of simple elevation of its temperature begins the work of contra-regulation only after the temperature has been reduced to the norm.

Liebermeister first based the construction of this theory upon the fact noticed by him that a fever patient in a cold bath preserves as far as possible his high temperature, and very soon after the bath the temperature attains the point it had before the bath. Loewy and Richter have tried to prove that there is an actual qualitative difference between these two kinds of elevation of temperature by the fact that, while they have often found the alkalinity of blood increased in febrile elevations of temperature, they have never found it in the simple ones.

This theory is ingenious, but it does not seem to introduce any qualitative difference between the two kinds of elevation of temperature, but simply a quantitative one.

Should we agree that fever is, in the first place, a pathological state of the heat economy, and that all the other manifestations in fever are the result of the high temperature or else simply accompany it, and that there is no fever without a high temperature, then we must admit that fever is produced by some cause affecting the different heat-regulating mechanisms. Now if, in one case, such a cause gives a certain shock to the regulative mechanism, and then ceases its action, while in another case the cause acts continually, it is self-evident that in the first case the temperature will be easily reduced to the norm, while in the other it must remain at its high level, because the regulative mechanism receives the second shock before the antipyretic has had time to act. The difference, consequently, does not lie in the nature of the different fevers, but in that of the causes producing them. The difference in the alkalinity of the blood is, in the first place, not definitely proven yet, and it is not proven whether

it has anything to do with the febrile elevation of temperature in any case.

But as long as we do not find any qualitative difference in the various elevations of temperature, as to their nature or as to the influence they produce upon the organism, we must coincide with the opinion of Unverricht, that every elevation of temperature must be called fever; but we would add, every elevation of temperature due to causes emanating from the organism itself. In this way we exclude all elevation of temperature due to overheating, and, except the cases of slight elevation of temperature due to muscular work, the name of fever will apply to the same thing in general pathology as in clinical medicine.

None the less, fever appears in different forms, and has to be subdivided. Falkmann's subdivision of fever into simple and complicated seems to suit the purpose best. The simple fever of Falkmann corresponds to the simple elevation of temperature of Liebermeister (not perfectly, though), and includes fever in the course of some nervous diseases, in simple fractures of bones, in anæmia, and so forth; while the complicated fever of Falkmann, or the febrile elevation of temperature of Liebermeister, includes, in the first place, fever in infectious diseases.

As was mentioned above, the difference between the fevers consists in the difference between the causes producing them. The study of these causes is of the greatest importance for the understanding of the whole process, but before we begin it we must try to show in what way these fever-producing or so-called pyrogenic agents must act in order to cause fever.

An elevation of the temperature can be caused by increasing the production of heat, by decreasing the loss of it, or by different combinations of both. Lavoisier, who has shown experimentally that respiration represents the act of combustion of organic substances of the organism, has expressed the opinion that fever is produced by an increased combustion, or, what is the same thing, by an increased formation of heat. The experimental development of this theory is due to the works of Liebermeister, Pfluege, and Leyden, and their followers. Liebermeister has shown that a patient with a temperature of 106° F., put in a bath with a temperature of 86° F., loses 198 calories of heat (calculated by the change of the temperature of the water), while his temperature decreases only about 2° F., which indicates a loss of about 38 calories of heat (taking the heat coefficient of the body at 0.83).

On the basis of this fact, Liebermeister comes to the conclusion that there exists in fever a constant overproduction of heat, which would account for a part of the heat lost in the bath. To the same conclusion also came Pfluege and Leyden through finding the respiratory coefficient increased in experimental fever. Now, this increase in the production of heat is certainly not sufficient to explain entirely the phenomena of fever. In the experiments of Liebermeister, the increase of heat production might have been due not to the fever itself, but to the influence of the cold bath. As to the increase of the respiratory coefficient, Krauss has proven that it is too small to explain the temperature in fever. Traube was the first to show the weak points of this theory and the great importance the change of the loss of heat has in fever. He drew his conclusions from cases in which fever begins with an acute chill. The following is the explanation he gives of the origin of fever: Under the influence of some pyrogenic cause, the small arteries of the skin contract, thereby lessening the amount of heat coming to the surface from the internal organs, as well as the amount of heat dissipated. With him, consequently, fever is simply a heat stasis in the internal organs of the body produced by a decreased loss of heat. In fever, not accompanied by a chill, he accepts the same mechanism, only working not so abruptly. But the increase of the loss of heat alone is just as little able to explain the febrile elevation of temperature as is the increased production of heat alone. This fact is admitted by modern experimenters, no matter whether they adhere to Liebermeister's or to Traube's theory. So, for instance, Senator and Rosenthal have admitted a certain influence of the increased heat production in fever, though the decreased loss of heat is with them the most important factor in producing it. On the other hand, Leyden, an adherent to Liebermeister's theory, admits a decreased loss of heat, though he ascribes it not so much to the contraction of the cutaneous arterial system, as to the retention of water in the organism, when there is no sweating or any other loss of water in the febrile state of the organism. From a study of the above-mentioned, as well as a great many other works on the subject, the following conclusions can be drawn: In the first stage of fever (stadium incrementi), the most important factor really consists in the decreased loss of heat through the contraction of cutaneous vessels. At the height of fever (fastigium), the loss of heat is even increased sometimes, but the production of heat is always so much increased that it covers the increased loss, while in stadio decrementi the loss of heat is higher than the production, the retained water is freed, and as a consequence of all this the temperature falls.

We see, now, that the mechanism of fever is very complicated; the causes producing it cannot act simply by increasing the production of heat or decreasing its loss. We have seen already that in a normal organism an increased production of heat by whatever cause is immediately contra-regulated by as great increase in the loss of heat, and vice versa, while in fever very often just the contrary takes place. All this can only be explained, if we admit with Tscheschichin, Wood, Aaronson and Sachs, and others, that the fever-producing agent affects primarily the regulative mechanism in the central nervous system, changing its action in such a manner as to produce an increase in the temperature.

We have seen already that the name fever does not imply a uniform pathological process, and that the agents producing fever must also be of differing natures. In studying the agents producing different kinds of fever, we must always keep in mind Falkmann's classification into septic, or infectious, and aseptic fevers. In infectious fevers the causes of the elevation of the temperature, as well as of the diseases themselves, are closely connected with the microorganisms producing them. The action of these microorganisms does not consist in any mechanical influence produced on the organism by their presence, but in the toxic action of the products of their metabolism. This can be proven by the fact that a sterile culture of fever-producing microorganisms can also produce fever. Further, Bergmann and Brieger extracted from such cultures chemical substances that were able to produce the same pyrogenic action as the cultures themselves. (Ughetti, on the basis of his observation of malarial and recurrent fevers, comes to the conclusion that the action of microorganisms consists in the mechanical breaking up of the red blood corpuscles,

and the resultant detritus in its turn mechanically produces fever, but he does not give any experimental proof of his theory, neither is it supported by anyone else.)

It must be borne in mind that a substance producing fever in a certain infectious disease, and the substance producing the pathological process itself, are not the same, as can be seen from the fact that some microorganisms are not pathogenic at all, in the usual sense of the word, and they still produce fever. Neither are pyrogenic substances in the different microorganisms of the same nature. Krehl has shown, for instance, that the action of the pyrogenic substances in some microbes decreases under the influence of heat, while in others it does not. Centanni's opinion that fever is always produced by the same substance, "pyrotoxin," has not been confirmed. Buchner and Krehl hold that a pyrogenic substance is always some kind of an albuminous substance, a toxalbumose, constituting a part of the body of the microorganism; therefore a dead culture is also able to produce fever, as, for instance, in the case of Koch's tuberculin. We see, consequently, that infectious fever is a certain kind of intoxication affecting the heat-regulating mechanism of the nervous system.

But it seems that even in a great many of the so-called aseptic fevers (in subcutaneous traumas, blood diseases, etc.) the same explanation is the most plausible. At least, it has been shown that fever can be produced by a subcutaneous or intravenous injection of aseptic organoextracts (Paulsen). Krehl tried, with the same object in view, a great variety of albuminous substances, but he could not come to any conclusive or uniform results. The most satisfactory results seems to give albumoses. Mathes has proven that not only are these albumoses able to produce fever, but that they are all able to produce on a tuberculous organism the same reaction as tuberculin does. He has also very often found albumoses in the urine of febrile patients. If, now, we take into consideration that albumoses are formed whenever necrotic tissue is absorbed, the relation between fever and albumoses seems to be close indeed. Still, even this fact does not give us any hope of finding a uniform cause for fever. Krehl and Mathes state that a chemically pure albumose, but derived from a bacterial culture, has a great deal stronger pyrogenic action than an albumose derived from plain albumin. Besides this, fever is unquestionably sometimes produced by a simple reflex action through the vasomotor, sensitive, or some other peripheral nerves, on the heat centers, or by primary lesions of these centers. At least, no other explanation can be given for the fever arising immediately after catheterization, in traumas, or some diseases of the brain, or for the experimental fever produced by Aaronson and Sachs and others, by simply injuring certain parts of the brain.

The conclusions derived, then, from the study of the pathology of the heat economy are as follows: Heat economy seems to resemble general metabolism inasmuch as it is a result of the joint work of many organs of the body; and fever, the most important pathological state of heat, is in most instances a special kind of intoxication by some substances not as yet well defined. Further work will have to show us the precise nature of these substances, and also decide the question whether there is some central apparatus conducting all the complicated works of the heat economy, and what the nature and office of such an apparatus are, if it does exist.

We have seen already that fever is usually accompanied by changes in the functions of nearly every organ in the body, among which the most important are the changes in general metabolism, and in the action of the circulatory and respiratory organs, and the morphological changes in the parenchymatous organs. We have shown that none of these changes can be the sole cause of the febrile elevation of temperature. On the other hand, we have no proof to show that the above-mentioned changes are a result of the febrile elevation of temperature.

The change in metabolism, for instance, consists in increase of the decomposition of the animal tissues, and most particularly of the albuminous parts of them; but the same increase in decomposition we find continues in febrile diseases even after we have reduced the temperature by antipyretics. Sometimes such an increase begins before the rise of the temperature has taken place; besides this same increase of tissue decomposition, we find, in cancerous cachexias and anæmias, diseases that are not accompanied by fever. The same can be said about the increased elimination of N-containing substances and salts in the urine, and about the loss of weight in fever, as this all is simply a result of the increase in tissue decomposition.

A great deal closer are the connections between the febrile elevation of temperature and the accelerated respiration and action of the heart, as both can be produced by the simple elevation of the temperature. It has been proven, even, that under the influence of heat the contractions of a frog's heart severed from its body become more frequent. Still, these changes continue, even when the temperature is artificially lowered. The most probable explanation, therefore, of all the above-mentioned changes accompanying fever is that they are not dependent in any way upon the elevation of the temperature, and the connection between them exists only inasmuch as they are most probably produced by the same agent. With the change in the nature of this agent the elevation of the temperature as well as the other so-called symptoms of fever must also change in their appearance. We have come, then, to additional proof of the fact that the causes of fever alone will give us the clue to differentiate and recognize different elevations of temperature.

Now, before we close, we must say only a few words as to the influence fever has upon the organism as a whole. At first the opinion was universally adopted that fever is a beneficial reaction of the organism against some disease. Liebermeister first expressed the opinion that a high temperature is injurious to the organism, and has to be combated. But lately, on Pfluege's initiative, experimental investigators are appearing to prove that a high temperature benefits the organism. The most important among these works is that by Loewy and Richter, who have endeavored to show that animals withstand better different bacterial infections (diphtheria, pneumonia, etc.), after having undergone the Sachs-Aaronson brain-prick than without it. This question is by no means settled as yet, but the truth must certainly lie somewhere between the two extremes. While high temperature in general is certainly injurious to the organism, an ordinary febrile temperature does no harm to it, and very probably often does some good. Liebermeister's opinion, therefore, that every rise of temperature must be fought against and reduced by all means, is wrong; especially since, as we have mentioned already, none of the above-mentioned changes accompanying fever is in any way influenced by antipyretics.

FOREIGN BODIES OF THE NOSE AND EAR.*

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THE recognition and removal of foreign bodies which have found their way into such easily accessible regions as the nasal cavities and the external auditory canal seem so simple a matter, the underlying principles of treatment are so well established and, as it were, self-evident, and the technique of treatment is so uncomplicated, that the presentation of this subject *in extenso* might give the impression of being to some extent a gratuitous effort. If, nevertheless, I proceed to give you a few rather elementary suggestions and to detail clinical facts which are, or should be, as well known to the general practitioner as to the aural surgeon, it is because experience shows that, just in this class of cases, men who ought to know better often show a surprising ignorance; that those who actually do know better sin against their better knowledge both in overlooking foreign bodies through superficial examination and in using improper methods for their removal, and that even some of our honored teachers, as I have had occasion to observe, do not always practice what they preach.

The peculiar instinctive tendency of young infants to stick into their mouths anything movable they get hold of, from a toe or a finger to a button-hook or a spool of cotton, is well known. Children of slightly larger growth go up a step in the process of self-recognition, and discover that they have in the nose a most convenient receptacle for the storing of such valuable objects as beans, buttons, glass beads, or fruit-seeds. This probably occurs much oftener than it is brought to the knowledge of the physician or even of the nurse, and in many cases, doubtless, a small foreign body comes out spontaneously, is ejected by sneezing, or perhaps even removed by the little one's own efforts without anyone being the wiser. Among the hysterical and insane, again, this is occasionally observed, while finally we have to deal with foreign bodies originally introduced into the nose with therapeutic intent—for instance, to control hemorrhage—which, strange as it may seem, are forgotten and left *in situ* or perhaps more frequently partially overlooked and not entirely removed.

Besides the inanimate bodies above mentioned, we must consider the possibility of living insects or of their eggs or larvæ getting into the nasal cavities; rare accidents with us, as in all temperate regions, but not at all infrequent in the tropics. Foreign bodies may enter the nose by the nostril, the usual way; through the choanæ from the nasopharynx, even without paralysis of the soft palate, as in violent vomiting or gagging, or finally by penetrating the soft parts and bony structures and entering directly from without, which, of course, presupposes severe traumatism, such as a bullet-wound, stab, or blow.

The presence of a foreign body, even in adults, is not always suspected, and symptoms which are often quite obscure are not correctly interpreted and referred to the real cause. Nasal obstruction is, as we know, borne with surprising patience, even with coincident purulent discharge, so that it is perhaps not so surprising to hear of the detection and removal of foreign bodies which have been retained for years. The symptoms are usually quite marked, and nasal obstruction is the most prominent and annoying, affecting the respiration and giving the voice a nasal twang. This is caused first and foremost by the mechanical action of the mass of the foreign body, but to a minor degree as well by the reactive congestion and swelling of the nasal mucous membrane, particularly of the turbinate bodies, and by increased secretion due to irritation which naturally, having no free exit, accumulates, decomposes, and, further irritating the secreting surfaces, completes the vicious circle. As secondary evidence of obstruction we may have œdema or inflammatory swelling externally in the soft tissues of the face about the nose and suffusion of the eye. A sense of fullness, or actual headache, with pain of a neuralgic character in the nose, cheek, and orbit, may be present, with various sympathetic disturbances of the eye and ear, such as lacrimation and photophobia, tinnitus aurium, and otalgia. Attacks of sneezing may occur, and quite rarely, in specially susceptible individuals, nervous reflex manifestations, varying from mild facial twitching, vertigo, nausea and vomiting, to spastic torticollis (Rohrer), and epileptiform attacks in a child (Wertheimer) have been observed.

After remaining *in situ* for some time without being noticed, small foreign bodies may increase in size by imbibition of fluid from the nasal secretion, as in the case of peas, beans, or other porous bodies; or by incrustation from the same source with a deposit of crystallized salts, usually carbonates and phosphates. In the latter case we then have the stony-hard, irregular nasal calculus or rhinolith, which in shape adapts itself to the nasal passages, but, steadily growing, exerts ever-greater pressure on its confines, and may at last cause deviation of the septum, or even a large perforating ulcer, and actually depress the floor of the nose, so that palatal bulging becomes evident, or, as happened in a case reported by Nolte, the roof of the mouth is perforated at the junction of the hard and the soft palates.

The recognition of a foreign body is not difficult in recent cases, especially when the history is unequivocal and points directly to the cause of the trouble. In such cases the presence and position of the foreign body and its nature, as far as that is of importance for the choice of methods of removal, may be determined quite readily. In children under seven, unilateral obstruction with marked mucopurulent discharge may, with probability, be ascribed to a foreign body, as affections of the accessory sinuses can be excluded. In adults, similar symptoms should at least lead us to suspect a like cause. Sinus empyema would, it is true, be accompanied by stenosis of the corresponding nasal passage and by purulent discharge, but this rarely complete stenosis is due to congestion and swelling of the turbinate bodies, is not constant, and tends to disappear or at least to become much less after the application of cocaine or of suprarenal extract, while the pain and local tenderness characteristic of this affection should lead to differentiation. Careful rhinoscopy with good light, thorough cocainization and exploration and palpation with the use of the probe are of great importance. In little children, cocaine anæsthesia may not be sufficient, and if there is much fear or restlessness—and this we may expect if instruments are to be passed into the nose—a whiff of chloroform or ethyl-chloride may have to be administered. If the obstructing mass offers a hard surface and some resistance to the probe, we have to deal either with a foreign body, necrotic bone, osteoma, or a rhinolith. Necrosis of bone is generally accompanied by intense fetor, deformity of nasal cartilages and bones, by hemorrhages, by less marked obstruction, and generally scanty or absent secretion, and the obstructing mass is usually less easily movable than a foreign body, and communicates through the probe the sensation of denuded bone,

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besides which its attachment to the nasal walls can usually be made out. An osteoma may generally be excluded by careful probing, and mapping out the boundaries of the obstructing mass, with consideration of the entire clinical picture. An attempt at extraction may be necessary to assure the diagnosis. Differentiation between a rhinolith and a hard foreign body is not feasible except, perhaps, in an undoubtedly recent case where the history as to the cause is clear; nor is it of therapeutic importance.

It is well to remember that both foreign bodies and rhinoliths may be covered by mucus or pus, or actually by a sort of pyogenic membrane, and may escape detection unless this layer is wiped away with a tuft of cotton wound on an applicator, and the probe used again.

Treatment.—It is well to try simple measures at first. After spraying the nares with a four per cent. to six per cent. solution of cocaine, and applying adrenaline solution or suprarenal extract in fluid or powder form, the unobstructed nostril should be closed and the patient instructed to blow vigorously. This alone, in some cases, is sufficient to dislodge a small, smooth, or unimpacted body, such as a button or cherry pit. In children who are too young to blow the nose themselves, we may use inflation with a Politzer bag, blowing air in through the free nostril. Mackenzie advises the introduction of a stream of water through the unaffected side to flush out the obstructed passage. This advice is hardly safe, however, as the stream of water must fill the nasopharynx with considerable force if it is to have sufficient impetus to loosen and expel a foreign body through the other side. The orifice of the Eustachian tube may be forced open by such a procedure, and water plus nasal secretion forced into the middle ear with unpleasant results. Direct syringing of the obstructed cavity through the anterior nares or, better still, through the pharyngeal opening with a post-nasal syringe or curved catheter is a safer plan. Sajou's method of clearing the nasal passage by drawing a tampon of moistened gauze through it from behind may be of service at times, especially if the foreign body has lodged or been pushed far back toward the posterior nares. If these manœuvres fail, direct extraction by instrumental aid must be tried. A strong probe bent over at the tip, a foreign-body hook, a wire loop, or a blunt curette may be passed between the foreign body and the wall so as to draw it forward and out, or at least to loosen it so that it may be grasped between the hollowed jaws of a slender angular forceps and extracted with a slightly rocking motion and as carefully and as gently as possible. If the mass is too large to pass out at the nostril we may have to push it back into the nasopharynx, after cocainizing the mucous membrane of these parts. The patient's head should be inclined sharply forward, or a finger passed into the nasopharynx to prevent the foreign body falling into the glottis.

If the dimensions of the foreign body are such that it cannot even be pushed into the nasopharynx, an attempt may be made to break up the mass by the use of crushing forceps, rongeur or cartilage scissors, or, in exceptional cases, to shrink it by repeated application of the galvano-cautery point. Very large rhinoliths may be reduced chemically, if subject and physician have sufficient patience, by the application of concentrated acids, as suggested by Voltolini.

Gauze and cotton plugs which have become soaked with blood and secretion easily escape detection, and the latter are removed with some difficulty if adherent, as they shred off and come away piecemeal with the forceps. The use of cotton for deep plugging cannot be too strongly deprecated, and when gauze is used we should know just how many pieces have been inserted.

Epistaxis, more or less copious, may interfere with instrumental extraction, and this must be controlled if we wish to proceed safely and thoroughly. The preliminary application of suprarenal extract and cocainization will be of material assistance in this respect, as well as in diminishing swelling, and so giving a larger channel for the removal of the foreign body.

In the rare event of insects or maggots having entered the nose, syringing out with large quantities of weak bichloride solution (1:1000), carbolic acid (one per cent.), tobacco-water, or chloral hydrate, turpentine inhalations or insufflation of calomel have been suggested to kill and dislodge the troublesome visitors. The use of chloroform injections, pure or in mixture, with an equal bulk of water, seems to have met with universal approval, and to have superseded the other solutions. The injection is, however, painful, and may be preceded by a general anæsthetic, preferably chloroform itself. The inhalation alone is sometimes quite sufficient.

In the after-treatment of all these cases, attention should be paid to two important points, the cleansing of the nasal passages and the prevention of post-operative hemorrhage and infection.

Foreign Bodies in the Ear.—From time to time it falls to the lot of the general practitioner to be called upon to treat certain of the more common affections of the ear, and few of them require at times more manipulative skill than do cases of foreign bodies in the auditory canal.

The common belief is that the presence of a foreign body in the ear, without reference to its character or its mode of lodgment, is necessarily a serious matter. It is hardly necessary to say that this belief is groundless. Usually, unless the object be tightly impacted in the canal, or be pressing upon the drumhead, or of an irritant or caustic nature, its presence may cause slight discomfort, if any. This is of twofold importance. It imposes upon us the obligation of seeing to it that our remedy, or remedial attempts, be not worse than the disease. Secondly, as in most cases there are no immediate ill consequences, hurried and unskilful attempts at removal, whether undertaken by layman or physician, are to be discouraged. The need for interference is seldom so urgent that time cannot be taken to obtain expert assistance, and it should be borne in mind that the cases which prove to be serious and tax the ability of the aural surgeon are almost invariably those which have previously been subjected to the well-meant but injudicious efforts of the unskilful. As Politzer has very truly said, "The consequences attributed to the foreign bodies are, with very rare exceptions, provoked by unskilful attempts at extraction, undertaken by unpracticed hands."

If, in accordance with most writers, we exclude cerumen plugs from the scope of our consideration, foreign bodies of the ear are not common, either in general or special practice. Roosa gives somewhat less than one per cent. in a hospital practice embracing 11,000 cases, and twelve per cent. in about 5,000 private patients.

The presence of a foreign body in the ear may be ascertained quite accidentally in the course of a thorough aural examination. It is surprising what tolerance is shown in regard to the ear, and with what equanimity, worthy of a better cause, affections of this organ, unless they cause marked pain, are allowed to go uncared for. Even foreign bodies

which are large enough to affect the hearing seriously may remain undisturbed for years.

Foreign bodies may obtain entrance into the ear in a variety of ways: Those most frequently found have been introduced intentionally, as by children in play. The favorite objects are, as before, stones, pebbles, glass beads, buttons, "spit-balls," seeds, and pits. Adults, with the more serious purpose of relieving itching, removing cerumen, or perhaps at times of stimulating mental processes, insert twisted paper, spills, toothpicks, penholders, etc., which fortunately are not apt to be retained, except, in rare instances, by splintering. Other foreign bodies may get into the ear by accident, as in swimming, or be propelled with some violence, as small projectiles, chips of stone, etc. Animate foreign bodies may enter by their own efforts, as in the case of mature insects (bed-bugs, roaches, ticks, or flies) during the heated term, and again more frequently in the tropics or while camping out in the woods, and at other times during sleep in filthy quarters, or larvæ may be hatched from eggs deposited in the meatus by flies attracted to a running ear by the smell of pus.

Symptoms.—Even more varied than the species of foreign bodies are the degrees of severity in the disturbances, subjective as well as objective, to which they give rise. The gravity of the injury depends not only on the nature and size, the shape and consistency of the foreign body, but more particularly on the degree of force with which it has entered the ear, and the depth to which it has penetrated, either spontaneously or by unsuitable attempts at removal.

Inanimate objects, if smooth and not large enough to cause pressure (such as glass beads, buttons, etc.), which are not introduced very deep or with much force, generally cause no pain at all, so that in the absence of a clear etiological history, their presence may be suspected only on account of ringing in the ears, slight deafness, or more often the feeling of fulness in the ear, and the peculiar sensation of "autophony" or subjective vibration and relatively increased bone conduction, which give to one's own voice and sound of swallowing the disagreeable jarring sensation we feel when there is wax or water in the external meatus.

Bodies which wound or irritate the wall of the canal may caused more marked pain, while at times those which have caused no perceptible local changes have sufficient effect on the sensory nerve terminals in the ear to set up reflex manifestations, particularly cough of a hacking, dry, irritating nature; the so-called "useless" cough. This seems to depend more on individual susceptibility than on the character of the foreign body, being more frequent in children; and we occasionally notice that even the slight and temporary irritation of the canal-wall or tympanum by the touch of a probe, curette, or applicator may cause a sharp fit of coughing.

Other reflex phenomena, such as vomiting, hiccough, trigeminal neuralgia, paræsthesia, dysphagia, facial tic, and even epileptiformic seizures have been reported in literature, but are extremely rare.

Living insects free in the external meatus cause great discomfort and annoyance by their movements, but actual pain is the result of the animal striking against or attaching itself to the drum membrane; the suffering then may be intense and radiate to the occiput and temple. Pain is, of course, a constant symptom wherever the foreign body has been driven into the meatus with sufficient force to wound its walls or the drum membrane. Perforation of the latter may be followed by middle-ear infection with the intense pain, throbbing, and general malaise characteristic of acute inflammation of this cavity. This is particularly apt to be the case with sharp-pointed objects, practically never aseptic, which have lacerated the drum and entered the tympanic cavity, often dislocating the ossicles. In fact, the foreign body may disappear behind the tympanum and remain in the middle ear, or even enter the Eustachian tube.[1] Foreign bodies which swell easily may, if they remain *in situ* for a long time, gradually produce considerable dilation of the canal, without causing much pain. Toynbee reported a case in which such an effect had been produced by the retention of a cotton plug.

Diagnosis.—We must not forget that the sensation of a foreign body may be caused by various forms of external otitis or by irritation of discharge, and that the patient may in good faith believe in the presence of one when there is actually nothing tangible. Again, a small foreign body may have entered the ear and fallen out again without the patient's knowledge, so that the first object of examination is to determine whether there is any foreign body at all present. Inspection will at times establish the diagnosis, but in every case we must bear in mind the importance of a careful examination under the best focal illumination possible, want of which is probably the most fertile source of unsuccessful efforts at removal and of consequent damage. Under no circumstances should we permit ourselves to introduce probes, hooks, or forceps, and to feel about for the foreign body, unless every movement is controlled and guarded by the eye. The result would almost inevitably be to push the foreign body still farther into the canal, or even to perforate the drum.

When carefully used, together with inspection, the probe is one of the most useful diagnostic aids, and may be of much service in determining the consistency and mobility of the objects revealed.

We may overlook a foreign body:

1. If the drum has been perforated and the foreign body has passed into the tympanic cavity. Careful examination with the mirror may then reveal a perforation, and often a bulging of the drum, or dislocation of the ossicles and distortion of the membrane by pressure of the foreign body, and the probe will impinge upon a more or less unyielding mass behind the drum—perhaps in the attic.

Secretion or exudate may conceal the perforation, and unless we have removed this deposit, the fact of perforation may escape our notice. Persistence of the symptoms or development of others pointing to acute otitis media may finally necessitate a free paracentesis of the drum, which exposes the foreign body and clears up the diagnosis.

2. If the canal walls are occluded by swelling of the soft parts from an otitis externo, due to injury by a foreign body, or more often to rough and unskilful attempts at extraction. This may be overcome by the use of a bivalve speculum, if necessary under general anæsthesia, or in the absence of urgent symptoms we may wait for the swelling to go down, assisting by the application of leeches to the tragus and to the back of the concha, the instillation of astringents, and the use of hot moist compresses.

3. If the foreign body is incorporated with cerumen. The detection is then of minor importance therapeutically, as the removal of the plug—pref-

[1] Deleau cites a case in which the foreign body, an agate, which had gotten into the tympanic cavity, was finally dislodged by syringing forcibly from the nose through an Eustachian catheter.

erably by syringing—is indicated in any case. The probe may reveal the true nature of the mass.

4. When the sinus of the auditory canal is very deep and the foreign body lies in it. The sinus is a hollow in the floor of the meatus, directly in front of the drum. Its outer wall is almost at right angles to the axis of the canal. If the foreign body does not appear when the patient's head is sharply inclined to the unaffected side, or with the patient lying down, we may introduce a small middle-ear mirror, and so get direct inspection. We may reach a practical result more simply and rapidly, however, by thorough syringing, which will bring out a foreign body if there is any there.

Treatment.—In most cases we will accomplish our object by freely and repeatedly syringing out the ear with warm boric-acid solution, to which a little soap or lysol may be added as a lubricant. We should always rely primarily upon the syringe as the best means of removing the foreign body, and be prepared to persevere with it. The chief contra-indications to the use of the syringe, none of them absolute, are the presence of a large perforation in the drum through which the foreign body might be washed; a sharp-pointed body which might wound the drum, or the development of severe nausea. In syringing, the curve of the membranous canal must be overcome by drawing the auricle backward, outward, and slightly upward (backward and downward in little children); the syringe should not be directed along the canal, but somewhat toward the upper wall of the meatus, so that the stream, instead of impinging with force upon the drum, flushes it from above downward, and a steadier double current is set up.

The patient's head should be inclined toward the affected side, so that gravitation may assist us as far as possible. In case the foreign body is soft and swells up easily by imbibition, it may become more tightly impacted at first when we syringe with aqueous solutions.

The instillation has been advised of a mixture of alcohol and ether, which absorbs moisture from the mass, dries it out, and so causes it to shrink up or crumble to pieces. Usually this is not necessary, as hot water will, if persevered with, finally soften such bodies as peas, beans, or cerumen-covered masses to such an extent as to disintegrate and flush them out. This may be assisted by the careful use of a blunt curette or hook to pick the mass apart.

In the case of harder organic bodies impacted in the meatus, Voltolini has advised the burning out by repeated touching with the galvano-cautery point to cause them to shrink, after applying a lubricant to the external meatus, as a protective surface and to facilitate extraction.

As therapeutic curiosities we may mention the method (quoted by Loewenberg as having descended from Celsus himself) for the removal of a foreign body by pressing against it a small camel's-hair paint-brush, previously dipped in melted glue, and withdrawing this novel instrument, after the semi-fluid sticky mass had set, with the foreign body adhering; the loosening and eventual removal of a tightly-wedged cherry-pit by means of aspiration with an ear syringe attached to a rubber tube; and finally the use of irrigation by catheter from the nose. In case simple measures fail, the use of such instruments as the foreign-body hook or spoon, the wire loop, a bent probe, fine angular mouse-tooth forceps, or more rarely a snare, becomes inevitable.

I must again remind you that one and all of these instruments may cause serious mischief, unless used with judgment; that the method of application, not the choice of the instrument, is of paramount importance, and that, whatever procedure be employed, it cannot be considered really safe unless carried out with perfect care through a good speculum and with ample illumination.

In the rare event of a foreign body resisting all attempts at removal, which has penetrated so deeply or is of such a size as to give little hope of extraction by the methods cited, it may become necessary to expose freely the cavity in which the mass is wedged, and to remove it immediately, or after comminution, by suitable instruments. After preparing the region about the ear by shaving and disinfection, with as much care and attention at least as we would use in a mastoid operation, we proceed, under full asepsis, to detach the concha and cartilaginous meatus from behind. A curvilinear incision is made close behind the auricle along the insertion of the concha, extending from the mastoid tip to the supra-mastoid ridge and including the soft parts down to the periosteum. This incision may cut through the cartilaginous canal which lines the posterior bony wall of the external auditory meatus, or the canal is dissected up from the underlying tissues and its posterior wall cut through at as deep a level as possible.

On retracting the flaps, the foreign body can be grasped and removed; at times, it is true, only after cutting away the posterior wall of the bony canal or the tympanic cavity and breaking up the mass with a mallet and chisel or crushing forceps. After carefully syringing and removing all chips and spiculæ of bone, the soft parts are replaced, the entire wound closed with numerous interrupted silk sutures, a tampon of gauze placed in the canal as a drain and splint combined, and a complete dressing applied over and around the auricle.

In addressing you on a topic which is of at least as much practical importance to the general practitioner as it is to the specialist, I am well aware of having merely given a résumé of well-established views and methods, unfortunately but too often neglected. In the nature of the subject, as in the character of my experience, there has been no occasion for the presentation of anything original or striking. I may be permitted, however, if any excuse were needed on this score, to call attention to the fact that while new and important fields of pathology and therapeutics are being explored by the small body of scientific pioneers, most of us, after all, belong to the vast army of occupation, and that we too will contribute in no small measure to the practical progress of medicine if we take care of our territory, no matter how long since it was annexed, and manage it with common sense, with skill, and with fidelity.

Albuminuria of Obscure Origin Occurring in a Case of Thoracic Aneurysm.—E. B. Bostock and J. G. Emanuel report this case in detail, noting the following interesting facts: While the autopsy confirmed the diagnosis of aneurysm of the arch of the aorta compressing the trachea, the albuminuria and œdema which were present were found due to widespread lardaceous disease. They consider marked lardaceous disease as the result of uncomplicated syphilis rare, as was the condition in the reported case, which also appears to prove that lardaceous disease of the kidneys of itself does not give rise to hypertrophy of the left ventricle. The marked visceral lesions shown are uncommon in locally acquired syphilis. The case tends to prove that aneurysm *per se* does not cause hypertrophy of the left ventricle.—*The Birmingham Medical Review.*

SOME ULTIMATE RESULTS OF GUNSHOT WOUNDS CAUSED BY MAUSER BULLETS DURING THE LATE SPANISH-AMERICAN WAR.

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On my return from Puerto Rico, having been officially detailed by the Surgeon-General of the United States Army to make physical examinations of the members of the Seventy-first Regiment, N. Y. V. Infantry, prior to their muster out, it was my privilege to note some ultimate results of wounds caused by Mauser bullets. Most of these wounds occurred during the attack on San Juan Hill, and demonstrate the humane nature of this special weapon, death resulting only when a vital portion of the body had been struck, or when the knowledge or the means for arresting fatal hemorrhage was not at hand.

Case I.—H. S., private, Company M, was wounded in the left knee joint. A Mauser bullet entered at the outer and upper aspect of the left patella, and struck the external condyle of the femur, slightly splintering the bone and traversing the cavity of the joint. It emerged just below the patella, the head of the tibia remaining uninjured. At the time of examination there was found slight roughening of the articular surface of the femur, and distinct crepitus was felt on active and passive movement of the joint. There were also evidences of trophic changes on the outer aspect of the knee joint, due to direct injury to the blood vessels. There was no reason to believe, either from the history of the case or from the examination of the joint, that septic inflammation had occurred at any time. The range of motion (flexion and extension) was about two-thirds normal, with every indication that the perfect use of the joint would be regained. In this case recovery had in all probability been delayed by the patient's condition of severe malarial cachexia.

Case II.—E. R. P., private, Company M, was struck by two Mauser bullets. The first entered the posteroexternal aspect of the left thigh, about 15 cms. below the tip of the great trochanter, passed through the muscles on the outer side of the thigh, punctured the external condyle of the femur, and emerged $1\frac{1}{4}$ cm. above the outer and upper portion of the patella (knee in extension). The second bullet had its wound of entrance $1\frac{1}{4}$ cm. above the wound of exit of the first bullet, entering the femur, and emerged just below the patella, skirting the outer part of the joint. There was no evidence of septic inflammation having occurred, and the use of the joint was complete at the time of the examination.

Case III.—L. I. D., corporal, Company M, received wounds from four Mauser bullets. The first entered the anterior wall of the chest, $3\frac{3}{4}$ cms. to the inner side and $1\frac{1}{4}$ cm. below the right nipple, ran through the skin, subcutaneous tissues and muscles in this region (not entering the thoracic cavity), and emerged opposite the tenth rib in the mammary line of the same side. Recovery was complete. The second bullet entered the anterointernal aspect of the middle third of the right thigh, ran through the muscles, and emerged 10 cms. below and 5 cms. to the inner side of the wound of entrance, recovery being complete. The third bullet entered the front of the same thigh 15 cms. above the upper border of the patella, and the wound of exit was situated $7\frac{1}{2}$ cms. above and $3\frac{3}{4}$ cms. to the inner side of the mid-point of the upper border of the patella (knee in extension). Recovery was also complete. The wound of entrance of the fourth bullet was at the inner side of the knee joint of the same side, and the bullet remained embedded in the joint, from which it was later extracted. The range of motion in the knee joint at the time of examination was found to be only slightly impaired. In all four of these wounds, in this one man, there was neither history of, nor were there any signs of any delay in the healing process caused by septic inflammation. None of the large vessels was injured, and the hemorrhage was very slight, the wounds being small and clean cut. The corporal was on the skirmish line, and in the prone position, when he was struck by these four bullets in quick succession. He said that the pain was slight, and that he continued to look after his squad on the skirmish line for some time after.

Case IV.—J. G. P., private, Company F, was hit with a Mauser bullet, which entered the front of the right instep, and emerged from the sole of the foot. The wound healed promptly, but he experienced slight muscular pains in the right leg, which were undoubtedly the result of the injury. The function of the foot was perfect.

Case V.—F. H., private, Company F, a Mauser bullet entered $3\frac{3}{4}$ cms. to the left of the tip of the spinous process of the third lumbar vertebra. There was no wound of exit, and the course of the bullet could not be determined. There was no evidence of any internal injury, and recovery seemed complete.

Case VI.—J. M., private, Company M, received a gunshot wound of left knee. A Mauser bullet entered the outer aspect of the knee joint, and emerged to the inner side of the joint, the bullet grazing the posterior surface of the patella. The injury to the bones was practically nil; but the irritation caused by the passage of the bullet set up a productive inflammation in the joint, which resulted in the formation of adhesions, thus causing a limitation of motion. These adhesions are gradually breaking up the active and passive movements, and the complete function of the joint will in all probability be fully regained.

Case VII.—J. S. L., quartermaster-sergeant, Company B. A Mauser bullet entered the right thigh 10 cms. below and 5 cms. anterior to the tip of the great trochanter, and emerged from the thigh $8\frac{3}{4}$ cms. below and $2\frac{1}{2}$ cms. behind the same point, passing through the muscles on the outer aspect of the thigh. The wound healed promptly, without any septic inflammation.

Case VIII.—W. B. C., private, Company B. Mauser bullet entered the temporal bone on left side $3\frac{3}{4}$ cms. behind and $\frac{5}{8}$ cm. below the external auditory meatus, and emerged from the buccal cavity, after having torn away the last two lower teeth on the left side, and the right upper and lower middle incisor teeth and the lower right lateral incisor tooth, in all a loss of five teeth. The course of the bullet must have been as follows: Entering the posterior part of the mastoid portion of the left temporal bone, the bullet traversed the bone just internal to the mastoid cells in the region of the digastric fossa and the groove for the occipital artery, then passing by the carotid arteries, avoiding the other important vessels and nerves in this region, passed above and to the outer side of the transverse process of the atlas into the buccal cavity, striking the last two lower molars on the left side, and emerged from the mouth after striking the right upper and lower middle incisor and the lower right lateral incisor teeth, breaking them off at their roots. At the time the man received the wound the hemorrhage was not profuse, being limited almost entirely to oozing from the mucous membrane of the pharynx, and the shock was not great. When the man presented himself to me for examination, he complained only of the loss

of his five teeth, and said he was rather nervous, and subject at times to slight headaches. His hearing on the left side was normal. Considering the course of the bullet, the manner in which the latter escaped the important vessels and nerves seems almost miraculous. It certainly demonstrates that the bullet from the Mauser rifle, when not diverted in its course, causes almost no damage to the tissues adjacent to the immediate line in which it travels, the tearing and laceration of the soft parts being almost nil.

Case IX.—J. M. N., corporal, Company K. A Mauser bullet entered 2½ cms. below the base of the spine of the scapula on left side, passed through the bone, pierced the apex of left lung, and emerged from the front of the chest 3¾ cms. to the inner side, and 1¼ cms. below the tip of the coracoid process between the first and second ribs. The same bullet having been deflected upward, entered the neck at about the apex of the left submaxillary triangle, passed through the soft tissues into the mouth, removing two teeth in its exit. Although it is not mentioned in my notes of questions asked the man at the time I examined him, yet, when he was shot, he was probably leaning his head over his rifle, taking aim. The man neither suffered from severe shock nor hemorrhage, and the wound healed promptly. He said he had nothing to complain of save the loss of his two teeth, and he thought that he could get along very well without a pension from the government.

Case X.—C. A., corporal, Company K. A Mauser bullet entered the back of his arm 5 cms. above the tip of the olecranon process of the ulna (arm in extension), passed through the lower extremity of the humerus in the region of the trochlear into the joint, leaving the forearm 7 cms. below the internal epicondyle of the humerus. At the time of my examination there was only a very slight interference with extreme flexion of the joint, and the use of the arm was sufficient for all practical purposes.

Case XI.—D. C. McC., private, Company E. A Mauser bullet entered the head of the right tibia, and emerged on the outer side of the knee joint, avoiding the patella. The head of the tibia had been punctured, and there was no splintering of the bone. On examination, I found that there was some crepitus on movement of the joint, but flexion of the knee was only very slightly limited.

Case XII.—J. J. McD., first sergeant, Company F. The bullet from a Mauser rifle entered the antero-external aspect of the greater tuberosity of the humerus, went diagonally through it and the corresponding portion of the shaft of the bone, and emerged at the posterior side of the arm at the junction of the upper and middle thirds. There had evidently been no splintering of the bone, and the function of the arm was perfect.

Case XIII.—J. E. M., private, Company F. A Mauser bullet struck him in the outer and upper portion of the left buttock, and the bullet was extracted from the femur by an incision 5 cms. below point of entrance. There was no loss of function, and no evidences of splintering of the bone or laceration of the soft parts.

The two following cases, although bearing no relation to the subject, may be of some interest.

G. J. H., private, Company D, told me at the time of the examination that, during the engagement of San Juan Hill, one of the guns of Captain Capron's battery was fired from a slight eminence behind and somewhat above him. He said he felt stunned for a few minutes, and as soon as he could collect his thoughts, he noticed that he was deaf in his right ear. Thinking that it was merely temporary, he gave it little attention. The deafness, however, has persisted, and on examination it was found that the concussion from the discharge of the gun had caused complete dislocation of the ossicles of the ear.

G. F. F., private, Company F. A shell from one of the guns of our own artillery exploded within a few feet of this man, and a fragment struck him on the right side, crushing the fifth to the twelfth ribs, inclusive. This resulted in an irregular bulging of the right side, and marked lateral curvature of the spine (convexity to the right). The man suffered severe pain for some time after, but this has entirely disappeared. The injury healed promptly, but left a deformity which interferes with the use of the right arm, and there is partial paralysis of the fourth and fifth fingers of the right hand. The expansion of the right lung is irregular, and there are signs of firm pleuritic adhesions binding the lung to the chest wall, which moves only slightly with respiration. The man is disabled for the performance of any form of hard manual labor.

In the foregoing cases, with the exception of the last two, we note, that, owing to the great velocity, the rapid rotary action, the hardness of the outer shells, the shape and the weight of the bullets from modern small-bore rifles, of which the Mauser is a fair example, and the long ranges which generally obtain in modern warfare, most of the wounds, on account of their trivial nature (the wounds of ingress and egress being usually small), heal rapidly, in the majority of cases, without suppuration. We also note that tearing and laceration of the soft parts, as a rule, are slight, and that when bones are struck they are more often punctured or grooved than broken or splintered, which was the case with the old leaden bullets, with their great explosive effect and slight penetrating power. Primary and secondary hemorrhages are correspondingly reduced.

Certainly these and the many other cases on record show that the change to the use of small-bore rifles by the armies of the civilized world has proved to be a great blessing in modern warfare.

A NEW OPERATIVE PROCEDURE FOR TREATING INFLAMMATION OF THE POSTERIOR PART OF THE EYE.

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In treating inflammation of the lids, cornea, iris, and ciliary body, amongst our most potent remedies is temperature. Without the use of hot water, without the use of cold ice cloths, how limited we would be in the treatment of these diseases! With them, intelligently used, in conjunction with other remedies, what wonders are accomplished!

If, without injury to the ocular or orbital tissues, these remedies could be applied to the posterior part of the eye, might we not hope for like happy results? The field seems broad and hopeful—indeed, so full of promise as to justify any amount of work, and the assumption of considerable risk. The risks are at the most problematical. There are no certain contra-indications, no visible lions in the way. If, after prolonged and severe experiments upon rabbits, we find no ill effects, would we not be justified in trying cautiously the effect upon the human eye, threatened with partial or total loss of vision. And when we consider the paucity of our remedies for these inflammations, that in many of these diseases we are little more than spectators, watching an eye go from bad to worse, or perhaps to total destruction, unable to be of much real service, we are emboldened to advance, though at some risk. Tenon's capsule offers a sure, easy, and familiar way, for reaching the

nerve and its head, the very heart of these troubles. The vagina offers no surer road to the gynecologist in his treatment of the womb and its appendages.

May we not use Tenon's capsule for hot water injections as the gynecologist uses the vagina, or the aural surgeon the external canal for disease of the attic, antrum, middle ear, and mastoid.

Let us consider more in detail the proposed procedure and the possible dangers attending it. In regard to the anatomy of Tenon's capsule, it is not necessary to deal with the various refinements of dissection which are still a matter of dispute.

It is enough for us to know that here we have a delicate membrane, separating the ocular from the orbital tissues, extending from near the edge of the cornea to the optic nerve, crossed by bands of connective tissue, which are particularly numerous at the posterior part. Being a lymph space itself, it is connected with other lymph spaces around the optic nerve.

That though the capsule moves with the eyeball, the ball has some motion within the capsule, more especially if the ball has a short anteroposterior diameter. That on one side of this space we have the tough sclera, enclosing the more delicate tunics of the globe; on the other side, we have a mass of fat, pierced and ramified by nerves and blood vessels.

That this fat in front is hard, but at the posterior part, in the cone formed by the recti muscles, this fat tissue is exceedingly delicate, almost fluid.

In this operative procedure there are two sources of danger. First, the necessary technique of the operation, viz., opening the capsule, passing the catheter back to the nerve and maintaining it there; the pressure of the water, if too great, stretching, dissecting, perhaps tearing, and penetrating parts not desired.

Second, the temperature of the water; if it be too high, what damage might it do to the sclera, to the sheath of the nerve, to the head of the nerve, to the choroid and retina? Would it disorganize the vitreous, would it have any effect upon the capsule or lens? Would it disorganize the delicate fluid-fat at the posterior part? Could it do any injury to the other orbital vessels? Lastly, what would its effect be upon the epithelium of the capsule itself? This seems to me to sum up about all the dangers we might anticipate.

What are the cases or class of cases we might, reasoning from analogy, expect would be benefited, and what are the cases or class of cases in which the operation is not indicated? It would be indicated, first, in those cases over which at present we have very little control. It is not indicated, and would not be justified, in those cases over which we have control, and look with reasonable hope for recovery, or those cases that are due to an especial cause, and are constitutional.

It is evident that when the inflammation is due to poison, as in syphilis or rheumatism, or in albuminuric retinitis, diabetic neuroretinitis; when serious arterial changes have taken place; when alcohol, tobacco, lead, zinc, copper, or other poison can be assigned as causative; when the disease is intercranial, as meningitis, whether simple or tuberculous, or a neoplasm; acute otitis media; abscess of the brain; or when due to periostitis of the orbit, or orbital tumors: to empyema of the frontal sinus; or caries of the teeth; or malformation of the skull; to nipping of the nerve in fracture of the sphenoid; to intermittent fever; severe hemorrhage, anæmia, sunstroke, acute myelitis, grip, chlorosis, menstrual disorders, sunstroke, or acute, exhausting diseases, as pneumonia, typhoid, typhus, measles, and scarlet fever—it is evident that in inflammation due to these causes the proposed procedure would be but tentative, and, in some cases, clearly contraindicated.

But even when this treatment is tentative, if it be only effective, its value can scarcely be overestimated. We should remember always that the danger point is the head of the nerve, that an amount of inflammation at this point will certainly be followed by atrophy; a like inflammation further back might not have any ill effect. The head of the nerve is its most vascular part, and surrounded as it is by the tough, unyielding sclera, and having behind the lamina cribrosa is the point of danger. A choked disc always recalls to me cases of strangulated hernia; if the swelling is great enough or prolonged enough, more or less of the nerve will be dead.

Here, then, a tentative treatment might serve to lessen or hold in check an inflammation until the constitutional treatment took effect, as in syphilis and rheumatism, or until the system had eliminated poison, as in case of alcohol, tobacco, etc., or as after debilitating diseases, when we would have time for hygiene and tonics to do their reparative work. But, frankly, how many of these cases originate from causes unknown to us? How very many of them are idiopathic! Take a case of neuroretinitis of idiopathic origin; the usual course is to assume that it is due to syphilis, and load the circulation with the iodides; if the disease grows worse, we stop the iodides and give tonics. The patient gets well, or the inflammation is followed by atrophy, and partial or total loss of vision. In either case what have we contributed toward the result?

In these cases, we have been posing as specialists, without giving any special help. Take one of these cases of neuroretinitis, extending to and involving the retina and choroid; at first the back part of the vitreous, then the whole of the vitreous, the ciliary body, iris, and Descemet's membrane, becoming in fact a uveitis. While this inflammation is confined to the posterior part of the eye, how little effect we can have upon it! When it has reached the anterior part of the eye, how vigorously we attack it with hot water, and with what palpable results! In fact, we may almost say, we can control the inflammation.

Now, why could we not extend the attack to the head of the nerve—the danger-point—the back part of the eye, before the damage has been done? Then by adding sodium chloride to the water, sufficient to raise its specific gravity higher than that of the blood, we have all the conditions for osmosis.

In this connection, let us recall the openings from Tenon's capsule into the lymph spaces around the nerve, remembering that these lymph spaces are continuous with other lymph spaces that pass forward through the vitreous and the suspensory ligament to the canal of Schlemm; that, in fact, a very network of anastomoses is maintained between these lymph spaces and other lymph channels, along the venæ verticosæ and ciliary nerve lymph space, and that these again communicate with the perichoroidal lymph spaces, between the sclera and the choroid, and these again with the comparatively larger lymph spaces between Tenon's capsule and the sclera. In view, then, of these numerous avenues of drainage, of depletion, what would be the effect of these hot saline injections upon glaucoma, or detachment of the retina?

It is evident a most powerful effect would be produced, either for good or for ill. In cases where we have an accentuated second aortic sound, with tortuous arteries, hard radials or carotids, a history

of asthmatic attacks with or without renal complication—in short, indications of arteriosclerosis—the use of such a powerful agent as hot saline injections would be either contraindicated or should be used with the greatest circumspection.

Just how this agent acts has never, I think, been clearly shown. From what I read of the action of hot water on the tissues, I was led to believe that when the tissue was submitted to water at a temperature of 115° to 118° F., for the first five minutes, there was a determination of blood to the parts, the parts becoming rosy, the vessels full, especially the arteries and capillaries, vasomotor relaxation taking place; that after about five minutes, the vasomotors are stimulated to contraction, the parts becoming blanched and shrunken. From my own observation, I believe these views are incorrect, that they have been generally accepted because no one has taken the trouble to examine just what action hot water has on the tissues.

I have tried to determine this action by taking large numbers of people and submitting them to the experiment of holding the hands immersed in the water at different temperatures.

I first tried a number at 110° F., or just a little lower; another group at 114° and the last group at a temperature as near 118° as possible. The hands were kept immersed for from fifteen to twenty minutes. It is not possible to submit the tissues to water at a greater temperature than 118° for any length of time, and water at 125° or 130° can be applied only momentarily to external parts. But at 130° and above, its action becomes really caustic. What its action is upon the circulation at this high temperature does not concern us for the purpose we are now considering.

For injection, whether into the vagina, the ear, or the capsule, a temperature higher than 118° or 120° F. is out of the question; it would be intolerable to the patient, and all the good that has been accomplished has been by the use of hot water, at a temperature below 118°. Probably most vaginal injections are taken at 112° to 114°; the direction given to the woman is to take them as hot as she can bear them. As the water flows out over the sensitive vulva, it is evident the temperature could not be higher than 115° to 118° at any time, and that most of the injection is near 112° or 114°. Of course, at a single injection the water will vary several degrees, even when great care is taken. I found that the effect upon the tissue was similar, differing only in degree, whether the water was 100°, 114°, or 118°, or higher. For the fifteen or twenty minutes the hands were immersed there was a determination of blood to the parts, the parts became rosy and swollen; finger rings that were loose became tight, and the skin bulged up around and over the rings that had been at all tight. Pressure on a point blanched the tissues for several inches; around the point of pressure there was vasomotor relaxation. What would have been the result had the immersion continued longer I am unable to say. Fifteen or twenty minutes' injection is what we are familiar with, and upon that basis we are working now.

It is not our purpose to deal with the fine physiological problems, caused by the action of the water. We know it determines a rush of arterial blood to the parts, and drives the venous blood out, thus relieving stasis, improving the circulation, establishing a more healthy metabolism, and an absorption of exudates.

These are the results we hope for, and hope to obtain without damage to the parts. That no damage results from the use of these injections upon the rabbit's eye, I have proved by repeated experiments. At first I gave an injection only every two or three days, as the rabbits were some time recovering from the effects of the anæsthetic. When, however, I found that I could operate without giving a general anæsthetic, I increased the frequency of the operations until I gave them daily for seven consecutive days. The rabbits were kept quiet by being laced up in a corset made for the purpose, extending from the head down over the hind legs. When they were laced up in this contrivance, having cocainized the eye, I could proceed without any trouble; unless some one made a sudden start, or the water trickled into their noses, they would be perfectly quiet. I opened the capsule over the superior rectus, well back, to avoid the third lid, and introduced a small silver catheter, such as we use for the nasal duct, bent to fix the convexity of the globe, and allowed water at a temperature averaging about 116° F., generally under that, to run for fifteen minutes. The first two or three days the wound closed up, but after that it remained open as long as I gave the injection daily. At first there was considerable reaction, because I allowed the water to run at too great a pressure, but after that, having lessened the pressure, so as to have it flow very gently, there was little or no reaction. At first there had probably been some stretching or tearing of the tissues, causing the reaction. I submitted the left eyes of three rabbits to the experiments for a period extending over four months, and then had Dr. Callen, Dr. Cocks, and Dr. Bell examine and compare the operated with the non-operated eye; they all agreed that no change had taken place in the eye, or in any of the media. They could detect no difference between the operated and the non-operated eye.

55 East Eighty-sixth Street.

THE DISADVANTAGES OF COPPER SULPHATE IN DISEASES OF THE CONJUNCTIVA AND CORNEA.

By Cornelius Williams, M.D.
St. Paul, Minnesota.

For many years sulphate of copper had been in routine use for every disease of the conjunctiva in which there was infiltration or hyperplasia. So common had this abuse of that remedy become that, while its use in the hands of a skilful and careful physician, such as Dr. Claiborne of New York undoubtedly is, might be productive of good results, its abuse by the many came to be the rule. The objections to the use of copper sulphate are so great, and its advantages so much less than those of other and safer remedies, that I think it should be banished absolutely from our list of remedies. There is nothing which it can accomplish which may not be done with infinitely less pain, and in a much shorter time, by other means. Mercury bichloride, for example, is so far superior to copper sulphate in trachoma, or in any chronic pernicious hyperplastic condition of the conjunctiva, that there can be no comparison between the two. The copper salt is painful, and the pain is long and will not quiet; the mercury solution, properly used, is painless and efficient. For all of those conditions enumerated by Dr. Claiborne (Medical Record, July 27, 1901) the mercury salt is preëminently adapted. Those who may not have used bichloride of mercury in trachoma, but who have had an extensive experience with copper sulphate, if they can be persuaded to substitute the mercury salt for the copper, will never, under any circumstances, return to the barbarity of copper in the solid salt.

The tendency is always toward the perfunctory

use of the remedy that has once received the sanction of high authority, and it is this perfunctory use of copper sulphate which is, in a measure, to blame for the many cases in which grave damage has ensued from its application. Instance the following case: X had a mixed infection of one eye, from a trachoma patient who had a mild blenorrhœa as well. There was, in the beginning, considerable swelling of the lids, with rapid engorgement of the entire conjunctiva. In a week the mucopurulent discharge, which had not at any time been great, had ceased, giving place to a serous transudation. There were minute facets upon the cornea, causing monocular polyopia. The conjunctiva was much thickened and succulent; it was more like plush than velvet. This condition was gradually bettered under indifferent treatment. There had been several relapses, with some small ulcers of the cornea, when, after imprudent use of the eye, and about six months after the original infection, the conjunctiva again became acutely inflamed, with corneal ulceration. The patient was then sent to New York, and was placed under the care of an oculist of that city. The patient entered a hospital, where this gentleman attended him daily. The treatment consisted in the every-day touching of the lids, as described by Dr. Claiborne, with a wedge-shaped piece of bluestone. No atropine or other treatment was employed, save iced applications to the lids, and on two occasions peroxide of hydrogen to the ulcers of the cornea. The patient remained in this hospital for about a month; the pain of the bluestone applications, lasting for a long time, he described as infernal. There came on later other and more constant pains in the eye, head, jaw, teeth, and side of the face, which were attributed by the ophthalmic surgeon to the corneal ulceration, which steadily increased during the entire time of the patient's stay in the hospital. After a month of bluestone, the patient returned to his home, where his physician found him with an iritis (which had received no treatment) of probably more than three weeks' standing, complete occlusion of the pupil, and an ulcer of the cornea, which had perforated. Glaucomatous tension supervened upon closure of the perforation; an iridectomy was done, and the eye, under very weak solutions of nitrate of silver and irrigations with mercury bichloride, got well with V = 5-200. "Beneficent bluestone" was, of course, not entirely to blame for the disaster in this case, yet I think that even Dr. Claiborne must admit that it was faithfully used by skilled hands. In all probability, had not the bluestone been used here, the outcome would have been no worse than is seen in thousands of other cases of trachoma with ulceration of the cornea which had received practically no treatment. The iritis in this case was excited by the bluestone in addition to the corneal implication, and would not have occurred had not both exciting causes been operative.

In the province of Manitoba there are very many trachomatous eyes which have been brought from Russia. They have all been treated with bluestone at some time, not always carefully, but not one of them has ever been cured by bluestone. I have seen a number of them that had been without any medical treatment for a time varying from two to fifteen years. There had been in every case successive crops of corneal ulcers; the patients had lived in many instances in straw-thatched huts, sometimes without a window, and burning manure for fuel; but, strange to say, in not one of these cases did I find posterior synechiæ, but had these eyes been subjected to such neglect, and also to the action of the bluestone, it is not credible that they would all, or any considerable percentage of them, have escaped without iritis. Corneal ulcerations alone, accompanying trachoma, as I have many times seen, produce iritis in but few instances; given ulceration of the cornea, however, and bluestone, or other similar irritation, and it would seem miraculous if the eye should escape iritis if atropine is not used.

Atropine, as everyone knows, does irritate the conjunctiva, but in my experience all eyes with corneal lesions do better with its use than without. To use copper sulphate in trachoma is to use a method which, in my opinion, has never been other than merely excusable. It is, however, a question upon which opinions may honestly differ, but to use copper on an eye with ulceration of the cornea, and not a mydriatic, is, I think, unjustifiable.

Dr. H. Knapp, formerly of Heidelberg, used to tell his students that the most heinous crime that a physician could commit was the failure to recognize, and, of course, properly to treat an iritis. Boiling oil and molten lead as a punishment, he thought, were none too severe. And in the light of my experience I am constrained to agree with him; indeed, I would go further.

I cannot, therefore, agree with Dr. Claiborne when he advocates the treatment of trachoma with ulcers of the cornea and trachomatous pannus without atropine, but think that the conservative use of atropine here to be truly beneficent; it is the indiscriminating use of atropine which has brought reproach to its door. The inconvenience of a dilated pupil and the paralysis of accommodation are as nothing compared with the ciliary spasm, the lacrymation, and the consequent increased blood inflow. Then the tonic and clonic ciliary spasm surely brings congestion of the entire uveal tract, and even though there may not follow an iritis, there must ensue a hyperæmia of the iris, nearly approaching inflammation, a vicious circle is soon established, and the disease prolonged. Much of the irritating quality of the atropine is removed by adding to the solution boric acid or chloride of sodium. I am maintaining that the proper use of atropine in conjunctival and corneal affections hastens the cure, and this is not incompatible with the fact that such diseases do get well without atropine, with and without other treatment; and also that corneal ulcers may exist for a very long time without iritis, even when atropine is not used. For those velvety conjunctivæ there is not any remedy equal to cleanliness and nitrate of silver, and it does not matter what the origin of the affection may have been.

I use nitrate of silver always with boric acid, sometimes with glycerin and alcohol also. I do not use strong solutions ever, and think them contraindicated always. For trachoma, with or without expression, I use a solution of silver nitrate of one-tenth to one-fifth of a grain as often as in my judgment that particular case may require. The eye is irrigated very freely from six to eight times a day with bichloride (in salt solution), 1:40,000. Before applying the silver solution, and before irrigation, the conjunctival sac should be thoroughly cleansed by wiping with absorbent cotton; the toilet is completed by carefully wiping dry the edges of the lids; this removes moisture and decomposing particles which induce itching, rubbing, and consequent increased inflow of blood.

Illustrating the difference in results as between bluestone and bichloride, I will cite the following two cases:

R., an editor of a country paper, had been treated for trachoma by six or eight men, more or less eminent, both in Germany, whither he had journeyed for relief, and in this country, but with only temporary relief. When I saw him, the face was averted,

the eyelids were shortened, slightly incurved, and the inner surfaces were scarred. There were some fresh corneal ulcers, also old scars. There was lacrymation, with a running nose. In short, there was chronic trachoma. Under the treatment outlined above, he was immediately relieved, and able in three weeks to return to his work, using the bichloride at home; and in three months the eyes were practically well, and have remained so, now twelve years. Some time after the return of R. to his home, he was traveling through an adjoining county when he stopped at the house of Dr. B., who had known him in the days of his trachoma. Dr. B. and his family, four persons, had trachoma; the weather was hot, and they were all as thoroughly miserable as it is possible to be, sweltering in a close room, all of them with ulcers of the cornea. R. shared with Dr. B. his knowledge of a successful treatment of trachoma, and that treatment was instituted at once, with the result that the physician and his family were rapidly made better, and eventually cured. Dr. B. had used the bluestone faithfully for several years, yet it had not been beneficent in its effects.

I could add many cases in which the copper sulphate had been used for a long time with failure, and in which a more rational treatment with weak solutions of silver nitrate and frequent irrigations with bichloride had been followed by immediate and marked betterment, with eventual cure; but a statement of the fact will be as convincing. The most difficult part of the treatment of a trachoma is the finishing, and for this the best remedy is perhaps a solution of tannic acid and boric acid in glycerin and water. When I wish to stimulate the cornea to increased tissue change, I add alcohol. I have not seen staining of the conjunctiva occur from the use of the weak silver solution, even when its application had been kept up for a long time.

I would sum up my conclusions thus:

1. Copper sulphate in ocular affections is maleficent in its effects. 2. Any good effect following the application of the solid copper sulphate in any disease of the eye may be obtained with the use of safer and practically painless means. 3. Trachoma is most successfully treated with weak solutions of silver nitrate, together with frequent irrigation with weak bichloride solution in normal salt. 4. No application to an inflamed conjunctiva which produces a lasting pain should be countenanced. 5. Expression is not absolutely essential, yet much hastens the cure of trachoma. 6. A mydriatic should be used in every disease of the eye involving corneal lesions. 7. Copper has ruined more eyes than it has ever benefited.

145 West Fifth Street.

Differential Diagnosis of Smallpox from Other Diseases.—J. Coffman calls attention to the mild type of smallpox now so prevalent in several American cities. It is often mistaken for impetigo contagiosa, but in the latter disease there are no prodromal symptoms, and a watery vesicle forms which soon bursts and forms a scab. In cerebrospinal meningitis we have the opisthotonos; the face is pale, instead of flushed, as in smallpox, and no remission of symptoms occurs on the appearance of eruption. The eruption consists of erythema, echymosis, etc., which is not regular in appearance. In typhus fever there is the history of exposure as a guide. In scarlet fever and measles the rash comes on in four and ten days, respectively, after exposure, instead of fourteen days, as in smallpox. In measles and scarlet fever the rash fades under pressure of the finger. In measles there is a marked bronchial involvement, with coryza and hypersecretion of tears. The temperature and other symptoms continue even after the advent of the rash. In scarlet fever there is a very rapid pulse; in smallpox the pulse is full and slow. The skin either peels off, or, as in measles, desquamates in fine bran-like particles. In smallpox scabbing occurs. The one disease with which smallpox has been confounded the most frequently in this mild epidemic in this country is chicken-pox. It has been remarked by some that chicken-pox does not occur in adults. This is true in a measure, yet cases do occur in young adults. The exanthem of smallpox first appears in the form of papules, developing in regular order on the third day, appearing first on the face, about the border of the hair, on the hands and wrists, then on other parts of the body. Their appearance is preceded by an initial stage of forty-eight hours, which is characterized by an elevated temperature; when the rash or papules appear, the temperature drops to normal, and other symptoms subside so much that patients wish to go back to their usual occupation, and sometimes do so, thinking that there is little the matter with them. The papules involve the entire skin, and are firm, with a shot-like feel. They cannot be broken by pressure of the finger nail. The eruption requires ten to twelve days or more to pass through its various stages; in even extremely mild cases, it requires at least six days; when the crusts form and drop off, a pigmented scar is left, which is apt to be pitted.—*Pennsylvania Medical Journal.*

Pessimism in Cancer.—G. Wiley Broome protests against the pessimistic attitude of certain physicians in regard to ascertaining the cause of cancer. He believes that in time it will be proved to be of parasitic origin. The distinctive character of malignant tumors in the rapidity of their development, the extension of metastases, which so strongly resemble those of diseases known to be due to bacteria, the cachexia out of proportion to the extent of the local disease, and suggesting the formation of a toxic substance, the fact that a spontaneous cure never takes place, the disease moving onward relentlessly to the fatal issue, and finally the liability of recurrence even after operation, are so many clinical evidences pointing to a parasitic origin. Laboratory researches are not yet conclusive, but point to this origin. Plimmer examined microscopically 1,298 cases of carcinoma, in 1,130 of which he found parasitic organisms, while ninety of the entire number were unfit for examination. He states positively that those bodies are constantly present in cancer and constantly absent in other diseases or degenerative conditions. The author believes the outlook to be very hopeful as regards the discovery of the cause and the cure of cancer.—*St. Louis Medical Review.*

Hepatic Inadequacy and Its Relation to Irregular Gout, with Special Reference to Treatment.—J. Burney Yeo says that in the cases which we are accustomed to recognize as cases of "irregular gout," the clinical evidence seems to point to hepatic inadequacy as being the initial cause of these morbid states. He has great doubts whether uric acid has any other relation to gout than that its overproduction in the human body is a result of the "gouty" state. He upholds the use of the much-decried calomel, and believes in the beneficial action of the sodium salts. The symptoms of irregular gout referable to hepatic inadequacy are pale faces, occasional enlargement of the liver, muddy complexion, yellowish conjunctiva, a sweetish-bitter taste, loss of appetite, and often a high-colored urine of high specific gravity. The glycogenic function, the function of metabolism of nitrogenous material, and that of bile formation, are all disturbed in the gouty. The author says that a simple diet is the best, but that individual cases must be studied in prescribing diet. His chief aim in this article is to defend the sodium salts, as he believes them to be the most valuable and indispensable of hepatic stimulants.—*The Therapeutic Gazette.*

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THE REVELATIONS OF THE AUTOPSY.

THE revelations of the autopsy on the body of President McKinley are deeply significant from many pathological and surgical points. While the report of the physicians is meant to be merely a preliminary one, the main facts thus far presented are sufficiently explicit to anticipate in all essential particulars the fuller account which is promised later.

Taken in connection with the clinical history of the case, and the extremely optimistic views of some of the consultants, the discovery of certain of the lesions named is both a surprise and a disappointment. It is a pity indeed that such an evident failure in diagnosis should have been so conspicuously demonstrated to the general public. It has proved, in fact, the lost opportunity for an entirely contrary exhibition of judgment, skill, and tact.

In reconciling the findings after death with the symptoms during life, there are many relations between causes and effects, which, although hidden before, are now very painfully apparent. We may comfort ourselves by saying that, under the circumstances, events were uncontrollable and results unavoidable, but the public, alas! view the real situation in a very matter-of-fact way.

The operation of suturing the stomach wounds was timely, proper, and, so far as it went, brilliant. Medical men the world over were proud to hear that it had been done so promptly and so well upon a person of such importance.

But now, in the light of the autopsy, we know that the operation, carefully conducted as it was, was necessarily an incomplete one. This is speaking of the procedure from a strictly surgical standpoint, irrespective of the ultimate doom of the patient in any event. Time was precious, and prolonged search for the ball was impossible, consequently the condition and course of the wound beyond the stomach could not be positively ascertained at the time. The surgeons satisfied themselves, therefore, that it was safe to leave this terminal wound to itself and close up the abdomen. They used their best judgment under trying conditions; but, unfortunately, that judgment was in error.

Then came the bulletins and interviews so eagerly read by an anxious nation. It was stated at first that the stomach wounds were the only causes for anxiety, that the ball having lodged in the muscles of the back would become safely encysted, and that septic peritonitis from possible leakage of the stomach contents was the only thing to be feared. When the latter danger was over, there came the surprising intelligence that the patient would certainly recover. This in face of a continued high temperature and rapid pulse! Then it was announced that all the wounds had healed perfectly, and the only real danger was centered in a weak heart. Hardly had this bulletin been issued when it was announced that the external wound was found to be infected, necessitating the removal of some stitches. Still it was said that the distinguished patient was doing excellently well—in fact, even better than before. Next was the report of an attack of indigestion, claimed to be due to food given too soon, and last of all and without warning came the appalling accounts of his rapid collapse and surprisingly quick death.

Worst of all, however, were the actual facts of the autopsy which seemed to prove to the public that the doctors had been wrong in their conception of the case from the beginning to the end.

Sadly enough, not one of the principal lesions gave any evidence of its existence during life. The good condition of the wound behind the stomach, of which all the surgeons were so pronouncedly confident, was an illusion and a snare. What was considered to be a most insignificant factor became the most important of all. Instead of the terminal track of the bullet being healed and the ball encysted, it was found, at the autopsy, to be gangrenous throughout. Thus a most startling error of diagnosis was flauntingly accentuated by an indignant and astonished press.

The practical surgeon very properly asks himself why the condition and the direction of the track behind the stomach was not discovered at the time the parts were exposed during the operation? That the problem was not solved then and there was certainly not due to any want of forethought on the part of the operator, whose skill in his line no one can question. The only answer must be that such a thorough examination of the parts was impossible at the time. Still it seems hard to explain why all the gentlemen on the case were so satisfied with the real nature of a wound that they, obviously, knew nothing about.

The MEDICAL RECORD was exceedingly anxious on this point and earnestly called attention to the possibility of there being a wound of the pancreas or kidney or both. Unfortunately, as the sequel too well shows, we were right in at least one particular.

Another matter is that which referred to the desirability of an *x*-ray examination to locate the ball. The RECORD urged this as of the greatest importance, and yet, with the apparatus at hand, it was repeatedly and publicly stated that such an examination was not at all necessary. In fact, it seemed safer to guess than to be sure. What comment suggests itself in this connection when even at the autopsy, so far as can be ascertained at present, it was not considered worth the trouble to search for the ball beyond a certain point! What excuse must be offered to the public for the utter inability to find the bullet even in the dead body! All these matters may, however, be properly explained when the fuller account of the post mortem is given to the medical and lay public.

Many different theories have been offered by the medical attendants concerning the cause of gangrene of the bullet track. By some the condition is charged to a poisoned bullet, by others to the leakage of pancreatic juice into the bullet sinus, and

by still others to mere lack of recuperative energy in the tissues involved.

On these points, however, the profession is willing to suspend judgment, pending the completion and publication of the official reports of the post-mortem examiners.

Viewing the strictly surgical aspects of the case in the light of the autopsical demonstrations, certain points of treatment might naturally suggest themselves. Everyone knows that such an injury as existed in the President's case is uniformly fatal. The most favorable result that could have been expected was the healing of the wound and the possible establishment of a fistula. This would certainly be infinitely better even as a tentative measure than accidentally leaving a leaking kidney or pancreas in a closed cavity to work such mischief as was manifested in the gangrenous condition of the surrounding tissues of the case in question.

Allowing that the bullet had actually lodged in the muscles of the back, also that the missile was within easy reach, it would be following a good surgical rule to establish drainage by the most direct route posteriorly. This course, however, could not be followed, as the bullet, on account of the unfortunate conditions already noted, was not accurately located. Under the circumstances, therefore, and taking everything into consideration, it is comforting to note that all was done for the distinguished patient that was possible. In fact, as was repeatedly stated by the operator, "the case was a fatal one from the start."

In thus remarking upon the public aspects of the case it is only for the purpose of getting at the truth and learning perhaps a useful lesson. In the same spirit we can afford to view the strictly professional side. To err is human, but wisdom comes from experience. It is safe to say that under like circumstances in future the gentlemen concerned would act somewhat differently. We sincerely trust that they at least would not then be asked to explain why they allowed a lost ball to be buried with the victim's body.

BONE AND IVORY FASTENERS IN THE TREATMENT OF FRACTURES.

Surgeons have, during the past few years, experimented with a number of appliances made of different substances, in their efforts to find the best material for maintaining apposition of the fragments of a broken bone. Two kinds of material have been used, absorbable and non-absorbable, of which the latter has the advantages of cheapness and strength, but also the more than counterbalancing disadvantage expressed by the adjective non-absorbable. Of absorbable materials, practically only two need be considered—bone and ivory—both these substances having been used in a variety of forms such as collars, nails, and splints. Numbers of good results have been reported by different observers. The preparation of a bone or ivory collar or nail is not a difficult matter, nor is its sterilization; and it may be further noted that the tibia and the femur of the ox lend themselves very satisfactorily to the formation of such objects.

The most important points in this subject are the class of cases suitable and the results obtained compared with the results of other methods. It is clear that there is a large class of fractures to which open operative measures will never have to be applied, but there are still many cases in which it is difficult or impossible to obtain reduction without direct access to the site of fracture, and to maintain it without some mechanical aid applied directly to the fragments. Some fractures of the femur belong in this class, especially when there is much obliquity of the line of fracture, and indeed we may encounter the same difficulty in any of the long bones, if only the break is oblique enough. We may, therefore, say that, in cases in which ordinary means of reduction fail, we must consider the advisability of making an incision and thus reaching the seat of the difficulty. In compound fractures it will apparently often be advisable to undertake to fasten the fragments with bone or ivory plates or nails, since such measures seem to assist in preventing failure to unite, and the formation of a pseudarthrosis, unfortunately common enough after compound fractures. The general rule may therefore be laid down that in fractures, either simple or compound, when reduction is impossible by ordinary means, we must consider the application of bone or ivory supports in the shape of collars, nails, or screws to maintain the ends of the bones in proper relation.

In considering the results after such procedures, we must make allowances for the kind of fracture and also apparently for the material used, in which connection we may say that the day of non-absorbable material is probably past. In a number of instances an ivory plug has been inserted into the medullary cavity of a long bone at the point of fracture, and the broken ends thus supported. There is no necessity for introducing such a large mass of ivory into the tissues, and so taxing their powers of absorption unnecessarily. A perforated hollow cylinder serves the purpose much better and is comparatively easily absorbed. It may be remembered that the ivory or bone appliance needs only strength enough to support the bone; the dressing supports the rest of the limb. Ivory or bone nails or screws, in suitable cases, are probably the best forms to employ, and it will, as a rule, not often be necessary to make use of the larger collar or intramedullary cylinder. In a number of instances in which suppuration has occurred and ivory nails have come out after a number of weeks, these have been found to be eroded to a remarkable degree. This condition was at first attributed to the corroding action of pus, but this view is erroneous. The corrosions represent the efforts of nature to absorb the offending foreign material, and if too much is not required of natural processes the whole object can be removed in the same way. The introduction of these appliances represents an advance in the treatment of certain of the more difficult fractures, and with proper precautions there is no danger in their use. We should say that, as a rule, it would be better to make the collars, plates, and similar articles from the bones of the ox, and the nails and screws from ivory, and it might be added that all these things should be as small as is consistent with safety. Another fact which may be mentioned is that the driving of nails into living bone causes an increase in its growth, a fact which has proved useful in the treatment of some refractory cases of delayed union.

THE SPEED AND CONTROL OF MOTOR-CARS.

The Lancet makes some common-sense comments on the above subject which might be taken to heart and acted upon by the chauffeurs of motor vehicles in New York City, and especially by those of horseless ambulances. The writer delivers himself in the following words:

"The series of accidents which have occurred in this country and in other countries during the past week is calculated to bring the motor-car into disrepute, and we counsel all interested in any way in motor-cars to do their utmost to suppress furious driving. All motor-car drivers should remember that motor-cars cannot be let loose on streets like so many railway trains. Present arrangements will not permit of it. Until motor-cars have a track of their own they must be placed under the strictest possible control in regard to speed and the rule of the road. With motor-cars coming round sharp corners at high speed, pedestrians need almost a new sense. The 'pip, pip,' is, as a rule, under these circumstances, not a timely warning, and people are likely to be run over before even they can realize that a motor-car is turning the corner. It would be well enough if it were possible that certain tracks in our busy thoroughfares could be allotted to the motor-car, but that is not possible and therefore, in the interests of the safety of the public, this method of traveling must be kept within bounds. The temptation to attain a high speed is, we fear, very strong when a driver knows that he is in possession of potentialities which neither overstrain nor exhaust his 'petrol steed.' It is difficult to enforce one set of rules for the country and another set for the high streets of the towns, but, as we have said, such rules are necessary in order to protect the public. It canot be gainsaid that the motor-car is by many people viewed with terror and alarm, inspired through the fault of drivers themselves. The latter forget that a series of a hundred explosions in order to gain motion is a new feature on the road, as is also the rate of speed at which the motor-car is able to travel. We do uot doubt that in due time the noise will be got rid of, but that achievement may likely enough prove a new danger. The temptation to increase speed will be greater than ever. We could wish for some invention by means of which the speed of a motor-car could be automatically kept within legal bounds. Surely, in these days of extraordinary engineering skill, it would be possible to devise an arrangement attached to the axle of the motor-car which would check the speed of a car as soon as it rose to a certain and dangerous point. The attachment of such an arrangement to a motor-car could be made compulsory, and anyone found without such a method of control could be fined. We have no wish to interfere with any advance in means of locomotion, but this advance must not be made at the expense of the public safety."

The *Spectator* has also an article on the same subject and after discussing the manifold difficulties in the way of compelling the chauffeurs of automobiles to have some regard for the safety of those who travel on the roads or streets, either upon the instruments provided them by nature or drawn by horse-power, and submits that the only effective methods of restraining the ardor of the strenuous chauffeurs is to provide that no car capable of high speed should be allowed to use the roads except when in charge of a driver who holds a certificate that he is competent to manage and drive the machine. Assuredly, in the streets of a crowded town, the driving of automobiles by unskilled persons is a distinct menace to the life and limbs of all those who use other methods of locomotion, and should be strictly forbidden. But even such a measure will not be sufficient to ensure the safety of the general public. Many skilled drivers, reckless of their own necks, and careless of other people's bodies and nerves, travel through the busy streets of large cities at a dangerous rate of speed. This example, too, is frequently set by individuals who should know better. There have been instances recently in Newport and elsewhere in which prominent persons have wilfully disregarded regulations with regard to speed, and have in consequence been a source of grave danger to the community at large. Again, the chauffeurs of hospital ambulances, although it is necessary for them to arrive at their destination as quickly as possible, have no right to lay aside every precaution, and particularly is the custom of racing to be most strongly condemned.

THE PATHOLOGY OF GASTRIC TETANY.

TETANY is a spasmodic disorder of varied—probably toxic—origin, which prevails especially in certain parts of the world (Vienna) and at times particularly in the spring. It has frequently been observed in connection with dilatation of the stomach, and it is not unreasonably believed under such circumstances to be dependent upon the toxic products of morbid digestive activity. Little is known concerning the identity or the nature of these poisonous substances, so that the results of a study of the gastric contents from a case of tetany with dilatation of the stomach as reported by Drs. W. B. Haliburton and John F. McKendrick (*British Medical Journal*, June 29, 1901) should prove to be not without interest. The patient in the case reported was a middle-aged man in whom pyloric obstruction had developed as a result of cicatrization of a gastric ulcer, and a stomach-tube had been used two or three times a day for three years. Following a severe tetanoid seizure, experimental observations of the gastric contents were made, which disclosed the presence of a toxic substance that, when injected into an animal, produced a marked fall of blood-pressure and slowing of the heart-beat. This substance was not present in the normal gastric contents of health and, moreover, after neutralization of the tetany fluid practically no fall of pressure was obtained. The substance was soluble in alcohol and in normal saline solution and its injection into animals failed to cause either direct or reflex excitation of the cardio-inhibitory center, so that it seems not improbable that other centers in the brain or cord are similarly excited. Subsequently to the attack noted, some operation on the stomach, probably either pylorectomy or gastro-enterostomy, but whose exact nature is not stated, was performed, and the patient had no subsequent return of the symptoms.

The Medical Club of Philadelphia.—At the next meeting of this association on Thursday, September 26, a reception will be given to the president and members of the Medical Society of the State of Pennsylvania.

News of the Week.

Harmony Among the President's Surgeons.—One of the sensational papers in this city has been endeavoring to make out that continual bickerings disgraced the surgeons who were in attendance upon President McKinley. The charges, receiving at first no notice from the victims of the journal's mendacity, became finally so malignant that the gentlemen attacked were forced to make a formal denial, and have issued the following statement: "The undersigned, surgeons and physicians, who were in attendance on the late President McKinley, have had their attention called to certain sensational statements recently published in the daily papers, and particularly in one New York paper, indicating dissention and mutual recrimination among them. We desire to say to the press and the public, once for all, that every such publication and alleged interview with any of us containing criticism of one another or of any of our associates, is false and is nothing but scandal mongering. We say again that there was never a serious disagreement among the professional attendants as to any of the symptoms or as to treatment of the case, or as to bulletins which were issued. A very unusual harmony of opinion and of action prevailed all through the case. The unfortunate result could not have been foreseen before the unfavorable symptoms declared themselves late on the sixth day, and could not have been prevented by any human agency. Pending the completion and publication of the official reports of the post-mortem examiners and of the attending staff, we shall refuse to make any further statements for publication, and alleged interviews with any of us may be known to be fictitious. (Signed), Matthew D. Mann, Roswell Park, Herman Mynter, Eugene Wasdin, Charles G. Stockton."

Damages Claimed by a Smallpox Nurse.—A woman in Manasquan, N. J., has brought suit for $10,000 damages against two physicians of that place. A woman and her daughter were taken ill last June and the plaintiff in the suit was engaged as nurse, taking the position under the assurance, she claims, of the two physicians that there was no danger from the disease with which the patients were suffering. They had smallpox and the nurse contracted it later, and as soon as possible after her recovery instituted suit against the doctors.

Arrest of a Physician in Connection with the Murder of the President.—The papers a few days ago announced the arrest of Dr. I. Saylin, a Buffalo physician, apparently on suspicion of complicity in some anarchistic plot. It was alleged that he and Emma Goldman and others met in Buffalo to arrange the details of the plot to assassinate President McKinley. He says that the meeting was purely social, and the Goldman woman denies that it took place at all. After a short detention Dr. Saylin was released, there being no evidence against him.

The New York State Veterinary Association held its eleventh annual meeting at Cornell University, Ithaca, on September 10 and 11, over one hundred veterinarians being in attendance. A rather heated discussion was aroused by a motion for the expulsion from the society of Dr. Claude Morris of Binghamton, who was charged with conduct unbecoming a member of the organization on account of a letter he wrote to the Secretary of War last spring, strongly condemning the Veterinary Army bill. This measure provided for the grading of the veterinarians in the army. It was argued at the meeting that Dr. Morris's expulsion from the American Veterinary Association at its recent meeting in Atlantic City warranted the State society in taking immediate steps. Opposition to the motion prevailed, and it was decided to give Dr. Morris one year's time to prepare a defence. Officers of the society for the next year were elected as follows: *President*, Prof. James Law, Dean of the Cornell Veterinary faculty; *Vice-President*, Prof. James Robertson of New York City; *Secretary* and *Treasurer*, W. H. Kelly of Albany; *Censors*, Charles Cowal of Ogdensburg, E. B. Ackerman of New York City, Harry Sutterby of Batavia, E. B. Ingalls of Mohawk, and H. D. Gill of New York City. The next meeting of the association will be held in Brooklyn.

The Autopsy on the Body of President McKinley was made about noon on Saturday, nine hours after death. It was performed by Dr. Harvey D. Gaylord, pathologist of the New York State Laboratory, assisted by Dr. Herman G. Metzinger, also of the State Laboratory, in the presence of the attending physicians and surgeons. These included Drs. Charles McBurney and Edward G. Janeway of New York, W. P. Kendall, Surgeon, U. S. A., Edward L. Munson, Assistant Surgeon, U. S. A., W. W. Johnson, Charles Cary, and Hermanus L. Baer. District Attorney Penney was also present in his official capacity. The official report of the autopsy, issued about five o'clock, read as follows:

"The bullet which struck over the breastbone did not pass through the skin and did little harm. The other bullet passed through both walls of the stomach near its lower border. Both holes were found to be perfectly closed by the stitches, but the tissue around each hole had become gangrenous. After passing the stomach, the bullet passed into the back walls of the abdomen, hitting and tearing the upper end of the kidney. This portion of the bullet track was also gangrenous, the gangrene involving the pancreas. The bullet has not yet been found. There was no sign of peritonitis or disease of other organs. The heart walls were very thin. There was no evidence of any attempt to repair by nature, and death resulted from the gangrene, which affected the stomach around the bullet wounds, as well as the tissues around the further course of the bullet. Death was unavoidable by any surgical or medical treatment, and was the direct result of the bullet wound.

"Harvey D. Gaylord, M.D.,
"Herman G. Matzinger, M.D.,
"P. H. Rixey, M.D.,
"Matthew D. Mann, M.D.,
"Herman Mynter, M.D.,
"Roswell Park, M.D.,
"Eugene Wasdin, M.D.,
"Charles M. Stockton, M.D.,
"Edward G. Janeway, M.D.,
"W. W. Johnson, M.D.,
"W. P. Kendall, Surgeon, U. S. Army,
"Charles Cary, M.D.,
"E. L. Munson, Assistant Surgeon, U. S. A.,
"Hermanus L. Baer, M.D."

Dr. McBurney did not sign the report, having been obliged to leave before the autopsy was completed.

Closing of the Sterilized-Milk Booths.—The summer depots of the Nathan Straus sterilized-milk charity closed this week. A greater quantity of milk has been disposed this season than ever before in the ten years that the work has been going on. During the summer nearly 800,000 bottles of milk were distributed and over a million glasses were drank in the different booths. During the winter only four depots will remain open.

In Honor of Dr. N. S. Davis.—Under the auspices of the Chicago Medical Society a banquet and celebration have been organized in honor of Nathan Smith Davis, M.D., LL.D., who is the oldest living President of the society, and widely known and honored among the profession by his long connec-

tion with the American Medical Association and other medical societies. The banquet will take place at the Auditorium Hotel, Chicago, on Saturday evening, October 5, 1901. The committee in charge of the celebration consists of Drs. Christian Fenger, Jas. H. Stowell, W. S. Haines, F. X. Walls, E. F. Wells, and Arthur R. Edwards.

Dr. Gustav G. Fischlowitz has been appointed assistant attending surgeon to the New York Maternity Hospital.

The British Medical Association.—The announcement is made that the next annual meeting of the British Medical Association will be held in Manchester. The last visit there of the association was about twenty-five years ago. The President-elect is Mr. Walter Whitehead, professor of clinical surgery at Victoria University.

Medical Society of the State of New York.—The first of the semi-annual meetings of this society will be held in New York City, in the Academy of Medicine, on Tuesday and Wednesday, October 15 and 16, 1901. The sessions will be from 9.30 A.M. to 1 P.M. and from 2.30 to 6 P.M. each day, and an evening session will be held on Tuesday at 8 P.M. On Wednesday evening at 8 o'clock there will be a reception tendered the members and their guests. The program is a very rich one, containing sixty-four titles. On Tuesday evening there will be a special discussion on "Some of the Diseases of the Liver and Bile Passages." A large attendance is anticipated.

Hall Caine's Absurdities.—One would think when a novelist had once been convicted of gross ignorance on medical matter concerning which he wrote with glibness, he would not make a second incursion in that dangerous field unless he was fairly sure of his ground. Not so Mr. Hall Caine (though perhaps we err in dignifying him with the title of novelist). In his latest effort, "The Eternal City," he describes how a medical man examined the breast of a patient and the glands under her arms, and, finding cancer, announced that a nurse must be summoned immediately. This practitioner, who is supposed to be the most fashionable doctor in Rome, tells the friends a few pages further along in the dreary tale that if the cancer had been diagnosed earlier "nephrectomy" might have been possible, but that the case as he found it was beyond the reach of surgery.

Prof. Van Gehuchten has received from the Belgian Government an award of five thousand francs for his original work on the central nervous system.

Charges against a Coroner's Physician.—Formal charges were filed against Dr. Hamilton Williams, Coroner's physician to Coroner Zucca, at a recent meeting of the Board of Coroners. It is alleged that he has been dilatory in attending Coroner's cases and that he was discourteous in the performance of his duty. The charges allege "improper conduct, incompetency, and unfitness further to fill the position of Coroner's physician," and further charge neglect of duty as such Coroner's physician. There are several specifications in the complaint, which charges that, while attending hospitals, Dr. Williams was discourteous in his bearing toward officials and employes, and particularly toward medical students, who were anxious to be present at autopsies. Another charge recites that he was "dilatory, discourteous, rude, and brusque" in several specific cases of autopsy on persons who had died in hospital. By this conduct it is charged he caused grief and annoyance to the relatives and friends of persons he had attended officially, and that whenever the deceased person carried life insurance he uniformly refused to give a certificate of death without payment of a fee varying from five to fifteen dollars. Dr. Williams denies the truth of one and all these charges, and says that it is nothing but an attempt on the part of his political enemies to secure his dismissal.

An International Congress of Clinical Anthropology was in session last week in Amsterdam. Among the vice-presidents elected were Dr. Henry Havelock Ellis of England and Mr. Clark Bell of New York City.

A Physician's Carrier Pigeon Service.—A correspondent of the *New York Times* says that Dr. E. W. Gould of Rockland probably has the most novel messenger service in Maine. The doctor makes a specialty of homing pigeons. The other day he was called to Matinicus Island to attend a patient whose condition was very serious. To reach there he had to make a dangerous trip over twenty miles of rock-strewn, storm-tossed waters. Before he left the island he gave into the keeping of the family of the patient six homing pigeons, to be used as messengers to inform him of the patient's condition. The messages came faithfully and regularly and brought assurance to the physician of his patient's steady progress toward recovery.

Philadelphia County Medical Society.—At a stated meeting held September 11, Dr. EMMA E. MUSSON read a paper entitled "Rarefying Ostitis in Chronic Purulent Ethmoiditis Simulating Atrophic Rhinitis," and Dr. BOARDMAN REED a paper entitled "The Etiology and Symptomatology of Constipation in Deciding the Differential Diagnosis Between Atonic and Spastic Constipation."

The Pathological Society of Philadelphia.—At a stated meeting held September 12th, Dr. J. D. STEELE exhibited a "Fibroid Pancreas from a Case of Diabetes," and nominations of officers were made for the ensuing year.

Obituary Notes.—Dr. GEORGE W. DELAP of Brooklyn died last week at his home in that borough, at the age of forty-five years. He was a graduate of the Long Island College Hospital Medical School in the class of 1885. At the time of his death he was resting under a charge of extortion preferred against him by a woman who alleged that she was compelled to pay him a sum of money to secure a verdict of accidental death in the case of her husband, so that she might be able to secure the insurance. Other charges of the same character were pending against him.

Dr. THEODORE Z. SMITH, of Westfield, N. J., died on September 12, at his home in that place. He was born in Williamsburg, Brooklyn, forty-nine years ago, and was graduated from the College of Physicians and Surgeons in New York City in 1878.

Dr. LOUIS WARFIELD RITCHIE of Georgetown, D. C., died of Bright's disease on September 9. He was fifty-eight years old and was the son of Dr. Joshua Ritchie, a lifelong practitioner of Georgetown and an instructor in Georgetown College. Dr. Ritchie was in the medical department of the army during the Civil War and performed notable service at Antietam and on other fields. He was a graduate of the Medical Department of the University of Georgetown in the class of 1863.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PUBLIC HEALTH—OUTBREAK OF SMALLPOX IN LONDON—SIR J. CRICHTON-BROWNE'S ADDRESS TO SANITARY INSPECTORS—ARSENIC AND BERIBERI—RUNNING AMOK—TRISMUS—DR. ORD ON HEALTH OF CIVIL SERVICE CANDIDATES—MILK DIET—A COLONEL DEFENDS QUACKERY—BROMPTON HOSPITAL—THE CHIGOE.

LONDON, August 30, 1901.

THE mortality returns are on the whole favorable, but there are some exceptions. The deaths last week in the thirty-three great towns corresponded to an annual rate of 21.6 per 1,000 of their aggregate population. In the previous three weeks the rate had been 22.4, 22.1, and 21.3. In London the rates for the four weeks were 20.0, 18.8, 19.6 and 19.2. During the four weeks ending last Saturday the rate averaged 19.4, which is 1.0 per 1,000 below the mean rate in the corresponding periods of the decade, 1891-1900. These figures are for deaths registered, and must be considered in that respect only. It is obvious that cases might begin in those periods and be fatal later, and if deaths only are taken into account an outbreak of zymotic disease would not at first attract attention.

An instance of this is seen in the fact that no death from smallpox was registered in the period above referred to, but cases had occurred in London, and at this moment there is a threatening outbreak on the increase. The returns from the Metropolitan Asylums Board, and the Fever Hospitals show that on Saturday there were 41 cases under treatment. The admissions in the four weeks named were 4, 3, 8, and 30, showing a rapid increase. On Saturday there were 7 fresh admissions, on Sunday, 6; on Monday, 15, and 30 more by Thursday. By yesterday the number of cases under treatment had reached 70.

The outbreak has thus practically developed during the week. It is confined mostly to the northwestern district of the metropolis, though cases have occurred in some other parts. Great efforts are being made to prevent the spread of the disease by hunting up the cases and carefully disinfecting the dwellings they had occupied. We are so unaccustomed to meet with smallpox in London that there are many practitioners who have never seen a case, and are perhaps at a loss to diagnose it at first. The Asylums Board have arranged for the practitioner in any suspected case to telegraph to the office, when a message is sent to the nearest ambulance station, whence a special wagon with a nurse goes and takes the patient to the central receiving station. There he is examined by Dr. Ricketts, and if he considers it to be smallpox the patient is at once conveyed on board the floating hospitals, which are stationed in the most desolate place on the Thames. This plan has worked well in ordinary times and will, no doubt, should an epidemic be established, prove a valuable protection to both the patients and the public.

The Asylums Board was established towards the close of the sixties, and at that time smallpox was much more prevalent. In 1871-1872 there was an epidemic, and the hospitals of the Board had to provide for 16,000 cases. Then there was a falling off. In 1876 there were 2,134 admissions; in 1877, 6,516; in 1878, 4,558; in 1879 the number fell to 1,628. In 1880, there was a rise to 1,982, and the next year a jump to 8,551. The next year they fell again to 1,789, and this lull continued for two years. Our last epidemic was in 1884-5, when the cases numbered 6,363 and 6,164 respectively. Since then we have been pretty free from it. In 1898, there were only 5 admissions; in 1899, there were 80, and in 1900 there were 66.

Yesterday, a conference of the Sanitary Inspectors' Association was held, at which Sir James Crichton-Browne delivered an address. He said that Dr Koch was the greatest of living bacteriologists, but even his authority could not secure the acceptance of a new deliverance without question. In fact, the sound of his voice had scarcely passed away when Lord Lister uttered a protest, and since then the tide of opposition has been rising, for science knows no papal infallibility. He thought this great master was premature in his announcement and unfortunate in his choice of an occasion for making it; that the experiments on which he relied were too few and too equivocal to warrant his conclusions; and that he had ignored a mass of observations and experiments which must negative those conclusions, or be proved to be incorrect. Should it be shown—which it has not yet been—that human tuberculosis is not transmitted to other animals, the converse would by no means follow. The suggestion had already proved deplorable, by raising doubts and revolt against existing precautions. The grim ghost raised by Dr. Koch could only be laid by a government inquiry, and there could be little doubt that Mr. Walter Long, who had stamped out rabies, would not be slow to grasp the situation respecting tuberculosis. Dr. Koch had discredited the report of the last Royal Commission, which had up to this time been regarded as a standard authority, and it seemed most desirable that that report should either be confirmed or pronounced obsolete. Meantime prudence dictated that sanitary inspectors should look at things exactly as before Dr. Koch spoke.

The Association unanimously adopted a resolution calling for a government inquiry. Papers were submitted to the conference by Sir Alexander Binnie on London main drainage, and by Professor Frank Clowes on the Experimental Treatment of Sewage in London.

You will observe that since the Sanitary Inspectors formed their association, the recognition of eminent men has not been wanting. Its influence is extending, the report showing an increase in adhesions.

Arsenical beer and beriberi were mentioned at more than one section at Cheltenham. Thus Mr. Wanklyn commented on the protean powers of combination possessed by arsenic, and said that many failures to find the poison in beer during the late outbreak were the result of not employing Marsh's original test. Though two grains in the shape of arsenious acid is a fatal dose, as much as fifteen grains has been taken in the form of cacodylic acid, or its soda salt, without ill effect. In the address read for Major Ross the resemblance between beriberi and arsenical beer poisoning was mentioned, and Mr. Cantlie suggested that the opinion of those who had seen beriberi in the East would be acceptable. Dr. Manson admitted a difficulty in distinguishing a case of beriberi from alcoholic neuritis, when the patient with the latter disease came from a country where the former prevailed. He thought we should persistently seek for some definite clinical sign that might clear up the diagnosis. Dr. Henderson said he had seen many cases of beriberi in China, but could not remember pigmentation of the skin occurring in any one of them. He, therefore, held it need not be confused with chronic arsenical poisoning. He rejected the suggestion of metallic poisoning being the cause of beriberi. Dr. Max Simon said there was nothing in common between beriberi and metallic poisoning, arsenic or other, except neuritis. In beriberi there were no skin, eye or digestive symptoms present to support the suggestion.

The state of blind, furious, homicidal mania seen among Malays and called "running *amok*" is commonly supposed to be peculiar to that race. But according to Dr Moffat of Uganda, the Nubians, Soudanese, and other African tribes are addicted to it. They ascribe it to "seeing the devil," and after the fit always declare they have no recollection of their actions while it was on them. He mentioned in the Tropical Section, as a curious fact about nervous diseases among the natives of East Africa, that locomotor ataxia and general paralysis of the insane are both extremely rare, though syphilis is common, as are also sexual excesses and intemperance. Nevertheless, neuroses are not common.

The exciting causes of running *amok* are usually put down to fright, grief, or brooding over wrongs, real or imaginary. But malarial or other severe illness may occasion an attack. The sight of blood is said to have excited it. The question of the legal responsibility of a person seized with a fit of *amok* is rather perplexing. Dr Ellis is inclined to admit two varieties, one purely pathological, the other more or less feigned. The latter may be suspected when revenge is accomplished in the fit. Dr. Henderson remarked that in Shanghai the Chinese are prone to acute mania and suicidal impulses.

Trismus neonatorum would seem to be endemic in Hong Kong, for Mr. Cantlie mentioned at Cheltenham that in his experience there the mortality from this disease was enormous among Chinese infants. Between 1887 and 1896, the deaths from trismus equaled fifty per cent of the total mortality. He had seen a death in a European child from the disease; the monthly nurse was also European, but had come straight from a convent, where the disease is always rife, and no doubt brought the infection. Dr. Crombie said it was a common disease in Calcutta.

The report of the Civil Service Commissioners has just appeared. Among a mass of information on matters connected with the competitive examinations is an interesting report from Dr. Ord, who, since 1894, has conducted the medical examination of candidates for appointments. They have previously passed their literary examinations, and are to be regarded as selected candidates presenting themselves after a long course of study and the final strain of the competition. At first, Dr. Ord expected to find many more or less weakly after their prolonged mental work, which might well interfere with exercise. He looked for the results of burning midnight oil rather than the development of athletics. But when he came to examine them individually, he found none of them unequal to the requirements of a service calling for strength, activity, and

endurance. There was no indication of physical deterioration, but there was the evidence of vigorous health, the stamp of the university and the public school. In 1899, the average age of these candidates was 22½ years; height, 5 feet, 9 inches; girth, 36⅝ inches; weight, 165.8 pounds. These averages were certainly good, and similar to those of other years, and Dr. Ord was much impressed by them, and he feels satisfied that the physical qualities of those young men who have gone to India and other places to serve their country are such as to give every satisfaction—in fact, he writes "their equipment for the work awaiting them has appeared to me to be, though the word may be strong, complete." He found them, for the most part, well set up, manly specimens of English young men, with good muscular development, and he was particularly struck by their good general nutrition. It is certainly satisfactory to find such a high degree of physical energy and capacity combined with mental ability in the young men to whom so much is to be entrusted on behalf of their country.

The talk about boiled milk still goes on, and bids fair to become a permanent topic of conversation. I find most of those who speak to me about it remain convinced that boiling is of great value in preventing the spread of disease. One eminent physician says all milk is boiled the moment it comes into his house, a statement which shows much confidence in the obedience of his cook. Another I know, who drinks milk freely, always has it served up hot, and he says that the story of its being unpalatable is all nonsense, just as it is in the case of water. Either of them, he maintains, is nicer hot than cold, but must be taken as hot as it can be drunk, and then he dilates on the difference between the meaning of hot and warm. If boiling impairs the nutritive value of milk it must surely be in a very minor degree, for there are thousands of healthy children brought up on this sterilized fluid. So many fever cases pass successfully through the most critical stages on milk diet. When milk forms but a small part of the nutriment consumed, any hypothetical deterioration by boiling is surely of no consequence.

A very learned confrère is an enemy to milk in the diet of fever cases, and indeed in any case of feeble digestion, particularly in young children. In health he himself eschews the various forms of milk diet, but regards it as less injurious when given mixed with other things than alone. In the latter case, it is too apt to form indigestible curds, which have to be rejected by vomiting. The late Sir R. Quain was averse to milk diet in consumptive or other delicate cases. A friend of mine took a case to him which they agreed could not last long, and on parting, Sir Richard said, "Don't stuff the poor fellow with milk." "I never do," replied my friend, when the genial baronet grasped his hand and assured him it was such a rare pleasure to meet a doctor who agreed with him about milk in such cases.

The ignorance of presumably well-educated persons on medical matters and their corresponding readiness to instruct others, is forcibly illustrated by a letter of a colonel which was admitted to the *Times* of the 20th inst. This military gentleman attacks the General Medical Council for having removed from the register notorious quacks and gives his testimony to the value of a nostrum advertised by one of them. If the colonel's military opinions are on a par with his assertions on medical matters, he would be wise to keep them to himself.

Tonsillitis from the Standpoint of the General Practitioner.—A. L. Gray states that the differentiation of acute tonsillitis from diphtheria in the early stages is not always possible without bacteriological examination. The forms of follicular tonsillitis have been found in infancy and old age and in both sexes. There are often patches over the tonsils and adjacent parts which closely resemble those of diphtheria, but which are due to streptococcus infection. Milky-white membranous appearances are sometimes found due to the leptothrix buccalis or the oidium albicans. When ulcers are present, they are often covered with a dirty yellowish or grayish necrotic tissue which may be firmly adherent for several days, resembling the diphtheritic membrane. Whenever there is a possible doubt in a case, bacteriological examination should be made at the earliest possible moment. Gray believes that follicular tonsillitis will be found due to a specific bacterium, and thinks that isolation of the patients should be practised.—*The Virginia Medical Semi-Monthly*

NOTES ON SOME OF THE MEDICAL FEATURES OF THE PAN-AMERICAN EXPOSITION.

THE NAVY MEDICAL EXHIBIT—A MODEL OF THE SICK-BAY—THE FOOD EXHIBIT—PRESERVATIVES AND ADULTERANTS—THE BUREAU OF ANIMAL INDUSTRY—PURE MILK—CALORIMETERS—LIFE INSURANCE STATISTICS—DEPARTMENT OF HYGIENE AND PUBLIC HEALTH—THE CHICAGO AND THE BUFFALO HEALTH DEPARTMENTS—TENEMENT HOUSES—HOSPITALS, ASYLUMS, PUBLIC INSTITUTIONS, AND UNIVERSITIES.

(Special Correspondence of the MEDICAL RECORD.)

THE Navy Medical Department of the United States would appear to be regarded somewhat lightly by those in whose hands the allotting of space for exhibition purposes was placed, as its exhibit, owing, it may be presumed, to lack of room, is meager to a degree, and would convey to a stranger—say a South American—but a poor conception of the resources of the department, and might further give the impression that the naval authorities are by no means keenly solicitous concerning the well-being of their sailors. Such a view, we are convinced, would be a wrong one, as undoubtedly a much more representative display could have been brought together, had not the officials been so unaccountably parsimonious with regard to space.

The seeming indifference to the interests of this great branch of the service is the more curious in the present position of affairs, and at a time when the surgeons of all the navies of the world freely recognize that reforms must be introduced into the system now prevailing of treating the wounded on modern battleships.

At the recent meeting of the British Medical Association, the treatment of the wounded on modern men-of-war was discussed at length, and the opinion was expressed by the prominent surgeons who took part therein that the subject is of predominant importance, and one which must in the near future engage the serious attention of naval surgeons. Fleet Surgeon G. Kirker pointed out that facilities for operating on board battleships and cruisers of the existing type are wofully deficient, and urged that steps be taken at once to remedy the defect. The fact is then plain that there is great and pressing need of better provision for the wounded on modern sea-fighting machines, and the more quickly the public is brought to an appreciation of this necessity the sooner will reforms be brought to pass. Perhaps, however, the authorities wished to provide an object lesson on the shortcomings of the existing methods of caring for the wounded in sea battles, and for this reason were chary in granting an area sufficient for the Navy Medical Department to give an exhibit in keeping with its resources and representing its full means of equipment.

The exhibit at the Buffalo Exposition is in charge of Surgeon S. H. Griffiths, U. S. N., and is a model of a sick-bay with lavatory, dispensary, etc., on a modern battleship. The sick-bay contains four cots, a folding operating table, a wooden chest of drawers, iron washstand, and an oak desk. The bathroom is furnished with a bathtub, shower bath, and water-closet, while in the dispensary are a cupboard, washstand, and litter for transporting wounded on shipboard.

In connection with this latter, it may not be out of place to mention that at the meeting of the British Medical Association, referred to above, Fleet Surgeon Kirker advocated the adoption of a properly devised ambulance sleigh, by which a wounded man could be easily and safely taken down and along all hatchways and passages. It is certain that a device of this description would tend to greatly simplify the whole question of treating the wounded on a modern battleship in an efficient manner, as with the aid of such an apparatus, the position of an operating-room would be a matter of comparatively small moment. It is to be hoped that the general public may be induced to take an interest in the question of the care of the wounded at sea, and by no means can such a result be better obtained than by familiarizing the system in practice on board battleship by illustrating the methods at large expositions. For this reason it is, therefore, a matter of general regret that the exhibit of the Navy Medical Department at the Pan-American Exposition is not more comprehensive.

An annex to the main Government building is devoted to the exhibits gathered together by the Department of Agriculture, among which are those relating to foods, a matter, needless to remark, of scientific interest to the medical profession, and closely affecting the community at large. Dr. Stewart of the Bureau of Animal Industry has charge of this exhibit. Adulteration of food is made a special feature, and the artificial coloring of various articles of diet is excellently illustrated by specimens

treated in this manner arranged in jars. Before proceeding to describe in detail this exhibit, a slight digression, to recapitulate the measures taken in this country to prevent the pernicious custom of adulterating food, may prove instructive.

Legislation against the adulteration of foods in the United States was first made in 1879; and in 1881 three States—New Jersey, New York, and Michigan—passed laws to put a stop to the adulteration of food. Since 1883, a number of States have enacted laws with the same object in view; but national legislation, despite the fact that many bills have been brought before Congress since 1892, has failed utterly to relieve the situation, and food adulterated in one State can be taken to another and sold. Thus legislation up to the present time has been of little or no effect; indeed, more or less of a farce, and will continue to be so until Congress thinks fit to put down adulteration of food with a strong hand.

The many methods of preserving food are given a practical illustration at Buffalo. Food which has undergone such a process is shown in glass receptacles, upon each of which is a label inscribed with a chemical analysis of the article therein contained, as well as the market cost of the materials and the selling price. So significant an exposé of the tricks of the trade should, it would be imagined, open the eyes of the most careless consumers.

Another noteworthy exhibit, typifying the extent to which tampering with food for purposes of profit is carried on, is provided by the display of a number of tubes, containing salicylic acid and other substances used as preservatives, collected from articles of consumption of all kinds. Canned fruits and vegetables are largely represented, from the genuine unsophisticated material to those which, having passed through the hands of the preserver, are sold by the wily retailer to a confiding public as pure.

In the degradation of food—unfortunately so common at the present time—no method is probably more practised than the manufacture of spurious jams and preserves by means of glucose, starch, and coloring matter. This fact is well exemplified at the Pan-American Exposition by an exhibit of strawberry jam, which has been concocted after this receipt, but which is nevertheless foisted upon the innocent housekeeper, probably as home-made.

Wines made from glucose, preserved with salicylic acid, and artificially colored, are also exhibited, and should act as a salutary warning to those of bibulous tendencies.

A cynical philosopher who might chance to stroll through that part of the exhibition given over to foodstuffs could not fail to discover a fund of amusement in the display, and might moralize to his heart's content upon the extraordinary gullibility of the public in allowing itself to be thus cheated. But it must not be forgotten that the subject has also a very serious aspect, and that the remedy lies with this self-same public. If the people at large would only band together, and insist that the Government should step in and take measures prohibiting the sale of adulterated food entirely, and of chemically preserved food to a great extent, the authorities would have no choice but to comply with the demand. Some of the adulterants and many of the preservatives are doubtless comparatively harmless, but this is not altogether the point; a person has the right, when he pays for a certain article of diet, to get that article, and not a noxious compound or an imitation.

In a portion of the building of the Department of Agriculture is the exhibit of the Bureau of Animal Industry, which includes a biological laboratory, "pathological specimens," showing the different phases of diseases common to animals used as human food. An exhibit which is immensely popular, and which draws crowds of interested and curious spectators, is a practical demonstration of the methods practised by the Department of Agriculture at the large packing-houses for the detection of trichina and other parasites to which the flesh of the hog is subject. This is effected by microscopical examination, and the mode in which it is carried out is shown by three young women, who make these examinations publicly, and who will, for the satisfaction of visitors, point out specimens of infected meat.

In spite of the much-discussed statement of Koch, that milk procured from a tuberculous animal is not a source of danger to the human race, it will certainly be well—be his theory borne out by further investigations or not—to continue without relaxation our efforts to ensure a supply of uncontaminated milk. The sanitary dairy cans, exhibited by the Department of Agriculture, may be strongly commended to dairy farmers and milk dealers as a means tending to this end. There is also exhibited a series of photographs, illustrating the methods now in use best calculated to prevent the transmission of disease by the agency of milk.

In the center of the building is exhibited a calorimeter used in determining the heat of foods, feeding stuffs, and other materials designed by Professor W. O. Atwater and C. D. Woods, and a respiration calorimeter designed to study the balance of energy, income, and outgo of matter in the animal body, designed by Professor W. O. Atwater and E. B. Rosa.

The exhibits relating to medical matters displayed in the Department of Agriculture are worthy of the close attention both of the scientific man and of the ordinary observer.

The Manufactures and Liberal Arts Building contains several features of special interest to medical men.

The Prudential Life Insurance Company shows a collection of medical statistics bearing upon the influence exerted on the death rate by age, sex, occupation, etc. These statistics are of great value, those dealing with the mortality from tuberculosis perhaps being at the present time of the highest interest. With regard to sex, age, and race, the general conclusions drawn from a consideration of the facts gathered by Frederic L. Hoffman, statistician of the company, are as follows: "That tuberculosis is at the present time the cause of about 200,000 deaths per annum in the United States. The decline which has taken place in the death rate from this cause during the past thirty years has been considerable, but it appears that the male population at ages twenty to sixty has remained almost wholly unaffected, while for the females the decline in the death rate has been considerable at all age periods. The white population is shown to be subject to the disease at a much lower rate than the colored, but for both races there has been a decline in the death rate during the three decades covered by the investigation. Hence the general conclusion and recommendation that efforts toward the prevention of tubercular diseases be especially directed to the male population at ages twenty to sixty, and to the colored population at all age periods."

Several surgical supply firms have a good display of surgical and of other articles pertaining to the surgeon's craft. The manufacturers of artificial limbs are also largely represented.

The exhibits treating of sanitation and hygiene, hospitals, tenement houses, asylums, and public institutions occupy a series of compartments situated at the northeast corner of the building. The department of hygiene and public health is under the charge of Dr. Otto of Buffalo.

In consequence of the limited space assigned to this topic, it was necessary to exclude all solid matter except books and a few articles of a sanitary character which occupy a small space only. The exhibits in this section comprise in general the following materials: Six large maps of the United States, illustrating subjects relating to public health; a series of cards in wing frames, illustrating the vital statistics of certain states and cities, mostly in colored charts and diagrams; photographs, maps, and charts, illustrating the work of several state boards of health; isolation hospitals for infectious diseases; hospitals, homes, and sanatoria for consumptives and crematories. There are also shelves containing reports of national, state, and municipal boards of health, reports of state and local registrars of marriages, births, and deaths; dairy and food commissioners, and sanitary periodicals.

Dr. Arthur B. Reynolds and the members of the Chicago Board of Health have every reason to be proud of the manner in which the mortality rate of that city has been reduced by judicious sanitary measures within the past thirty years. The vital statistics of Chicago exhibited at the Pan-American Exposition affords striking evidence of the efficacy of the means employed. It is stated that since 1872 the average death rate has been reduced by half, and that Chicago, in place of being one of the most notoriously unhealthy cities of the world, can now claim a foremost position in the opposite direction.

Buffalo, too, thanks to the efforts of Dr. Wende and its Board of Health, has at the present time probably the lowest death rate of any large city, not only of this continent, but of the world. The Buffalo Health Department exhibits a chart, illustrating the effect that the use of antitoxin has had in lowering the death rate, photographs of tenement districts of the city, and the advance that has been made in providing the working classes with superior sanitary dwellings, and a chart demonstrating in black and white the good effects upon the general health of the population which have followed the careful carrying out of sanitary reforms. The exhibits in this section are impressive, if only for the fact that they drive home in a convincing way the progress effected in public hygiene in the United States within the past few years.

The tenement house question is rightly dealt with at considerable length in this section of the Exposition. The MEDICAL RECORD has persistently and consistently

advocated the erection of sanitary dwellings for wage earners at a fair rent. As a means of coping with disease, and especially with tuberculosis, Dr. Billings and many others have pointed out that no measures can have the success that will result from housing the working inhabitants of large cities in airy, well-ventilated, and sanitary buildings. Vital statistics of London, and large centers of population, both in this country and elsewhere, show that the mortality in the improved dwellings for wage earners is far below the general mortality of these cities, the difference being especially marked in infantile mortality.

The exhibit at Buffalo with regard to tenements is worthy of the importance of the subject, and is given by the Tenement House Committee of the Charity Organization Society of the City of New York, providing a practical illustration of what tenement houses should and what they should not be. Three models are displayed in corroboration of this point. The first model is a block of existing tenement houses in the city of New York as it stood on January 1, 1900. This block is bounded by Christie, Forsyth, Canal, and Bayard streets. It includes 39 tenement houses, containing 605 different apartments for 2,781 persons. Of these, 2,315 are over five years of age, and 466 under five years. There are 1,588 rooms and only 264 water closets in the block. There is not one bath in the entire block. Only 40 apartments are supplied with hot water. There are 441 dark rooms, having no ventilation to the outer air, and no light except that derived from other rooms. There are 635 rooms getting their sole light and air from dark and narrow air shafts. During the last five years there have been recorded 32 cases of tuberculosis from this block, and during the past year 13 cases of diphtheria. During the past five years 665 applications for charitable relief have come from this block. The gross rentals derived from the block amount to $113,964 a year. This block is not one of the worst in the city, but merely typical. A second model shows a block of typical tenement houses built in accordance with the laws in force January 1, 1901, showing almost the entire block occupied by these buildings. Each tenement house in this block contains accommodations for four families on each floor, in 14 rooms, making 22 families in each building, and 704 families in the whole block, a total of 4,000 persons in the block. A third model is one of an entire city block of model tenements designed by Ernest Flagg, showing large courts for light and air. Three different groups of improved tenement houses have been built on this plan in New York City. The other portion of the exhibit consists of two winged frames containing photographs illustrating tenement house conditions in America. Photographs are also shown of old, bad tenement houses which have now been destroyed, and a series of photographs showing existing bad conditions in New York's tenement houses. The rest of the exhibit illustrates housing conditions in other American cities.

A considerable part of the space allotted to this section is devoted to photographs of and literature concerning hospitals, asylums, public institutions, and universities. There are in the United States no fewer than 1,776 hospitals, sanatoriums, and dispensaries, a larger number than in any other country of the world. The hospitals, too, of the large American cities, on the whole, are not surpassed, and probably not equalled, by those of any land. It is therefore fitting that at a Pan-American Exposition, hospitals exemplifying the best types should be portrayed.

Such is the case, and the Roosevelt and Presbyterian, New York, Johns Hopkins, Baltimore, and Boston City Hospitals are excellently depicted, as to both their exterior and their interior features, in a series of well-taken photographs. A large model is also shown of a sick-ward in the Presbyterian Hospital, New York, and a smaller one of St. Mary's Free Hospital for Children, of the same city.

Homes and sanatoria for consumptives, State institutions for the insane, schools for the feeble-minded, soldiers' homes and almshouses, industrial schools, and children's societies are all represented by photographs, and their history, progress, and present condition set forth in a mass of literature. Elmira State Reformatory, its inception, rise and advance to the foremost position of any institution of its character, is particularly well portrayed both by reading matter and by photographs. The negro exhibit is of much interest; maps are displayed, showing the States according to their negro population.

The universities of the country, New York, Columbia, Brown, Harvard, Cornell, Chicago, Illinois, Princeton, Syracuse, and others, their buildings, methods of teaching, curriculum, etc., are portrayed by means of literature and illustrations.

The exhibits which make up the section devoted to public health and hygiene, hospitals, asylums, and public institutions are the most instructive of the entire Exposition, and should serve as an educational stimulus of no slight force.

Progress of Medical Science.

Boston Medical and Surgical Journal, September 12, 1901.

Eosinophile Leucocytes and Nuclein Bases.—Edward T. Williams says that eosinophile leucocytosis is associated not only with the formation of spermine crystals, but with all the nuclein bases in the blood, marrow, glands, organs, tissues, or excretions. This fact has been demonstrated in at least four of the principal eosinophilous diseases, to wit, leucocythæmia, asthma, helminthiasis, and trichiniasis. Spermine crystals were found in splenic leucocythæmia by Charcot over forty years ago; in asthma by Salter, in 1860, though he did not know their chemical composition; in trichiniasis by Thayer and Brown, in 1897, but "guanine" crystals were found in trichinous pork by Virchow forty years earlier. Ankylostomiasis and several other worm infections have been shown to be characterized by eosinophilia and the presence of spermine crystals in the fæces. The presence of nuclein bases in eosinophilia proves that there is a decomposition of nuclein going on somewhere within the body. But nuclein is to be found only in nuclein-bearing cells. Nuclein-bearing cells, then, are undergoing decomposition in eosinophilia. The author suggests that these decomposing cells are the eosins themselves.

Climatic Treatment of Pulmonary Tuberculosis Versus Home Sanatoria.—S. G. Bonney enters a plea for climate as a therapeutic agent in tuberculosis, as opposed to the home sanatorium treatment which is now becoming fashionable. He says that the prevailing tendency to provide home sanatoria for all classes, and to repudiate the established facts of climatic influence, cannot fail to prove in the end a most unfortunate delusion. He regards it as especially opportune, at this time of local sanatoria agitation, "to reassert and emphasize the intrinsic distinctive value of climate, reinforced by proper living, as the all-important factor in the treatment of the disease." He fully admits the good results of sanatorium management, even in unfavorable localities, for early cases, but this should not be construed as an argument against the greatly increased benefits to be derived by a larger class of patients through removal to an appropriate climate. He argues that, if a suitable regimen without the favorable influence of climate is capable of producing a perceptible improvement in incipient cases, much greater and more lasting results will surely be obtained in a far greater number of cases when to precisely the same manner of life the beneficent influence of a suitable climate is added.

New York Medical Journal, September 14, 1901.

Social Aspects of Dermatology.—In the first Lane Lecture Malcolm Morris outlines the plan to be followed in subsequent lectures of the course. He regards the skin as a microcosm of pathology in that on its surface may be seen not only the most varied expressions of internal disturbance, but examples, visible and palpable, of every process known to modern pathology, with its results immediate and remote. He reviews the founding of the science of modern dermatology, discusses the flora and fauna of the skin, the nervous factor in cutaneous disease, and the effect of skin lesions on the individual in his social relations. He says that a sound skin in presidents and princes is a guarantee of peace.

Professor Max Schüller's Views on Malignancy.—J. E. Blake reviews the recent work of the German professor entitled "Die Parasiten in Krebs," which in turn recounts the results of eighteen months' recent experimentation upon the parasite of cancer. The technical steps followed are given in detail. The substance of the conclusions reached may thus be stated: An organism has been isolated which can be grown in pure culture, which can be readily identified through its peculiar form, color, and mode of development, which occurs invariably in tumors, and which produces the same by its inoculation. There would, therefore, seem to be no reasonable doubt that these are the elusive parasites which have been so long sought. Whether any of the organisms previously described as occurring in tumors can be identified with the one here described, we do not know; but it is certain that this cannot be identified with blastomycetes or any other organism which grows on ordinary culture media, and is tolerant of a temperature that very rapidly proves fatal to the one just described. It apparently belongs to a class of animal parasites of which practically nothing is known. Certain researches of the author would tend to show that non-malignant tumors are produced by somewhat similar parasites belonging to the same class, and that under certain conditions these are either transformed into the malignant form or assume malignant qualities, which result in the same proliferation

of cells as that caused by the described forms. But of this too little is known to say anything definite.

Journal of the American Medical Association, Sept. 14, 1901.

Treatment of Certain Forms of Cancer by the X-Rays.—F. H. Williams believes that in the *x*-rays we have an agent which causes certain superficial external forms of cancer to heal, and that without pain. Photographs are presented of cases before and after treatment. The first case was one of epidermoid cancer of the lip, the second an epithelioma of the eyelid, and the third a rodent ulcer on the side of the nose and cheek. One photograph of a case still under treatment illustrates an epithelioma of the hand. The author is disposed to regard the action of the rays as something quite distinct from that of a mere cauterizing agent. The advantages of the method are absence of pain and healing without creating a burn. The disadvantages are that the necessary apparatus is heavy and expensive, that great care must be exercised in its employment, and that the treatment must often be continued for some weeks.

The Relation of Unbalanced Physical Development to Pubertal Morbidity as Shown by Physical Measurements.—W. S. Christopher presents statistics from the examination of several thousand school children. Elaborate tables of figures, charts, etc., are given. The following conclusions are offered: 1. There is an exaltation of life processes at the pubertal period which find its expression not only in an increased rate of growth, but also in the development of physical power. This exaltation commences earlier, and has a shorter duration in girls than in boys. 2. Puberty is also a period of great individualization, as indicated by the great normal range of physical measurements at this period. 3. The range of physical measurements at all ages in childhood, including puberty, is distributed uniformly above and below the line of average measurement. 4. At puberty mortality is low, and morbidity is high. 5. Neuroses, psychoses, neurasthenias, cardiopathies, deformities, and anæmias are the principal morbid manifestations of the physical, intellectual, and emotional turmoil which characterizes puberty. 6. The great range at puberty of the measurements of the physical features of the child expresses the condition which permits the existence in individual children of unusual lack of balance in physical measurements, or maladjustment of physical features. 7. Unbalanced physical development is an important factor in the production of morbid manifestations. It is found associated with most of the morbid manifestations of puberty, particularly disturbed heart action, dilatation of the heart, fatigue, anæmia, and some deformities, such as round shoulders and scoliosis, as well as many of the neuroses of the period.

Medical News, September 14, 1901.

The Treatment of Cystitis.—Charles Chassaignac enumerates the principal clinical types of this disease, but before considering them separately, he considers the general indications which apply to all forms to a certain extent. Rest is of the greatest value. Bland food alone should be used. In severe cases, milk, or milk and bread, is the best diet. Abundance of water is necessary. The bowels should be kept free by gentle laxatives. Hot baths are useful, as are also hot applications. Intravesical irrigations, with warm, mild antiseptic fluids, are of great benefit. The administration of alkalines is useful. Sometimes the administration of anodynes is demanded. The urinary antiseptics may be used, but with great caution, since irritation of the stomach and kidneys must be avoided.

Infantile Atrophy.—John Lovett Morse defines infantile atrophy as a morbid condition of infancy, in which there is extreme wasting of the soft tissues of the body, without demonstrable organic lesions. It rarely occurs after the first year, being most frequent during the first six months of life. It is seen more often among the poor than the rich, and more often in cities than in the country. It is probably due to some defect in absorption or assimilation. Little if any knowledge of this affection has been gained from pathological anatomy. Loss of weight is the most marked symptom. It must be differentiated from starvation, from gastro-intestinal diseases associated with wasting, from syphilis, and from disseminated tuberculosis. The prognosis is always grave. Treatment is mainly dietetic, while the laws of hygiene must be observed

American Medicine, September 14, 1901.

Atropine as an Efficient Aid in Relieving Acute Pulmonary Œdema.—Charles O'Donovan believes that more lives can be saved by the hypodermic syringe than by the lancet. The dose required will be what is necessary to produce the physiological effect, and this is shown by the degree of dilatation of the pupil. A safe initial dose is $\frac{1}{100}$ grain, repeated in half an hour, or at longer intervals, until the system is under its influence. The action of atropine is well supplemented by strychnine. The danger of immediate death is not so great in this condition as in the case of weak heart. Still, necessity for prompt action is just as urgent. Time should not be consumed by giving remedies through the stomach, but the hypodermic method should be used.

A Note on Bacillus Coli Communis in a Possibly New Rôle as an Inhibitor of HCl in the Stomach.—G. W. McCaskey reports the case of a man aged thirty-one years, with a history of substernal and epigastric pain and failing health extending over a period of six or seven months. The stomach washings showed the ordinary cellular detritus of chronic gastritis, and almost a pure culture of Bacillus coli communis. A test breakfast showed an abundance of lactic acid without a trace of free HCl. After extreme care in washing out the stomach, the results showed not a trace of lactic acid, but 65° of free HCl. The writer offers three possible explanations: 1. The possibility of variation, due to neuropathic conditions. 2. The strong stimulation of the gastric mucosa by the irrigation. 3. The removal of immense quantities of Bacillus coli communis, which was in this case the undoubted producer of lactic acid.

Philadelphia Medical Journal, September 14, 1901.

Undiluted Milk in the Chronic Gastroenteritis of Rachitic Infants.—Maurice Ostheimer reviews several cases showing the development of rachitis with gastroenteritis of several months' duration due to the variety of food given and probably to its diluted character. Small amounts of pure, unboiled milk, undiluted, are undoubtedly indicated in cases of long standing gastroenteritis due to the administration of too large a quantity of too dilute food.

Unusual After-Effects of a Snake Bite.—Lawrence E Holmes reports the case of a woman twenty-one years old who was bitten by a snake on the right forearm, about two inches above the wrist on the ulnar side. The variety of snake was uncertain. On the fifth day there was complete anæsthesia of the hand and wrist, anteriorly below the wound, posteriorly below the carpometacarpal articulation. The movements of the hand were impaired. In a few days the hand and arm gradually returned to the normal condition. Immediately after the injury, the wound was incised and washed out with a ten per cent. carbolic acid solution. The problem presented itself as to whether this motor and sensory paralysis was due to hysteria or to a toxic neuritis.

The Employment of the Recuperative Power of the Heart as an Estimate of Its Functional Ability.—Martin Mendelsohn, in estimating the functional ability of the heart, ascertains the normal number of heart beats as a starting-point. This is done with the patient in a recumbent position. Then experiments by means of Gärtner's ergostats are conducted in order to discover to what degree a healthy heart is able to replace the materials used up in exertion. Every turn of the apparatus represents 1, 2, 3, or more kilograms of work accomplished, each turn occupying one second. At the end of the work the patient lies horizontally on the couch where the normal number of heart beats had been estimated. The experiments are repeated, sometimes three times, and only those results which agree with each other are considered. The following results have been obtained: 1. If a moderate amount of work, estimated by 100 to 200 kg., be accomplished by a person with a healthy heart, the increased pulse rate stops at once with cessation of the work, and again becomes normal. 2. If work between 200 and 500 kg. be done, the pulse rate becomes less very soon after cessation of the work, and may even drop below normal for two or three minutes. 3. If work averaging over 500 kg. is done, the heart beat continues to be increased above the normal, the degree of acceleration depending upon the amount of work accomplished. After some time the heart returns to normal, before which, however, it generally passes through a short period of subnormal frequency.

The Lancet, August 31, 1901.

Lessons to Be Learnt from Vegetable Pathology.—Jonathan Hutchinson, after a general comparison between disease processes as affecting the vegetable and animal kingdoms, counsels caution in the inferences which we draw, based upon an incomplete examination of facts, in reference to the different species of fungi which attack the human skin. There are a number of these fungi. One of them produces pityriasis versicolor; another causes true favus; another causes ringworm, and it is suggested that there are two or three kinds of ringworm. He would hint that we should be a little cautious in believing that

these diseases are not transmutable. His belief is that from the fungus of common ringworm of the scalp you can produce tinea versicolor, the common chloasma of the chest of an adult. He has seen many instances in which young nurses attending children the subjects of ringworm have developed, not ringworm, but tinea versicolor on the chest. He therefore suggests that we should be a little cautious in inferring, because the external appearances produced by the disease which we know as tinea versicolor, are different from those which we know as ringworm, and are diagnosable easily from each other, that the two things are not transmutable. After all, it may be a modification of the fungous growth, and it may be the same fungus which produces the two. His belief is that it is, and that the large fungus ringworm and the small fungus ringworm are very likely the same; and that the fungus which produces favus, which is very much less common, is only a very modified form of that which produces ordinary ringworm.

Note Concerning a Sign Often Associated with Early Phthisis.—W. Overend says that in cases which follow the ordinary sequence of initial deposition and consolidation within the upper lobes accompanied by dulness in the supraclavicular and supraspinal areas, a number of venous varicosities, one-third to two-thirds of an inch in length, may often be observed beneath the skin in the neighborhood of the spines of the seventh cervical and three upper dorsal vertebræ. They appear early and may become very conspicuous. At times they become apparent only after stretching of the skin laterally. Local pain is occasionally felt, also slight œdema may be found over these vertebral spines. This is considered due to the peculiar venous ramifications of this area. The sign appears to the author to be useful, and he has not come across it in any of the text-books and special treatises. The attention of the practitioner is at once arrested by it, and the condition of the posterior apices of the upper and lower lobes is then determined. The presence of auscultatory signs within this dorsal area, combined with wasting and myoidema, he believes, renders the diagnosis of early phthisis, even in the absence of sputum and bacilli, practically conclusive.

A Case of Spontaneous Gangrene in an Infant.—T. A. Bowes reports the case of a child, apparently healthy at birth, who developed on the thirteenth day a thrush from which it promptly recovered. Three days later it became peevish and would not nurse. Twenty-four hours later, a small vesicle was noticed on the buttock, which in twelve hours changed to a pustule. No trauma could be determined. The next morning the pustule had burst, leaving a small circular ulcer surrounded by a red zone which gradually spread to adjacent parts. From the ulcer there was a discharge of a thin, bloody, odorless serum. Later red and excoriated areas appeared on the fingers and about the umbilicus. The child died on the fourth day of the attack. Throughout the entire course of the disease there was no fever. An autopsy was not allowed. The case was believed to be one of spontaneous gangrene. Four similar cases which have been reported in literature are reviewed by the author. The only suggested cause of the affection is spasm of the arterioles of the affected area, and it appears doubtful whether this is of central or of peripheral origin, though changes in the spinal cord have been described in some cases wherein the disease has been symmetrical. In explanation of the gangrene following the diseases above enumerated it is suggested that there is a local infection by the microbes of the disease in the presence of a lowered vitality of the subject. The noteworthy features of the present case were: the absence of any severe initial symptoms, the fact that the temperature was never raised above normal, and the extreme rapidity with which so large an area of skin was involved, the whole duration from commencement to the fatal issue being only three and a half days.

On the Prophylaxis of Carcinoma.—C. B. Keetly says that if we grant that the cause of carcinoma is a living organism, the situations generally attacked by the disease suggest first, that its cause flourishes in either the secretions or the cells of the skin-glands, including the mammæ, *e. g.* butter, milk, and cheese, sebaceous material, and sweat, and second, that before butter, milk, and cheese are allowed to rest in contact with weakened parts, *e. g.* ulcerations, either inside or outside the body, such articles of food should be sterilized by heat, while the secretions of the skin-glands should be kept away by cleanliness. With regard to the occurrence of carcinoma in certain occupations (chimney-sweeps, pipe-smokers, workers in petroleum, etc.), it is to be said that these occupations lead to the production of a chronic eczema, and that this furnishes a proper soil for the growth of the carcinoma parasite. He therefore lays down the following hygienic and dietetic rules as conducive to the restriction of carcinoma: 1. Chronic inflammations, suppurations, and especially ulcerations, should not be neglected or allowed to drift. Still better, commencing troubles of the kind should be treated promptly and not allowed to become chronic. 2. Well-known sources of irritation of mucous membranes and of skin should be avoided, *e. g.* smoking when any trace of soreness is discovered in the mouth, on the tongue, or on the lips, and the habitual use of strong condiments and spices. Workers in special trades, such as chimney-sweeping, should lose no time in having the smallest cutaneous rashes or other trouble promptly cured. Among milk products cheese is itself an irritant to mucous membranes. 3. A woman should allow nothing to come in contact with her nipples except smooth, clean linen, cotton or silk, and the soap and warm water with which she washes herself. After being washed, the nipples should be gently and thoroughly dried. She should not touch them with her hands or fingers at all. During lactation the nipple should be cleaned and gently dried after each act of suckling, and then protected with a dry and clean covering. The nipple should not merely be withdrawn from the infant's mouth and pushed back under the mother's clothes. If wool be worn it should be sterilized by heat. 4. Whoever takes, as food, uncooked and unsterilized milk, butter, and cheese should recognize that he does so at the risk of introducing into his system the germs of disease, and that among these disease-essences, so to call them, may be that of carcinoma.

Tuberculosis, Bovine and Human.—F. Hueppe vigorously combats the views advanced at the recent London Congress by Robert Koch. Because the bacillus of man has no hold on the ox, Koch assumes the tubercle bacillus of man and of the ox are of different species. This is, says Hueppe, a bald statement, and he himself utterly repudiates any such conclusion. The histological differences between miliary tubercles in the human subject and the tubercles of Perlsucht in the ox, which differences, however, the majority of pathological anatomists do not deem of such importance as Virchow does, indicate a dissimilarity in the inherent quality of the tissue: but whether this inherent quality will attain its remote or ultimate developments by easy processes or by difficult ones, by the operation of pathogenic agencies of like kind or of unlike kind—on these points the histological appearances supply no data for the formation of an opinion. Only bacteriological experiment can throw light upon the question of communicability and can explain whether in the course of inoculated disease or natural infection a biological or morphological modification and adaptation of a parasite of like kind takes place, or whether only parasites of unlike kind have to be reckoned with. The differences which Virchow discovered long ago and the distinctions which Koch has now found to exist are concerned with quite different things—the one with the inherent quality of the structure and the other with the remote or ultimate developments dependent thereon—and the facts ascertained with regard to one of those do not necessarily serve for the elucidation of the other. The cattle bacillus certainly affects the human subject. We are in fear that it will be communicated to us by the milk of tuberculous animals. The channel of contagion is not the gastroenteric tract so often as is supposed, but is very frequently the tonsils. It therefore appears possible that when fluids containing pathogenic organisms are drunk these organisms make their way into the system from the upper passages—the tonsils—and then the primary focus of the disease is in the region of the air passages; it is under these circumstances a mistake to suppose that there is an infection of the lung through the respiration. For this reason Hueppe has a suspicion that many forms of tuberculosis are at present erroneously ascribed to respiration, whereas they ought to be attributed to infection from food, especially milk. Hueppe is not disposed to relax any of the precautions of modern years in reference to the use of milk and meat. He says that when cattle are allowed to graze at liberty, uncooked milk may be taken with impunity. But in low countries and towns where cattle are herded together in damp cow-houses and infection spreads from animal to animal, Koch's assertion that there is no cause for uneasiness would be an invitation to carelessness which would undo all that has been accomplished. We ought to carry on the struggle against bovine tuberculosis unremittingly, both on account of the economic danger and also because bovine tuberculosis forms an immediate danger to mankind. The question is not whether this danger is great or small, whether it has been overestimated formerly or is underestimated by Koch now; but what has to be considered is that this danger comes upon us in a form which requires the most energetic measures of public hygiene, because the inhabitants of towns, especially the workers in manufacturing towns, are quite unable individually to protect themselves sufficiently against it.

British Medical Journal, September 7, 1901.

The Value of Widal's Serum Reaction in the Diagnosis of Typhoid Fever in Children.—J. H. Thursfield believes that the use of Widal's serum reaction makes the diagnosis of typhoid fever a certainty, and serves to eliminate doubtful cases. There is a certain fever among children which, although it strongly resembles typhoid, does not run the normal course, nor present quite the symptoms of typhoid. It is a source of error in the diagnosis of typhoid. This method will probably yield even better results in the future.

What Is Intussusception, and How Should It Be Dealt with?—Edmund Owen defines this affection as the catching up of one piece of bowel within another piece. The symptoms are, generally, severe pain, vomiting, scanty liquid fæces mixed with mucus and blood. The bowel may not be distended; there may be some diarrhœa. The distress is paroxysmal. If the abdomen is flat, there may be felt a lump in the region of the ascending colon. Surgical treatment, without question, is the best way of affording prompt and certain relief.

Ultimate Results of Tendon Grafting in Infantile Paralysis.—Sinclair White's experience in tendon grafting includes eleven cases. One of these had to do with the extensor muscles of the thumb, the others being cases of foot palsy. Although he thinks that the first case is almost a failure, a large part of the cases have received great benefit. As a general rule, it is better not to operate till the age of four years or later. The limb must always necessarily be to a certain extent weak. It takes time to develop the full benefit of the operation. He believes that this method is a valuable addition to surgery.

On Essential or Xræmic Dropsy; Dropsy Without Albuminuria.—W. P. Herringham states that the term idiopathic or essential dropsy is the term given to those cases of general anasarca which exactly resemble cases of Bright's disease, only that there is no albumin in the urine, and no abnormal cardiac condition. It is more common in children than in adults. This affection is often preceded by a chill and is frequently secondary to scarlatina. Some cases begin with marked symptoms, others insidiously. The amount of urine varies. There are no constant anatomical lesions. The kidneys are normal to the naked eye. The writer believes that there are many cases of general dropsy which are not cases of nephritis. In some cases there is no anæmia. This affection is undoubtedly due to a toxic condition of the blood, in which the kidney has not been inflamed. The writer advocates in the treatment the use of syrup of the iodide of iron, drop doses of the liq. arsenicalis, and the administration of milk and digitalis to increase the flow of urine, which will both decrease dropsy and purify the blood.

Two Cases of Chronic Hydrocephalus in Infants Treated by Tapping and by the Introduction of Aseptic Air in the Place of the Fluid.—Wm. Ewart and W. Lee Dickinson conclude that, with due precautions, the fluid of chronic hydrocephalus may be completely evacuated from the yet unclosed skull of infants, and aseptic air may be allowed to take its place. This operation may be repeated without detriment, and with scarcely more risk than belongs to the usual method of paracentesis. In favorable cases of moderate effusion a single operation may suffice. Continued oozing from the puncture for a few days after the removal of the tubes is not unfavorable. In cases of considerable effusion an obvious indication is to relieve the brain from the weight and pressure of the fluid. The evacuation is facilitated by the introduction of aseptic air. By a timely repetition of the operation, a hydrocephalic infant might be enabled to carry the weight of the head, and if the treatment were sufficiently early, permanent damage to the brain tissue might be averted, and a normal development might perhaps ensue. In large heads, whilst hydropneumocephalus persists, a considerable risk is run in eliciting this sound by forcible succussion, and for the same reason any abrupt movement of the head should be avoided.

Berliner klinische Wochenschrift, August 26, 1901.

The Compression Treatment of Heart Disease.—M. Mendelsohn says that in all cases of cardiac disease, accompanied by dilatation of the left ventricle, much may be effected by a carefully fitted bandage, with a pad over the præcordium, making firm pressure in that region. When there is much dilatation the heart loses the natural support it gets from the lungs, which normally almost envelop it, and, consequently, there results undue traction on the great vessels and other structures at the base, and, in addition, the bare thoracic wall is exposed to constant jarring and pressure, which is responsible for much of the subjective discomfort attending these cases. The apparatus used by the author consists of a metal plate, molded to fit from a plaster cast of the chest, and supplied with a small air cushion intended to be inflated after the whole has been strapped in place, the patient thus being able to graduate very accurately the amount of pressure exerted.

Tuberculosis in Man and Animals.—F. Hueppe takes a stand which is opposed to the recent dicta of Koch as expressed at the British Congress, and gives due credit to the American workers whose observations antedated those of Koch by several years. An important point, which has so far been left untouched, is the fact that, even granting that the bacillus of human tuberculosis could not be made to take root in the animals experimented on, it does not necessarily follow that this is true for all species of cattle. For example what was long held to be the anthrax of swine was shown to be a wholly different form of septicæmia, and then it was supposed that the true disease was not transmissible to these animals, yet subsequent investigations proved that certain species were susceptible. The fact that human tubercle bacilli do not infect cattle does not justify us in concluding that there must be two separate forms of organism, as Koch infers, for the same mistake was made in regard to the bacteria of the tuberculosis of mammals and fowls. These were thought to differ specifically until the researches of F. Fischel, and the author showed that it was possible by cultural modifications to effect the infection of animals of each type with the organism of the other class. The tubercle bacillus, undoubtedly, has the power of adapting itself to its host, and for the time being developing a greater predilection and power of infection for that particular species, whether it be rabbit or ox or man, but it can also readily adapt itself to new conditions and develop its usual virulence under altered conditions; thus a bovine bacillus is easily capable of infecting a susceptible human being—a child, for example. Primary infection of the intestine is not nearly so rare as the figures given would indicate, and, besides, it has been shown that alimentary infection does not always primarily attack the digestive tract, but that bacteria introduced with the food may find a lodging-place on the tonsil, whence access to the respiratory passages is easy, and it is probable that many infections which have been ascribed to inhalation were contracted in this way.

Münchener medicinische Wochenschrift, August 27, 1901.

Auscultatory Percussion.—J. Hofmann describes an apparatus he has devised by which percussion can be performed with a single hand. It is a combination of plessor and pleximeter, the hammer being pivoted so that when elevated by the pressure of a finger on its handle and then suddenly released, a blow, the intensity of which can be graduated by the use of the attached angular scale, is struck upon the pleximeter, which is a plate of hard rubber covered with a layer of soft rubber. The apparatus is intended for use with the phonendoscope, and by comparison has been found to give just as accurate results as those of the more elaborate and difficult method of friction auscultation. By this means liver and heart dulness may be differentiated and even the limits of the lower lobe of the right lung may be determined.

The Etiology of Erysipelas and Its Relation to the Pyogenic Infections.—Jordan says that the distinction of true and false erysipelas is a doctrine no longer tenable, for many clinical varieties of the disease occur and etiologically there is no difference between them. It is rather a question of varying degrees of intensity of the same disease depending on the inconstant virulence of the cocci and the resistance of the tissues. The specific nature formerly ascribed to the disease can no longer be upheld, and in origin, nature, course, and complications it bears a close analogy to acute osteomyelitis. Several cases are cited and references given which show that although it is usually a streptococcus infection, staphylococci may also produce the typical picture of the disease, and experiments are described showing that in the rabbit's ear it is possible to produce typical erysipelas not only with streptococci, but also with staphylococci, pneumococci, and bacteria coli. Human erysipelas is usually caused by the streptococcus pyogenes, but may also be due to the staphylococcus aureus, and it is still an open question whether pneumococci, bacteria coli, and typhoid bacilli may not also produce it.

Two Cases of Latent Sinus Thrombosis Following Middle-Ear Disease.—Hölscher reports two cases which are interesting because of the sluggish course run by an affection which ultimately, in both instances, led to an empyema of the mastoid process. In the first case, occurring in a boy of sixteen, the middle-ear inflammation at its onset was accompanied by painful swelling behind the auricle, with severe headache, dizziness, and vomiting, but no

perforation of the tympanum; after the subsidence of the acute symptoms the headache and vertigo continued for some time, but there was no indication of progressive trouble, and it was not until twelve weeks later that mastoid symptoms developed and led to operation. The second case, in a middle-aged man, ran a still more sluggish course, the patient not coming under observation till five months after the beginning of his ear disease. The acute symptoms had all subsided and a small perforation afforded sufficient drainage for the scanty discharge. A slight afternoon fever was present, but yielded readily to palliative measures and no indication for operation manifested itself for three months more. In both instances, on operation, a sinus thrombosis was found which apparently dated back to the original acute suppuration and then gradually underwent granular degeneration, finally leading to abscess formation.

Deutsche medicinische Wochenschrift, August 22-29, 1901.

Further Communications on the Angina Due to the Spirochæte Bacillus.—H. Solomon reports that, though very rarely associated with true diphtheria, this organism is often found in syphilis of the throat. A study of the statistics of the city of Frankfort, covering 737 cases in which throat cultures were made, revealed the presence of the spirochæte bacillus in but three, and in none of these, nor in those described in the literature, was it found together with the bacillus of diphtheria. It may therefore be concluded that when the presence of the spirochæte flora has been discovered, diphtheria may almost with certainty be excluded—a fact of some practical importance. In specific disease of the pharynx, however, the organism occurs with comparative frequency and in two cases, which are described in detail, formed what was clinically speaking the primary lesion; it was only after the disappearance of an obstinately persistent membrane that the tonsils became fissured, and true mucous patches developed. In but one case of stomatitis was the bacillus found; this was in a boy of five, suffering from aphthous stomatitis which showed almost pure cultures of spirochætæ and bacilli fusiformes.

Rectus Abscess in Typhoid Fever.—L. Bollack and H. Bruns describe the case of a young man who, during his convalescence from typhoid fever, after a fit of coughing, developed a painful swelling of the right rectus muscle. As soon as fluctuation was made out, the tumor was incised, and a quantity of yellowish brown pus evacuated. Two weeks later a similar mass appeared on the opposite side, but receded and underwent complete absorption without operative interference. Cultures and animal inoculations from the pus obtained showed the presence of typhoid bacilli in pure culture, and the assumption is that the recti muscles, having undergone a certain amount of granular degeneration as the result of the disease, ruptured, and the subsequent extravasation of blood afforded a suitable culture medium for the development of the bacilli. In this, as in other cases reported, the organism was greatly reduced in virulence, which perhaps has some connection with its pus-producing faculty, while the assertion that such accumulations usually run a benign course was corroborated. It seems, therefore, that in such cases, when an abscess or empyema contains typhoid bacilli in pure culture, conservative treatment, and not surgery, is indicated, as absorption unattended by by-effects is likely to take place.

Injury and Diabetes.—F. Hirschfeld considers the relation of trauma to this disease, and the extent to which accidents may be held responsible for its production. A distinct connection between the two is often traceable, particularly in the case of diabetes of nerve origin, in which the central nervous system appears to be implicated, and which is not infrequently susceptible of cure or improvement. When there already exists some lesion of the pancreas, the possibility is far from remote that a trauma might set up sufficient disturbance to precipitate the onset of diabetic trouble, while accidents may be the cause of pancreatic lesions themselves, such as cysts, hemorrhages, and, possibly, chronic inflammations. Long-standing diabetes may be unfavorably influenced by shock, the severest contingency to be feared being the inauguration of coma. In rare instances, even when the disease is only slight, coma may be precipitated in this way, and doubt may then exist as to whether the condition is due to the accident or the constitutional trouble. There is often great difficulty in deciding as to the proper valuation of trauma and disease in the production of gangrene, though even a trifling injury may be productive of serious results in a but slightly diseased vascular system. Muscular capacity is greatly decreased in diabetes, and patients belonging to the working classes are usually to be considered as being incapacitated.

The Effect of Pregnancy and Labor on the Phthisical Process, and the Therapeutic Value of Artificial Abortion.—S. Kaminer cites the opinions of various observers which are rather contradictory. The two most radically opposed authors are Kleinwächter and Maragliano. The former sums up his indications for the induction of abortion by saying that it should be performed only when conditions prevail which are directly caused by the pregnancy, and jeopardize the life of the mother, and can be relieved only by this measure, thus totally excluding tuberculosis. Maragliano, on the other hand, says that abortion should always be performed, and the earlier the better, since in this way, in addition to the advantage to the mother, who is relieved from the risks of labor, mankind is benefited by the removal of a future tuberculous unit from society. Out of fifty cases collected by the author, in sixty-six per cent. the pregnancy reacted unfavorably on the mother; and inasmuch as labor is always a severe exertion, making undue demands on the enfeebled system of a consumptive, he believes that in many cases the induction of abortion is indicated, since it does away with the dangers of pregnancy, and when skilfully performed its effects are in no way comparable with the severe stress of an ordinary labor. Maragliano's sweeping statement, however, is too far reaching, and no definite rule can be laid down, but each case must be judged separately and treated accordingly.

French Journals.

Surgical Treatment of Enteroptosis.—Lambotte states that surgical intervention aims to remedy the partial or total prolapse of the colon, and the trouble so caused in the passage of fæces. The operation consists essentially in the fixation at the two sides of the angles of the transverse colon. A series of sutures is made through the abdominal wall. The writer has obtained happy results in the majority of his cases.—*Gazette Hebdomadaire*, August 29, 1901.

The Swallowing and Discharge of a Large Pin Without Accident by the Natural Ways.—Albert Peillon reports this case. The patient was a girl of fourteen years. She swallowed a large pin, head first. She was given soft bread at once by her mother. The writer watched the case from day to day, and on the fourth day after the accident the pin was discovered in the stools. The writer thoroughly believes in the expectant treatment in these cases. Soft, bulky food should be given.—*Lyon Médical*, August 18, 1901.

Treatment of Acute Mucous and Dysenteric Colitis in Children by Sulphate of Sodium.—According to E. C. Aviragnet, the results obtained by the use of sulphate of sodium in these affections are remarkable. Its action on the secretions of the large intestine is wonderful and constant. In a large dose it acts like all purgatives; in a small dose it causes the glairy and bloody hypersecretion to disappear. The dose advised is fifteen grams the first day, and small doses on the following days—five grams, for example, in a child of twelve to fourteen years; two grams in a child of two years. The administration should be continued more or less for eight days. The salt is given in a glass of sweetened water. All of the unfavorable symptoms are rapidly ameliorated. —*Gazette Hebdomadaire*, September 1, 1901.

Acute Occlusion of the Small Intestine in the New-Born from Congenital Deformity.—E. Weill and M. Péhu believe that the diagnosis of this affection is generally easy. The symptoms are: vomiting of meconium, absence of evacuation of meconium, absolute constipation from birth, and more or less marked abdominal distention. In stenosis of the œsophagus there is almost immediate expulsion of the milk and no abdominal symptoms. In stenosis of the pyloric orifice, there is vomiting of curds, but no fecal matter, and no bile. In the first affection there should be a careful examination of the rectum by finger and by catheter, in order to be certain that there is no occlusion of the lower part of the digestive tube. All measures must be taken to fix, if possible, the position of the occlusion, before treatment is begun.—*La Presse Médicale*, August 17, 1901.

Surgical Treatment of Hydatid Cysts of the Kidney.—Albarran concludes: 1. If laparotomy has been performed in the absence of clear diagnosis, nephrotomy is indicated with rare exceptions. 2. If, with or without a clear diagnosis, it is decided to make use of the lumbar route, the cyst should be opened, and it should be decided at once as to the possibility of extirpating the germinative membrane. If that is impossible, the condition of the kidney should be observed: (*a*) If the kidney is still useful, and it is possible to extirpate the cyst totally, a renal resection should be made. (*b*) If the kidney is still useful, and that operation is impossible, nephrotomy should be practised after partial resection of the cyst. (*c*) If the kidney is useless and unfit for any further function,

nephrectomy is indicated. If the kidney is so firmly imbedded that great injury would be done by this proceeding, then nephrotomy will have to answer.—*La Presse Médicale*, August 24, 1901.

International Medical Magazine, July, 1901.

Feeble and Premature Infants.—Floyd M. Crandall would have the child wrapped in absorbent cotton or cotton batting and a blanket, not bathed, nor even sponged if very feeble, but rubbed with oil daily, and kept in a very warm but well-aired room. Food will have to be given through a medicine dropper or by means of a teaspoon (breast milk when possible), and the child be put to the breast as soon as it has strength to nurse. When the feeding is difficult and cow's milk must be used, complete peptonizing will prove very satisfactory.

Obesity Treated by Systematic Movements.—John Madison Taylor disapproves of the adoption of a marked change of diet in the case of many persons who thus endeavor to reduce obesity. He recommends instead a set of regulated exercises, consisting of respiratory movements, correct standing position, and bending forward until the hands touch the floor, the legs and pelvis remaining in their former position, the trochanters being used as the pivots, after which the pelvis is allowed to follow the line of the straight back; extension of the arms, movements on all fours, etc., etc. A quarter of an hour morning and night of these exercises is sufficient to bring about a decided loss of fat, with restoration of symmetry and activity to bulky and awkwardly shaped people. Marked improvement in general vigor and organic activities also follows.

Causes, Symptoms, and Diagnosis of Chronic Intestinal Catarrh.—Boardman Reed says in regard to the diagnosis of this affection, that the greatest difficulty will be found in differentiating it from nervous forms of diarrhœa resulting from vasomotor paresis. In genuine nervous diarrhœa there is no mucus, and there is rarely any pain; the stools are not fetid, no indicanuria nor excess of the aromatic sulphates is likely to appear in the urine, and the attacks are usually transient as well as coincident with an increase in the other neurasthenic or hysterical symptoms. If such diarrhœal attacks recur often, and particularly if they incline to linger for days at a time, it may well be suspected that a catarrhal process has been set up. Constipation from stricture, tumors, etc., is to be differentiated also, but when these persist long a catarrhal process nearly always results. Intestinal catarrh is by no means synonymous with diarrhœa, the majority of cases being accompanied, at first at least, by constipation.

The Treatment of Cholera Infantum.—W. Blair Stewart urges the exhaustive physical and dietetic study of each case, and bids the physician remember that in treatment *elimination* is first; diet second; hygiene and change of air third, and antiseptics and astringents the last in importance. Calomel and a full enema of the starch mixture is often all that is needed in the way of medicinal treatment. When there has been purging but no vomiting, a teaspoonful of equal parts of castor oil and aromatic syrup of rhubarb every two hours until a full yellow stool is obtained will answer. For cases with obstinate nausea and vomiting give hydrarg. chloridi mit., grain $\frac{1}{10}$; pulv. ipecac. et opii, grain $\frac{1}{10}$, and bismuthi subgallat., grain 1. Give one such powder every one-half to one hour. Sea air, with slight assistance from medicines, will often work wonders. Give all the fresh air possible; do not hold the child in the arms, nor rock it, but place it in a cool, solid bed. Always starve these patients for the first twelve to twenty-six hours.

Treatment of the Febrile Stages of Gastro-intestinal Disorders in Children.—W. C. Hollopeter says that the keynote of this treatment is the absolute cleansing of the gastro-intestinal canal of all bacteria and material that generates bacteria; the administration of sterile food; the combating of tissue-waste; absolute quietude, and the rigorous attention to the management of the slight details of this condition. The author's plan is usually to empty the stomach and then to give a slight enema of, say, a teaspoonful of glycerin to a tablespoonful of warm water; then a high enema of one quart tepid water and one tablespoonful of sodium bicarbonate; next, broken doses of calomel until the characteristic stool is found, and then a dose of castor oil. All solids and all milk foods should be withdrawn and albumen water, or toast water or gum water given. Medication after the first twenty-four hours of calomel and the oil should be a mixture of bismuth subnitrate, 2 grains; salol, ½ grain; aromatic powder, ½ grain; sugar of milk, 1 grain; dry on the tongue every two hours, or with every movement.

The Edinburgh Medical Journal, July, 1901.

The Capillary Reflux and What We Learn by Observing It.—Alexander Haig says that the capillary reflux is the flowing back of the blood into the capillaries of a portion of surface skin rendered anæmic by pressure, and the rate of this reflux is a measure of the quantity of uric acid in the blood, because the uric acid controls the capillary circulation. He gives the methods of measurement which he has adopted, by means of which a known pressure is applied to a known surface for a definite time, and the time accurately measured which it takes the blood and color to make a complete return. The curves illustrating the article show the effects of cold on the uric acid in the blood, the effects of feeding uric acid by taking foods that contain it, and the fluctuations produced in the capillary reflux by salicylic acid and its salts.

The Experience of Forty-two Cases of Goitre Treated by Operation.—A. Marmaduke Shield concludes from his experiences that medical treatment should not be neglected in cases of goitre. The administration of iodide of potassium with tincture of iodine, in the proportion of three grains of the former with one minim of the latter in infusion of gentian, three times a day, may cause small goitres to disappear entirely. Goitres which tend progressively to increase should be operated on before they grow to a huge size, and before their deep connections become complicated. Removal of one lobe and the isthmus is practically always followed by atrophy of the corresponding lobe. The operation is free from special risk if done properly, and with the assistance of an experienced anæsthetist. Large, old, adherent goitres still remain difficult and dangerous to remove. It is the duty of every practitioner to urge this upon his patients, and submit them to operation while removal is yet comparatively safe and easy.

Deutsche Zeitschrift für Chirurgie, July, 1901.

The Removal of Foreign Bodies from the Lower Portion of the Œsophagus through the Stomach.—Wilms describes a method of reaching the lower end of the œsophagus for the manual extraction of foreign bodies which overcomes some of the difficulties that have heretofore been experienced. If the abdominal and gastric wounds are made sufficiently large to permit the entrance of the whole hand into the stomach, the risk of infecting the peritoneal cavity is very great, while on the other hand, if the opening be made large enough for the entry of only a single finger, as usually performed, the operation does not permit easy access to the cardia and œsophagus. The author incises in the middle line, but draws down a portion of the fundus instead of opening the stomach in the customary way at the pylorus. A small incision just large enough to permit the index finger covered by a finger cot of thin rubber to force its way in is made, and the opening tightly closed around the finger by the tightening and knotting of a previously applied purse-string suture, encircling it. The stomach wall may now be completely invaginated, and the hand carried close up to the cardia giving the finger inside easy access to the œsophagus without the slightest danger of any infectious matter escaping into the abdomen.

An Unusual Case of Resection of the Stomach.—F. Franke's patient had the advanced age of seventy-nine years, and a number of complications occurred both during the operation and convalescence. While under observation for a not very troublesome nor very long-standing gastric disturbance, a tumor developed in the left hypochondrium and the diagnosis of carcinoma was made. On operation it was found that the growth was much larger than had been expected, and it was at first thought that a gastroenterostomy was as much as could be done. This was accordingly made, but the patient's condition remained so good that the tumor was resected and duodenum and pylorus closed in the usual way. It was then seen that the stomach wall near the site of suture gave the appearance of being of very poor vitality, and the whole line of suture and a portion of the surface was enveloped in omentum and this sutured in place as a safeguard. The gut at the point of anastomosis with the stomach was then seen to be bent at so sharp an angle that an enteroenterostomy was done between the two loops. The patient recovered well from the operation, but subsequently developed a pneumonia followed by empyema which protracted convalescence, but finally he was completely restored to health. In considering the causes of the pneumonia that so frequently follows gastric operations the author thinks that Stendel's theory ascribing the trouble to the very firm dressing necessary in such cases affords the most probable explanation.

Book Reviews.

THE DIAGNOSTICS OF INTERNAL MEDICINE. A Clinical Treatise Upon the Recognized Principles of Medical Diagnosis. Prepared for the use of Students and Practitioners of Medicine, by GLENTWORTH REEVE BUTLER, A.M., M.D., Chief of the Second Medical Division, Methodist Episcopal Hospital; Attending Physician to the Brooklyn Hospital; Consulting Physician to the Bushwick Central Hospital; formerly Associate Physician, Department of Diseases of the Chest and Diseases of Children, St. Mary's Hospital, Brooklyn, N. Y.; Fellow of the New York Academy of Medicine; Member of the Medical Society of the County of Kings, etc. New York: D. Appleton & Company, 1901.

THIS volume presents some unusual features and will find many readers who will appreciate the method by which the subject is treated. The great bulk of the work deals with the evidences of disease, and does so in a most satisfactory manner. The student is taught how to proceed in the examination of his patient, what routine questions are to be asked such as would lead to a preliminary opinion which in turn would suggest certain examinations in detail. The author teaches not only what to do, but how to do it, and his advice and method of diagnosis are to be highly recommended. The smaller details, which only acute observers notice, are pointed out and their significance is weighed. It will be of service as a reference book in suggesting explanations in cases where but one or few symptoms, not pathognomonic, are presented for diagnosis—for each symptom is explained and the ordinary diseases in which it occurs are mentioned, while in the latter part of the book the diseases are treated separately, so that direct suggestions can be immediately considered without consulting another volume. All the modern laboratory methods are well described, the chapters on the blood and stomach contents being especially good, though brief. The thorough modernness of the instruction is well instanced by drawings of the culex and anopheles genera of mosquitos.

The author is evidently fully conversant with the clinical evidences of disease, for his treatment of the chapters on the signs and symptoms which present themselves in the patient is unusually well balanced with reference to their importance. The section on pain is very thorough, the illustrations are profuse and particularly instructive. The author is responsible for the larger part of the work, but has apportioned the part on Parasites and Intoxications to Dr. Frank W. Shaw; that on Discases of the Kidney and Constitutional Diseases to Dr. Henry G. Webster; that on Diseases of the Blood and Ductless Glands to Dr. Henry P. De Forest, and that on Diseases of the Nervous System to Dr. S. E. Teliffe, and Dr. A. B. Bonar. A special feature of the work throughout is the unusual profuseness of plates and diagrams. Wherever these would seem to be of use in making the text more clear, they have been freely employed, and are well chosen.

A MANUAL OF SURGICAL TREATMENT. By W. WATSON CHEYNE, C.B., M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, etc., and F. F. BURGHARD, M.D. and M.S. (Lond.), F.R.C.S., Teacher of Practical Surgery in King's College, London, etc. In seven volumes. Vol. V. The Treatment of the Surgical Affections of the Head, Face, Jaws, Lips, Larynx, and Trachea, and the Intrinsic Diseases of the Nose, Ear, and Larynx, by H. LAMBERT LACK, M.D. (Lond.), F.R.C.S., etc. Philadelphia and New York: Lea Brothers & Co., 1901.

THIS is the fifth and so far largest volume of the excellent work of which it is a part. The title page is so comprehensive that it is hardly necessary to give further particulars as to the contents of this section of the work. It will be seen that there are several chapters on subjects of more interest to the specialist in certain departments than to the general surgeon, but this is no objection to the book from the latter's point of view. The diseases and injuries of the scalp and the skull receive attention first, and we may note a very terse and satisfactory description of the treatment of fractures of the skull, especially from the operative point of view. There is also a very complete discussion of the characteristics and treatment of various intracranial conditions the result of injury and disease. The so-called operation of craniectomy is mentioned and very properly not recommended. In the chapter on cerebral localization there are some very good illustrations, and what is said on the subject of tumors of the brain is sound and conservative. In discussing lupus, the old classification is adhered to, and the new treatment by heatless light is commended. There is an interesting chapter on trigeminal neuralgia, with accurate descriptions of the more extensive operative procedures.

In discussing cleft-palate, the authors speak very favorably of the comparatively recent modification suggested by Davies Colley, which apparently makes good results more probable after what is usually a somewhat unsatisfactory operation. Tumors of the jaws form an interesting subject and in this work we are offered an excellent classification, as well as a comprehensive survey of the different modes of treatment and operations. The illustrations in this part of the book are rather scanty.

In malignant disease of the larynx, it is recommended that complete laryngectomy be done whenever there is the least suspicion that the disease has involved more than one-half the organ, and very complete directions are given for the performance of the operation. The articles on the nose and nasal fossæ have been turned over to a specialist and the same is true of the ear and the intrinsic diseases of the larynx. On all these subjects, the information given is more than sufficient for the general worker and often enough for the specialist. When the present work is completed, it bids fair to be a complete cyclopædia of surgical information.

APPENDICITIS, ITS PATHOLOGY AND SURGERY. By CHARLES BARRETT LOCKWOOD, F.R.C.S., Assistant Surgeon and Lecturer in St. Bartholomew's Hospital, etc. London and New York: Macmillan & Co., 1901.

THIS monograph is one of the most satisfactory on its subject which we have seen. The author has endeavored to present the subject of appendicitis in the light of his personal experience, and, since many patients have come under his care, the result is gratifying. He gives a short but complete chapter on the anatomy of the appendix, and then discusses the pathology of the organ, giving views which coincide with what we in this country, have come to consider correct. He rightly objects to artificial classifications. The subject of treatment includes many descriptions of cases operated upon by the author himself, and his ideas here are in accord with the most enlightened opinion. The subject of appendicitis has not received in England, as a rule, the intelligent treatment which we think it deserves, and it is consequently refreshing to read English opinions which might be American. This writer does not quite set forth the advantages of the interval operation, but he describes the different methods and mentions successful cases. The illustrations are excellent, and the book is very well printed.

THE HYGIENE OF TRANSMISSIBLE DISEASES: Their Causation, Modes of Dissemination, and Methods of Prevention. By A. C. ABBOTT, M.D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Second Edition, Revised and Enlarged. Philadelphia: W. B. Saunders & Company, 1901.

THE appearance of a second edition is a substantial proof of the interest with which this work has been received. Although the plan of the original volume has not been changed, there have been many additions, and modern views have been substituted where the original ones do not embody the latest researches. The subject matter deals essentially with that department of hygiene which embraces a knowledge of those specific diseases, concerning the prevention of which modern research has taught us so much. Besides the special consideration which is paid to the various individual diseases herein discussed, questions relating to general sanitation are also taken up. Particular attention is paid to the discussion of the rôle of insects and of rodents as disseminators of disease. Much new work has been done in the sections on malaria, yellow fever, plague, filariasis, dysentery, and tuberculosis. Both the predisposing and exciting causes of disease are discussed. The list of special diseases which are considered in relation to their causation, modes of dissemination, and prevention is a long one. Under general prophylaxis, the author treats of immunity, vaccination, and protective inoculation. Disinfection and disinfectants are treated in considerable detail. Quarantine is touched upon. The book is concluded by an excellent index.

Diseases and Their Odor.—MacCarry (*The Australasian Medical Gazette*) says that every physician should be able to diagnose certain diseases by their odor, that of mice in favus, peculiar acidity in rheumatism, nauseous breath in pyæmia, putridity in scurvy, musk in peritonitis, sour beer in scrofula, ammonia in simple fever, new bread in intermittent, and violets or pineapple in female hysteria.

Clinical Department.

REPORT OF TWO CASES OF ECTOPIC GESTATION; OPERATION ON ONE AT TERM, WITH DELIVERY OF LIVING CHILD, AND ON THE OTHER AT SIX WEEKS.*

By T. N. RAFFERTY, M.D., and H. N. RAFFERTY, M.D., ROBINSON, ILL.

For the early history and details of Case I we are indebted to Drs. C. H. Voorheis and J. B. Cato of Hutsonville, Ill.

Case I.—Mrs. G. B., an American, forty years of age and housewife by occupation, had, until the beginning of her present trouble, always enjoyed good health, with the exception of the ordinary diseases of childhood. Menstruation began at the age of thirteen, and the periods were normal and regular up to the time of her first pregnancy. She is the mother of four children, the youngest being four years of age. Her labors have always been easy and normal. Her last regular menstruation began July 4, 1900, and lasted four or five days. On September 2d, at 4 o'clock A.M., Dr. Voorheis was called and found the patient in a state of collapse, with extreme pallor, vomiting, restlessness, and thirst, and suffering intense paroxysmal pain, radiating from the right iliac fossa, with abdominal tenderness. The Doctor failed to get a complete history of the case—as to cessation of menstruation, etc.—and consequently was in some doubt as to the diagnosis. The patient's condition was desperate, but under repeated hypodermatic stimulation and rest, she rallied. In October following there was a slight menstrual flow, with discharge of decidual remnants. From this time on there was a gradual enlargement of the abdomen. The woman was confined to her bed most of the time, and complained of indefinite pains, originating in the right hypochondrium. In December she first felt fœtal movements, and noticed that her breasts were enlarged and tender. From this time she had persistent vomiting, vesical and rectal tenesmus, and obstinate constipation. On April 4, 1901, one of the writers first saw Mrs. B. in consultation with Drs. Voorheis and Cato, and found her condition as follows: A woman prematurely aged by at least ten years, of a nervous temperament, extremely emaciated, with characteristic ovarian facies. The skin was sallow and slightly icteric—no doubt from external pressure on the common bile duct. The temperature was normal, pulse 120. Inspection of the patient in the recumbent position showed the abdomen to be as large as that of normal pregnancy at term, though its shape was rather that of ascites, and the enlargement was higher in the abdominal cavity than in ordinary pregnancy. On palpation the tumor was found to extend transversely across the abdomen, its greatest circumference being midway between the umbilicus and the tip of the ensiform cartilage. The tumor was most distinct in the two hypochondria; in the right, easily outlined, was a round solid mass, the size of a cocoanut, and slightly movable. The percussion note was dull over the entire abdomen, with the exception of a small area in the left flank. On auscultation a distinct pulsation, at the rate of 140 per minute, was heard at a point about four inches to the right of the median line, and two inches above a line drawn transversely through the umbilicus. No fœtal movements could be felt at this time, but they had been perceived by the mother that morning. The breasts are enlarged and pigmented. Vaginal examination showed a cervix large and soft, and a patulous os. A sound passed to a depth of three and one-half inches. The uterine corpus was somewhat enlarged, but empty. Neither ovary, tube, nor pelvic tumor of any sort could be outlined. By inserting a finger in the rectum and drawing down the cervix with a tenaculum, the whole uterus could be easily outlined, and was found to have no immediate connection with the abdominal tumor.

A diagnosis was made of secondary abdominal pregnancy at term, with viable child, following a ruptured tubal gestation at the eighth week; child probably lying transversely in the peritoneal cavity, with head in the right hypochondrium, and elbow or knee presenting at the most prominent point of the abdomen. All present concurred in the diagnosis, and agreed that immediate laparotomy offered the only chance for mother as well as child. Accordingly, on April 6th, the patient having been prepared previously by a laxative, rectal enema, and bichloride dressing to the abdomen and flanks, a cœliotomy was done under chloroform anæsthesia. The incision was begun in the median line, at a point three inches above the umbilicus, and was extended downward and to the right in the direction of the anterior superior spine of the ileum, a distance of five inches. There was an excess of subcutaneous fat for one so emaciated, and the peritoneum was thick and leathery. The left elbow of the child presented in the wound as soon as the peritoneum was opened, this confirming the diagnosis of a transverse position. The child's back was turned toward the mother's diaphragm, the occiput pressing against the right lobe of the liver and the face looking downward. The child was turned so as to make a brow presentation, and delivered through the incision without difficulty. The cord was ligated and cut near the child, and again within four inches of its placental attachment. There was no sign of a fœtal sac, except for a few shreds of tissue—probably remains of the amnion—the child lying perfectly free in the abdominal cavity in front of the intestines. There was a small amount of fluid in the abdominal cavity, probably ascites from pressure. The placenta was unusually large and plethoric-appearing, being about 6 x 7 x 2 inches in size, with the cord attached near its upper margin. Its probable attachment was to the right tube and broad ligament, and the intestines posteriorly, but time was not taken to make this certain, owing to fears of uncontrollable hemorrhage. It being evident that any effort to remove the placenta would be disastrous, the upper end of the abdominal wound was closed with interrupted silkworm-gut sutures, but the lower end was left open, and through it was drawn the cut end of the cord, while iodoform gauze was packed above and around the placenta. During the operation the patient was given decinormal salt solution per rectum, and repeated hypodermics of strychnine and whiskey. The operation was bloodless. After the woman was returned to bed, heat was applied externally, and a pint of decinormal salt solution was given subcutaneously. The pulse was 140 at the close of the operation. The patient rallied well from the anæsthetic, suffered but little shock, and did not vomit during the day. The child, a male weighing eight and one-half pounds, seemed in fairly good condition, though it was somewhat cyanotic. On April 7th, twenty-four hours after the operation, the woman's temperature was 99°, pulse 135, but fairly good. She had vomited once after taking hot milk. The bowels and bladder had moved without aid. The child died at midnight, cyanotic, having lived thirteen and one-half hours. On April 8th, at 8 A.M., or forty-eight hours after the operation, the woman's temperature was 100°, pulse 135. The wound was redressed. The

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packing was slightly soiled at one point with clear fluid, but there was no sign of any hemorrhage. The placenta seemed slightly shriveled. Its surface was mopped off with gauze wrung out of sterile saline solution, and the wound was repacked. At 6 P.M. of the same day, the temperature was 99°, pulse 135, no vomiting. Nutrient enemata were given during the day. April 9th, the temperature was normal, pulse 130. The patient was thirsty and very hungry—condition promising. April 11th, at 8 A.M., the temperature was 102°, pulse 135; there had been some cough during the night. The dressing was changed, and a loop of intestine, slightly adherent, was found in the wound. There was no change in the appearance of the placenta. The patient's expression was anxious. At 6 P.M. her temperature was 103°, pulse 150; the wound was dressed, and the peritoneal cavity was irrigated with sterile salt solution at a temperature of 105° F., and two quarts of the same solution left in the cavity. The patient's condition gradually grew worse, and death occurred at 3 A.M., April 12th, on the sixth day after operation.

The autopsy was made seven and one-half hours after death. Rigor mortis was incomplete. The abdominal wound, where united by sutures, was fairly firm, with no sign of pus in either the wound or the stitch-holes. The abdominal wound was enlarged from sternum to pubes. The placenta filled the brim of the pelvis, and was firm and full of blood. It was situated in the median line, attached in the middle of the lower end to the fundus uteri, on the left side to the broad ligament and to the sigmoid flexure of the colon and its mesentery, so firmly that separation was impossible, except at the expense of the placenta. The left tube and fimbriated extremity were of normal size and free from adhesions; the lumen of the tube was patulous to within an inch of the horn of the uterus, at which point a small probe could not be passed. The left ovary, the size of a small prune, was in its normal position, and showed no sign of cystic degeneration nor a corpus luteum. On the right side, the placenta had retained its original attachment to the tube, showing the rupture to have been at the junction of the middle and outer thirds of the tube. The right broad ligament and ovary were fused into one unrecognizable mass of adhesions. There were also numerous but less firm adhesions to the small intestines on the right side. The omentum was long, thick, and vascular, but entirely free from adhesions. The uterus occupied its normal position, and was symmetrically enlarged and firm. The uterine muscle was hypertrophied and healthy in appearance. Externally the uterus measured four and one-half inches in length, by two and one-half inches in width, through its body. The cavity was empty. The cervix was soft and patulous. There was no sign of fœtal membranes, except for a thick adherent capsule covering a portion of the placenta, which might be considered as remains of the bursted amnion.

Case II.—Mrs. K. S., an American housewife, thirty-three years of age. There is no history of any previous illness, except indigestion. She first menstruated at the age of fifteen, her menstrual periods having always been regular, and usually painless. She was married at twenty-two, giving birth to a male child a year later. Since then her menses have been normal, but she has had more or less leucorrhœal discharge. She has never had a miscarriage. She last menstruated during the fourth week in February of the present year. On April 9, she worked in the garden and further exerted herself by lifting down a heavy weight from above her head. On the morning of April 10, while sweeping, she was suddenly seized with a sharp lancinating pain in the left iliac region, radiating over the abdomen, and accompanied by faintness, partial blindness, and thirst. Her family physician, Dr. A. G. Meserve, was called, and found her pulseless and cold, with lips and gums pale, and all indications of acute anæmia from internal hemorrhage. After making a hurried examination, and getting a history of the missed menstrual period, Dr. Meserve made a provisional diagnosis of extra-uterine gestation, with rupture and hemorrhage. Under careful stimulation the patient rallied somewhat, her pulse at times becoming much better, only to sink again away from the finger with renewed bleeding. On the day following, Mrs. S. was seen by us in consultation with her attending physician, to consider the advisability of surgical interference. At this time her condition was as follows: pulse 120, temperature 99°, lips and gums bloodless. She complained of no pain, but vomited occasionally. The abdomen was tender and tympanitic; the bowels were constipated. Vaginal and rectal examination failed to show the presence of any pelvic tumor. The broad ligament on each side seemed thickened somewhat, and the left ovary was enlarged. The uterus was slightly enlarged. There was no fluctuation in Douglas' pouch. As we could not get the family's full consent for operative intervention, it was deemed best to await developments.

On April 13, her general condition being less favorable than on the preceding day, a laparotomy was consented to. Under ether anæsthesia, the peritoneum was opened, and dark semi-fluid and clotted blood at once appeared in the incision. It having been first ascertained that there was no active bleeding, and that the rupture had occurred in the left tube, the ovarian and uterine arteries were ligated, and the tube and ovary were removed. The rupture in the tube had occurred about three-quarters of an inch from the uterus, and in order to get a suitable stump, a suture-ligature was passed through the muscle wall of the uterine horn, and the cut end of the stump was inverted with several Lembert sutures. The ovary contained a cyst as large as a hen's egg, and was completely buried in a mass of old adhesions in the broad ligament. A small portion of normal ovarian stroma remained, and showed a corpus luteum. The bursted tube—the erstwhile resting place of a misguided embryo—was gaping widely, with no vestige of a clot, the only barrier against hemorrhage being the low arterial tension—rather uncertain at the best. The right ovary was likewise adherent, but it was not deemed advisable to prolong the operation by a further inspection. The uterus seemed to be as large as one in the second month of pregnancy. The pelvis was cleansed of clots, as were the intestines and adjacent organs, by mopping with gauze sponges wet with hot sterile salt solution. While we were thus occupied, the six weeks' ovum was found free in the pelvic cavity among the blood clots. The abdominal walls were closed with through-and-through sutures of silk-worm gut. The patient rallied well from the anæsthetic, and until the tenth day her recovery was uneventful. At this time there was a slight rise in temperature, which continued for several days, due to the development of several stitch-hole abscesses, and a mild sapræmia from the retained decidua. Following the operation for several days there was, as usual, a slight sanguineous discharge from the uterus. On April 27, or fourteen days after the operation, there was a sudden gush of blood from the uterus followed by the discharge of shreds of decidual membrane, partly decomposed.

Shreds of membrane continued to pass for several days. Curettage was probably indicated, but was not done.

It has occurred to us that these cases deserve attention for several reasons. The patients were both operated on within a week, in country homes, within fifteen miles of each other, and each time in consultation with a member (or members) of the Æsculapian Society.

From the statistics to which we have had access, and which include the period from 1809 to 1896, or eighty-seven years, it is learned that seventy-seven ectopic viable fœtuses have been delivered by cœliotomy. Six of these only have been reported by American surgeons—the remainder by Europeans. Of the seventy-seven cases so reported, thirty-seven were operated on during the first eighty years of this period, with nine maternal recoveries; while in the forty cases reported during the last seven years of the period, there were twenty-seven maternal recoveries. The fœtuses thus delivered have lived for periods varying from a few minutes to several years. These statistics have been obtained principally from the table given in Kelly's "Operative Gynecology" and from a private communication from Dr. E. P. Davis, Professor of Obstetrics in Jefferson Medical College, of Philadelphia.

In a table given by Werder, there are records of three maternal recoveries in cases in which a viable fœtus was lying free among the intestines, without a sac. The present case, so far as we have been able to determine, is the first to be reported in this country in which a cœliotomy has been done with a viable ectopic fœtus without a sac.

Abdominal section at the time of an early ruptured tubal gestation has become common since the perfection of modern technique, but the case just cited has been given space chiefly for the purpose of comparison. These two cases serve as examples of extremes: of the castaway embryo of six weeks and the viable fœtus at term; of recovery and of death, the alpha and omega of ectopic gestation.

The specimens and their histories are silent witnesses of the indications for treatment in such cases. They cannot prevaricate or mislead, as the living patient too often is inclined to do. They mutely testify that, in the second case, the grim reaper was foiled, and that he could and should have been in the first, had the same methods been employed at a corresponding time. It is again the "handwriting on the wall," and we trust so plain and indelible, that "he who runs may read."

SURGICAL TREATMENT OF ASCITES, DUE TO CIRRHOSIS OF THE LIVER; REPORT OF A CASE.

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On June 5, 1901, C. B., age forty-five, laborer, was admitted to the Lucas County Infirmary Hospital. His history was as follows: Family history, negative; when a child he had measles, parotitis, and scarlatina, during which latter affection otitis media developed, leaving him quite deaf; he denies having had syphilis, but he had gonorrhœa ten years ago; he has used alcohol in large quantities, both beer and whiskey; he had several attacks of renal colic about six years ago, and has passed some stones through the urethra.

Concerning his present illness, the patient stated that during the fall of 1900 he first began complaining of distress in his stomach after eating, with more or less pain in the region of the stomach, headache, and severe diarrhœa. This diarrhœa continued until the spring of 1901; the discharges were at times mixed with blood. About April 25, 1901, the patient first noticed some swelling of the feet. This progressed rapidly, extending up the entire lower extremities; the abdomen then became swollen, and enlarged to a considerable size. Under treatment this disappeared for a time, but reappeared later. He had no jaundice; the appetite was not good.

The patient is a well-developed individual, presenting no emaciation; pulse 80, and full but regular; temperature normal. There is œdema of the lower extremities, and the abdomen is enlarged. The lungs are normal; the heart area is increased to the left; the cardiac sounds are irregular, but clear; there are no enlarged veins over the abdomen, but it is distended with signs of fluid. On palpation, the liver can be felt about three finger-breadths below the costal margin, and is hard and firm. The spleen is not palpable. There is a small umbilical hernia. The urine on first examinations was normal, but later a small quantity of albumin was found.

A diagnosis was made of cirrhosis of the liver. The patient was treated with diuretics and cathartics, as a result of which the ascites and œdema gradually disappeared, so that the patient left the hospital in ten days. He re-entered the hospital June 25, 1901, when, on examination, the abdomen was again found distended with fluid.

The operation of anastomosing the portal with the systemic veins by suturing the omentum to the parietal peritoneum was decided upon. I performed the operation June 28, 1901, assisted by Dr. Lyman A. Brewer of this city. General anæsthesia was employed, beginning with chloroform and continuing with ether. An incision, about four inches long, was made in the median line above the umbilicus, extending downward a little to the right. When the peritoneal cavity was opened a quantity of ascitic fluid escaped. An attempt to evacuate the fluid by turning the patient over on his right side was unsuccessful. As much as possible of the fluid was removed by gauze sponges, though the greater part still remained. Exploration of the abdomen verified the diagnosis of cirrhosis of the liver, that organ being found greatly enlarged, hard, firm, and roughened on its under surface, extending below the costal margin for about the distance of five finger-breadths.

The peritoneum on either side of the incision for a distance laterally of about three inches was vigorously rubbed with gauze pads and then scarified. The omentum was then stitched to the parietal peritoneum, on both sides of the incision, by a continuous catgut suture. The abdomen was closed with interrupted silkworm-gut sutures, some of the omentum being included in the bottom of the wound. During the operation the patient did not take the anæsthetic well, requiring repeated stimulation.

On examination twenty-four hours after the operation, the œdema and ascites were found to have entirely disappeared. The man did very well until the evening of the sixth day, when he became comatose, and died the following day, seven days after the operation, the cause of the death being evidently uræmia. Repeated stimulation with strychnine, venesection followed by intravenous transfusion with salt solutions, together with subcutaneous injection of salt solutions, were resorted to, but with no effect.

Post-mortem examination revealed the following At the site of the operation there was complete adhesion of the omentum to the abdominal wall. The left ventricle of the heart was hypertrophied; there was a typical cirrhotic liver; the spleen was congested; the left kidney was contracted and contained two small stones; the right kidney was contracted yet larger than the left one; the right ureter was thick-

ened and enlarged, and contained an impacted stone near the vesical orifice.

The two chief points of interest in this case were:

1. The rapid disappearance of the ascites and œdema after the operation. One week was too short a time for vascular adhesions to form between the omentum and peritoneum, for it requires a much longer period for such an anastomosis to form. In a number of the cases, thus far reported, tapping was resorted to several weeks after the operation, in order to remove what fluid had accumulated before vascular anastomosis had taken place. The rapid disappearance of the fluid in this case cannot be explained in this manner. Just how the absorption took place I am unable to say, but am inclined to the belief that the extensive scarification of the omentum and peritoneum was an important factor in its disappearance, as thereby these structures were enabled to take up and absorb the fluid more readily.

2. The patient did not die as a result of the operation, but from uræmia due to the contracted kidneys.

So far comparatively few operations for the relief of ascites and œdema following cirrhosis of the liver have been made, and no definite estimate of the value of this procedure has been formed; nor has its exact place as a rational operation been definitely fixed.

The anastomosis of the portal veins with the systemic veins, by the creation of vascular adhesions between the omentum and peritoneum, theoretically gives brilliant prospects of relief in this incurable condition. In a number of the cases thus far reported the results have been encouraging. It seems highly probable that, were the operation performed earlier in the course of the disease, *i. e.* before secondary involvement of other organs has taken place, much better results would be obtained.

BELLADONNA IN OBSTRUCTION OF THE BOWELS.

By JOHN W. S. McCULLOUGH, M.D.,
ALLISTON, ONT.

In April last, I was called a distance of some thirty miles, with the request that I come prepared to do an abdominal operation. Upon my arrival at midnight I found the patient, a spare Highlander, seventy-five years of age, with tortuous arteries, suffering from fæcal obstruction, in which condition he had been for eight days, despite the frequent use of purgatives, enemata, etc. The abdomen was very much distended, the coils of intestine being plainly visible through the shining walls of the belly. The pulse was 92, the temperature normal.

Recognizing that the condition of the patient was not a very favorable one for operation, I determined to try the effect of a plan of treatment I had read of from the pen of Dr. Murray of Newcastle, England, in his excellent little brochure entitled "Rough Notes on Remedies." The patient was placed upon tincture of belladonna (B. P.) ♏xxx. hourly. This was continued for six doses and then supplemented by an enema of ox-gall, one ounce in a quart of soap suds. The effect was negative. As the doses of belladonna had given the patient relief from the intense pain he suffered, and had so far produced little physiological effect, the dose was increased to ♏xl. every hour for four doses, and followed by a high enema, this time of magnesium sulphate and turpentine in warm water. There was very little of the desired effect and in two hours the belladonna was administered again and supplemented by an abdominal plaster, 20 inches square, of

℞. Ung. iodi (B. P.) ..... ℥i.
Ext. bellad. (B. P.) ..... ʒi.

This produced the characteristic effect of belladonna poisoning, viz., intense dryness of the throat, redness of the face and body, and delirium. This plan of treatment was kept up, having been begun about midnight of Monday until the following Friday afternoon, when peristalsis was vigorously established, and the bowels moved freely. The patient thenceforward progressed to complete recovery.

In the *British Medical Journal* of May 11th last, a similar case is recorded, the treatment having been carried out by means of hypodermic injections of atropine in doses of $\frac{1}{60}$ to $\frac{1}{30}$ grain. This would, of course, be the better plan in case the patient had vomiting and could not retain the belladonna given by the mouth; or suppositories containing the drug might be given. In either case, the use of the abdominal plaster will prove of decided assistance, the irritation produced by the iodine accelerating very materially the absorption of the belladonna.

I am convinced that the treatment saved this patient's life, as he was in such condition that operation would have been most hazardous. If the drug is given cautiously at first, the patient being watched carefully, there need be no apprehension of overdosage.

DERMOID TUMOR OF THE LUNG.

By H. OTTO SOMMERS, M.D.,
WASHINGTON, D. C.
LATE OF HOUSE STAFF AND ASSISTANT PATHOLOGIST METROPOLITAN HOSPITAL, NEW YORK

At an autopsy held March 1, 1898 (hitherto unpublished), I met with a dermoid tumor of the lung. The patient, a man aged twenty-seven years, died of phthisis pulmonalis chronica. Both lungs were markedly tuberculous and cavernous. At the apex of the right lung was found a cystoid body, containing large masses of hairs and some dentoid bodies. Dermoids of the lung are very rare, but those who are inclined to be skeptical as to their existence, I would refer to Ziegler's Pathology, which recognizes the condition, and cites Agle on "Dermoid Growth of Lung," in the Transactions of the Pathological Society of London, XVIII., 1897; and also Jares on "Dermoidcyste mit Cystosarkom der Lunge," in Virchow's *Archiv*, 133 Bd., 1879.

1227 O Street, N. W.

Tuberculosis Herniosa.—F. Justian contributes the twenty-ninth case of this rare lesion which has been reported in detail in the literature. The patient was a man of twenty-two who applied for relief from a right inguinal hernia of two weeks' standing. Physical examination revealed that, in addition to his abdominal condition, he was suffering from a pleurisy with exudation on the left side, which was treated by aspiration, but as the temperature still continued high, empyema was suspected, and a thoracotomy performed. No pus was found, but the temperature subsided, and after it had been flat for two months herniotomy was done. The sac was greatly thickened, and contained a considerable quantity of clear fluid, on the removal of which it was seen that the surfaces of the sac and of a coil of intestine were thickly studded with miliary tubercles. The sac was resected as high up as possible, and the operation concluded as usual after Bassini's method. The wound closed by first intention, though for a week there was a slight evening rise of temperature, at the time of the report the patient appeared to have wholly recovered. The infection of the hernial sac seems to have been secondary to that of the pleura and a probable latent tuberculous peritonitis, while no signs of trouble could be found in the lungs or other organs.—*Deutsche Zeitschrift für Chirurgie.*

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

One Hundred and Sixty-fourth Regular Meeting, Held on Friday, May 3, 1901.

A. ALEXANDER SMITH, M.D., PRESIDENT, IN THE CHAIR.

Recurrent Mammary Cancer—Retrograde Metamorphosis After Oöphorectomy.—Dr. ROBERT ABBE reported two cases. The first patient was a woman of forty-two years, who had a bad mammary cancer removed with axillary contents by Dr. Coe, in May, one year ago. Six months after, recurrence took place about the scar. She delayed seeking advice until a secondary tumor appeared in the other breast and grew to the size of a small hen's egg. Dr. Coe then regarded operation as wholly unjustified, and soon she came to Dr. Abbe to have another opinion. Her condition was absolutely hopeless from an operative point of view.

There was an area of carcinoma nodules, varying in size from a pea to a large bean, on both sides and in the scar, covering an area two and one-half inches on one side and three inches on the other side of the scar, and spreading from the axilla to the lower end. The masses ran together in places and were somewhat fixed to the ribs and intercostal muscles. The infected area was typical of carcinoma cuirass and measured four inches by seven inches, the scar running diagonally through it, and being fixed to the chest. In the opposite breast was a typical hard scirrhous growth in the outer segment the size of an egg. Near it, and extending to the axilla, were several glands, in chain.

The left chest presented a cancerous pleurisy with five inches of fluid and dull pleura above the fluid, which seemed the clinical picture of a secondary carcinomatous pleuritis.

Dr. Abbe removed both ovaries March 4th, with tubes. Both were full size and appeared normal, except that the left (on the side of original cancer) was lightly adherent to the adjacent pelvic peritoneum. The pathologist reported both as normal. She menstruated for two days after operation for the last time, it being at one of her regular periods, which previously had been always right. She had never been married.

Convalescence was perfect, and we watched the diseased parts carefully. About ten days after operation the heaped-up nodules began to flatten. Some even hollowed out their round tops. In the following week every one went through the same retrograde change, and most of them were umbilicated, presenting a ring of neoplasm, and losing the red, active hyperæmia existing before.

In four weeks the opposite breast tumor was shrinking. In six weeks it was gone. The whole infected area was now represented by dusky pits, where each cancer mass had been, and there remained only one or two vanishing nodes at the upper end of the scar, and two or three disappearing lymphatics in the opposite axilla.

The pleurisy subsided with equally surprising result, and the dulness of the underlying pleura gave a more and more resonant percussion note. The pleurisy had not wholly gone at seven weeks, but every trace of malignant disease had, excepting only two small glands in the right axilla. No other medicine was given, and the patient has maintained excellent health, resuming her duty as trained nurse five weeks after operation.

The second case was one of recurrent cancer of the left breast, two years after the original operation by himself. Three independent round masses, from one-quarter to one-half inch in diameter, with five or six nearby subcutaneous ones were distributed within an area of three inches at the lower end of the scar, while on the scar itself was an ulcer three-quarters of an inch in diameter, resting on the intercostal pleura, with heaped-up edges. It would have been impossible to remove it without entering the pleural cavity. The patient was fifty-nine years old, and had ceased menstruation, therefore a questionable case to hope for retrograde change; yet the chance was given. Both ovaries were extremely atrophied and removed. Convalescence was uneventful. On the eighteenth day the report was as follows. During the past week the ulcer has markedly changed. The edges first began to flatten and the center to fill. The granulations were of less deep color and have changed to a good pink. The edges are quite flat around two-thirds, and the skin is healing in, through about one-third of the circumference. The nodules have all become less hyperæmic, and one is now quite umbilicated, already showing the changes which the other case presented. The subcutaneous small nodes are all less perceptible. No other treatment has been given.

Dr. GEORGE L. PEABODY said the evidences of local improvement in the two cases shown by Dr. Abbe were very striking. There was nothing in the appearance of the parts at present to suggest carcinoma. The induration had entirely disappeared, leaving only pigmented patches.

Dr. E. G. JANEWAY said the second patient shown by Dr. Abbe was fifty-nine years of age, and it was questionable whether the ovaries could exert much influence upon the breasts at such an advanced period of life, after menstruation had ceased. It would be interesting to watch the future course of these patients and see whether the improvement will be permanent. It would also be interesting to learn whether there are cases on record where carcinoma of the breast has occurred after a woman has been deprived of her ovaries. Dr. Janeway asked Dr. Abbe whether oöphorectomy had ever been done for primary carcinoma of the breast, or only after a recurrence of the disease.

Dr. Abbe replied that it had been done a few times in connection with the removal of the affected breast. He said also that while cancer of the male breast is occasionally met with, many of the cases reported as such are very late lesions of syphilis.

Dr. H. F. WALKER said it was rather difficult to believe that the removal of the ovaries in a woman nearly sixty, after those organs had become practically atrophied, could exert much influence upon the growth of a mammary cancer. The fact should also be borne in mind that malignant disease of the breast is comparatively rare in young women, during that period of life when the ovaries are most active.

Dr. JOSEPH D. BRYANT said that he had been watching for some time the literature in connection with this subject, but this was the first opportunity he had enjoyed of seeing any of the cases in which the operation had been resorted to. The first case shown by Dr. Abbe impressed him very favorably, but in the second case, that of a woman almost sixty years old, it was hardly credible that the removal of her ovaries could exert much effect upon a malignant growth of the breast. It not infrequently happens that such growths disappear spontaneously, instances of this had come under his observation, where no cause could be assigned for the disappearance of the cancer. If we accept the theory that removal of the ovaries exerts a curative influence in cancer, it surrounds the question of the etiology of that disease with still greater difficulties.

Dr. BEVERLEY ROBINSON said that at a meeting of the Practitioners' Society about two years ago he reported the case of an elderly woman with a carcinoma of the breast which after two recurrences was pronounced inoperable. There was extensive infiltration and swelling of the arm on the affected side, with much pain. Various drugs were resorted to, and she finally improved considerably under one of the quinine compounds that had recently been put on the market. For some weeks previous to her death, which was due to an extension of

the cancerous process to the lung, the infiltration of the tissues of the arm had entirely disappeared, and she was free from pain. Dr. Robinson said he agreed with Dr. Bryant that if the removal of the ovaries proved efficacious as a means of curing cancer of the breast, it would probably upset all the latest theories that have been evolved regarding the etiology of malignant disease. Personally, Dr. Robinson said, he could not conceive how the removal of a set of organs like the ovaries could have any permanent effect upon the growth of a mammary cancer.

Dr. Abbe, in closing, said that the improvement in the two cases he had shown was marvelous, and unequaled by anything he had ever seen. The speaker said he had no claims to advance regarding the permanent value of this method of treatment, and he simply showed the cases for their remarkable clinical interest. This method of treatment of inoperable recurrent mammary cancer was first suggested by Mr. Beatson, a Glasgow surgeon, who had been led to resort to it by a process of reasoning which was the outcome of an observation that certain farmers had indefinitely prolonged lactation in their cows by spaying them when they had begun to cease giving milk. In explaining this phenomenon he thought it probable that the suspended menstrual function during lactation and the continued giving of milk on removal of the ovaries might be of similar causation. The production of milk is physiologically due to rapid development of cells lining the tubules and acini of the manimary gland, which undergo fatty degeneration, break their capsules, and discharge fat globules in the form of milk. Restoration of ovarian function and arrest of milk-giving occur at the same time, but the removal of the ovaries causes the continued degeneration of these rapidly growing cells. If cancer of the breast, he argued, is a proliferation of the cells lining the acini and tubules, from whatever unknown cause, making a massive growth, discharging into nearby lymph channels and being arrested in the lymphatic glands, why might not removal of the ovaries produce a retrograde metamorphosis also in these same cells, as they are identical with those which yield milk?

His first case was quite as remarkable as the one first exhibited. The method has been adopted in fifty or more cases already reported, and occasionally yields a cure in hopeless cases, even after several recurrences. The outlying nodules and infected lymph glands as well as metastatic growths seem to show this same retrograde degeneration and melt away, day by day, very much as a syphilitic tumor degenerates.

About thirty-five per cent. of reported cases show a striking improvement, and in some the cure was almost magical and has lasted. Dr. Abbe said that in the first case which he had shown, an improvement in the cancerous breast was noticed within ten days after the removal of the woman's ovaries. There was a distinct loss of hyperæmia, then the lesions became flat, then umbilicated, and finally disappeared, leaving only a shallow thin soft scar. It was a typical process of retrograde metamorphosis.

An analysis of the cases reported by English surgeons shows that the results were not as good in those patients who were operated on after the menopause as in those operated on earlier in life. Yet some as old as seventy years were cured. Dr. Abbe's second patient is seventy years old and is progressing to a cure in the same orderly way as the first. (P. S.—The cancer ulceration was entirely healed on the fortieth day, and the nodules are retrograding rapidly.)

Various Interesting Intestinal Anastomoses. — Dr. Robert Abbe presented five patients. The first patient was a man, fifty years old, who was operated on about six years ago. He was at that time suffering from indefinite intra-abdominal symptoms which were at first attributed to gall-stones and later to malignant disease. He was cachectic and had lost thirty pounds in weight. After a trip to Egypt, where he failed to recover his health, he entered St. Luke's Hospital, and an exploratory operation was done by Dr. Abbe. The gall-bladder contained no gall-stones. The head of the pancreas was much enlarged and very hard to the touch, and a long, round needle was passed into it in several directions to detect a possible calculus or gall-stone, but the growth was of the consistency of a raw potato and regarded as probably malignant. By means of a Murphy button the gall-bladder was anastomosed to the duodenum near the head of the pancreas and the wound was closed. The patient made a rapid recovery after the operation, soon regained his lost weight, and has since enjoyed perfect health. The Murphy button was passed in twelve days. The hard mass involving the head of the pancreas, which was regarded as malignant, was probably of inflammatory origin. Chronic pancreatitis has recently been shown to be due to dammed-back bile entering the pancreatic duct and acting as an irritant to that gland, the original obstruction being a small gall-stone.

The second patient shown by Dr. Abbe was a young man who was suffering from malignant disease of the stomach, which had greatly emaciated him during the past year. About two months ago Dr. Abbe did a posterior gastroenterostomy, and found the right half of the stomach densely infiltrated with cancer while the left half was comparatively healthy. In order to relieve the man's symptoms, the jejunum was anastomosed to the posterior wall of the stomach, which was in a healthy condition. The anastomosis was done with the Murphy button, which was passed on the eleventh day. Since the operation the man has gained about a pound a day.

The third patient presented was a man who, five years ago, developed symptoms of intestinal obstruction, which were gradually becoming more aggravated, and were accompanied by great loss of flesh and strength. Palpation disclosed a hard mass to the right of the umbilicus. It was regarded as probably malignant. Upon opening the abdomen the tumor was found to be composed of conglomerate coils of small intestine, together with glands in the mesentery. About eighteen inches of the gut were involved in this tangled mass, and upon close inspection it was found to contain six tight strictures. The mass was isolated and cut away. The two ends of the intestine were brought together by an end-to-end anastomosis with Murphy's button. The patient made a rapid recovery and has enjoyed perfect health ever since.

A pathological examination of the mass removed showed that it was a simple cicatricial stenosis, probably due to an ulcerative process. There were no signs of malignancy.

The fourth patient was a man whose general health had been running down for six or eight months when he came under Dr. Abbe's observation six weeks ago at St. Luke's Hospital. He stated that his abdomen had rapidly grown larger and that he was becoming more and more exhausted. Upon examination no mass could be made out in the abdomen, but there was huge distention of the intestines. A left inguinal colotomy was immediately done, and gallons of thin fluid fæces were evacuated, following which a median incision revealed in the sigmoid, just above the rectum, a symmetrical tumor, about the size of a walnut, evidently an epithelioma. The patient was allowed to recuperate for ten days; then the abdominal wound was reopened, and four inches of the sigmoid, including the tumor, removed. The two ends of the gut were united with a large Murphy's button, which was passed in two weeks. Since the operation, the patient has gained rapidly in weight and strength. The colotomy wound closed immediately when inverted, and the patient now enjoys excellent health.

To complete the group Dr. Abbe then presented the following case of intestinal anastomosis: The patient was a man who for ten years had suffered from pain which

always occurred several hours after taking food. He was seen by Dr. Osler ten years ago, who pronounced the case one of pyloric stenosis of cicatricial origin. The stomach was much distended, extending down below the navel, and showing plainly in the retracted abdomen. The patient had lost much weight, but there were no evidences of malignant disease.

Four weeks ago, when Dr. Abbe opened the abdomen, he found the pyloric orifice constricted. There was no hardness of the tissues, but evidence of internal cicatrix was shown by a thick layer of old lymph on the front of the pylorus. An anastomosis was made with a Murphy button between the jejunum and the posterior wall of the stomach. For two weeks after operation the patient has been gaining in weight one pound daily and has been able to enjoy many articles of diet, especially starches, which he was compelled to abstain from during the past ten years.

Dr. Janeway said the case of supposed carcinoma of the head of the pancreas reported by Dr. Abbe reminded him of a similar case which came under his observation some years ago. The patient was a woman who complained of vague abdominal symptoms, and an exploratory operation revealed a mass involving the head of the pancreas. It was regarded as an inoperable case of cancer of the pancreas, and the wound was closed. Soon after the operation, however, her symptoms improved, and eventually she entirely recovered. As in Dr. Abbe's case, there was perhaps an over-distention of the head of the pancreas, due to closure of the duct, which was relieved by the operation, or possibly some inflammatory condition.

In regard to the third patient shown by Dr. Abbe, Dr. Janeway said the multiple strictures of the gut in that case were possibly of syphilitic origin. Such cases have been reported, and it was difficult to explain their presence upon any other basis. Such strictures are not apt to occur after typhoid.

Dr. Abbe, in reply to a question, said he had never seen bile regurgitate into the stomach after an anastomosis between the gall-bladder and duodenum. In anastomosing the stomach and jejunum, the speaker said he had in only one instance reversed the coil, so as to bring the peristaltic wave of the stomach and intestine in the same direction. When the peristaltic wave of the stomach goes in one direction and that of the jejunum in the other, the anastomosis seems to be just as satisfactory.

Renal Calculi, with Radiographs and Specimens.—Dr. Abbe showed seven renal calculi which he had removed after the stones were located by means of the *x*-ray. All patients recovered. In connection with these cases, the speaker emphasized the importance of conservative surgery in the treatment of stone in the kidney. Even in cases where suppuration has occurred and the organ is much atrophied, its function will be restored if the source of the irritation is removed. The urinary sinus usually persists for months, but when the incision is made through the kidney substance and not through its pelvis, the sinus always heals.

Dr. Janeway said that the use of the *x*-ray in the diagnosis of cases of renal calculi had led some surgeons to operate in cases where the kidney or ureter contained very small stones—much smaller than are frequently passed spontaneously.

Three Cases of Meningitis with Bacteriological Diagnosis During Life.—Dr. F. P. Kinnicutt reported these cases. The patients, two adults and one child, were under observation at the same time at the Presbyterian Hospital. In two of the cases the clinical symptoms were characteristic of cerebral meningitis with involvement of the spinal meninges, while in the third the symptoms were chiefly cerebral. In order to determine the specific form of meningitis from which these patients were suffering, lumbar puncture was resorted to. In all three instances spinal fluid was easily obtained. The specimen from the first case showed the pneumococcus in pure culture; in the second case it showed the diplococcus intracellularis; while the third specimen proved sterile. The first patient did not seem seriously ill on admission, but after the demonstration of the pneumococcus in the cerebrospinal fluid a bad prognosis was given. This proved correct, as the patient died on the sixth day after admission to the hospital. The autopsy showed a very severe form of cerebrospinal meningitis.

In the second case the prognosis was not considered to be as grave, although the patient was desperately ill. He lay in a state of complete coma for ten days, but eventually recovered. The third case, in which cultures of the cerebrospinal fluid proved sterile, was regarded as tuberculous. The patient died, and the autopsy confirmed the diagnosis of tuberculous meningitis.

Dr. Kinnicutt said that the consensus of clinical experience is to the effect that meningitis either of pneumococcus origin or due to the tubercle bacillus is fatal. On the other hand, the prognosis in cases of meningitis (cerebral and spinal) due to the diplococcus intracellularis is much less grave.

In the interesting group of cases reported, a diagnosis of the form of meningitis present was impossible except by bacteriological investigation, and upon the results the prognosis was also based.

The result of lumbar puncture in cases of tuberculous meningitis Dr. Kinnicutt had found often to be of benefit in ameliorating symptoms, and in cerebrospinal meningitis due to the diplococcus intracellularis a distinct and beneficial effect upon the course of the disease had been claimed

Dr. Robinson said that while the value of lumbar puncture in certain instances was beyond question, the procedure is not without danger. The speaker said he knew of one instance where the patient died within a few minutes after this apparently simple operation. The case was regarded as one of endemic or epidemic cerebrospinal meningitis, and the puncture was made for the purpose of establishing the diagnosis.

Dr. Kinnicutt said that in the very many cases of lumbar puncture that had come under his personal observation, he had never seen any resulting injury.

A Case of Carcinoma of the Distal Extremity of the Vermiform Appendix, with Specimen.—Dr. Charles McBurney reported this case. The patient was a woman twenty-three years old, who gave a history of having had an attack of what was clearly appendicitis about two years before she came under the speaker's observation. This attack was evidently a severe one, with a temperature as high as 105° F., but after about ten days the symptoms slowly subsided, and the patient remained well with the exception of a feeling of pain and discomfort in the right iliac region when she made certain movements, or took active exercise. About two months ago, however, pain in the region of the appendix became much more pronounced, and soon grew so severe that it entirely prevented the patient's usual activity. No rise of temperature or pulse occurred.

When Dr. McBurney saw the patient, her general health was apparently very good. She had no fever. An examination showed a very sensitive appendix, and an operation was undertaken for its removal. It was found to be about four inches long, and was greatly thickened and enlarged, but there were no attachments in the form of adhesions and no disturbance of the peritoneal surface of the appendix. After removal of the appendix it was found to contain two strictures, one near its base, the other near its apex. Near the apex was a small tumor, about the size of a green pea, quite solid and white in appearance on section. It was sent to Dr. Hodenpyl for examination, and he reported that it was a pure carcinoma. It was doubtless primary,

as the patient gave no symptoms of malignant disease elsewhere in the body.

Dr. McBurney said this was the first case of primary carcinoma of the appendix that had ever come under his observation. Through Dr. Hodenpyl, however, he was able to secure a second specimen of the same kind, which was removed post-mortem by Dr. Lartigau from a man about thirty years old, who had given no history of appendicitis. At the apex of his appendix a rounded tumor was found. It was considerably larger than the one found in Dr. McBurney's case, and an examination showed that it was pure carcinoma. The microscopical appearance of both was remarkably similar.

Dr. McBurney said that quite a number of cases of carcinoma of the appendix have been reported, but they were all, so far as he knew, cases where the disease was more or less extensive and the appendix was involved together with other organs.

Dr. Peabody said there was no reason why carcinoma should not occur primarily in the appendix, although it was certainly rare in that situation. It was rather curious, however, that a young woman of twenty-three should be affected with the disease.

Dr. Kinnicutt said that another interesting feature of the case was the constant pain in the right iliac fossa from which the patient had suffered during the past two years, and from which she had been entirely relieved by the operation. The organ was free from any adhesions, and the only explanation he could offer for the pain was the presence of the two strictures, with perhaps the retention of secretions.

Dr. Robinson said he had long been waiting for a case which might be termed typical of gouty appendicitis, and during the past winter what he regarded as such a case had come under his observation. The patient had long suffered from a skin trouble which was of a gouty nature, and in addition to this he had recurrent attacks of pain in the region of the appendix. The appendix was removed by Dr. W. T. Bull, and found to be the seat of a catarrhal inflammation, similar to that met with in the tonsils, ovaries, and elsewhere, particularly in gouty individuals. Ultimately, Dr. Robinson said, we may reach the conclusion that organs like the tonsils and appendix have some valuable function to perform and that they should not be removed with too great freedom.

Dr. McBurney said that pain is complained of in a fair number of cases of chronic appendicitis, and is probably due to the presence of strictures, with the consequent retention of material, and also perhaps to the inflammatory thickening. The speaker said the case he had reported was a good example of the advantage of removing the appendix with as little delay as possible when that organ is suspected of being the seat of disease. In the case under discussion it is extremely probable that within two or three months the disease would have invaded the peritoneum and neighboring viscera, with the formation of extensive adhesions, and then complete extirpation would have been impossible. It is particularly in chronic cases of appendicitis that a patient can be easily relieved of an organ which is capable of causing serious disease and even death, and relieved in such a way that there is absolutely no harm done to the individual. On the contrary, the life of such an individual is more valuable after the appendix is removed. The operation is attended with little or no danger, and there is no resulting mutilation.

Virulence of the Diplococcus in Human Saliva, According to Age and Season.—Efisio Murgia concludes from experimental researches that the diplococcus is most virulent in persons under ten or over forty years of age. Low atmospheric pressure and low temperature, abundant rain and dampness appear to favor the pathogenic action of this organism.—*La Riforme Medica, August* 14, 1901.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the weeks ending September 7 and 14, 1901.

	September 7.		September 14.	
	Cases.	Deaths.	Cases.	Deaths.
Measles	39	..	35	7
Diphtheria and croup	95	16	123	26
Scarlet fever	65	8	93	8
Smallpox	6	4	8	3
Chickenpox	2	..	6	..
Tuberculosis	242	128	237	146
Typhoid fever	83	27	110	23
Cerebro-spinal meningitis	..	2	..	2

Sudden Death of Children.—Martin Thiemich (*Vierteljahrzahrsschrift fur Gerichliche Medicin und offentliches Sanitätswesen*) says that in severe coryza sudden death sometimes occurs by means of the so-called aspiration of the tongue, and perhaps enlargement of the uvula. In inflammation of the finest bronchi during the first few weeks of life, sudden death occurs without previous symptoms; the perforation of caseous glands into the trachea causes sudden death, and during pneumonia it is not uncommon. The presence of ascares in the trachea is most likely due to post-mortem emigration, and does not cause sudden death, and the aspiration of stomach contents can hardly be considered as a cause. In proportion to adults, sudden death, due to circulatory disturbances, is rare in children; in these cases it is most frequently due to cardiac paralysis, dependent upon the infectious diseases or nervous influences. Sudden death sometimes takes place in gastrointestinal disease, even when after emaciation and increase of weight take place; the latter gives a poor prognosis, because in these cases it is due to cardiac weakness. Enlargement of the thymus causes tracheal stenosis, but not sudden death, despite the statement of Soehla, who speaks of ryperthymisation, that is, an accumulation of toxic thymus products in the circulation. Enlargement of the thymus, however, is an important symptom of Paltauf's status lymphaticus, which is frequently a cause of sudden death. Sudden death also takes place during convulsions and laryngeal spasm. The stanoid diseases are due to disturbances of nutrition.

Ill-Health and Animal Food.—"I give up, under all states of ill-health, the use of strong animal foods, especially beef, and I also give up these in all who, though in their usual health, are of a decidedly nervous temperament, or of the rheumatic or gouty diathesis. To all, even the healthiest, I advise their use to a very limited extent, from their tendency to bring on acute rheumatism or gout, and if taken even by the healthiest too freely and too long, causing, through deposits in the internal organs, diseases which only indicate their presence after cure has become impossible. For the young, I recommend little or no animal food till they reach the term of puberty—in this following the rule laid down by the writer of the Epistle to the Hebrews, that 'strong meat belongeth to them of full age.' There are few rules that have no exceptions, and, although beef may seem my *bête noire*, I have used it even with children, and with great benefit. In some protracted cases of diarrhœa in children a year or two old, given raw or slightly warmed, and pounded very fine, it often acts splendidly. The child usually takes it at once and greedily, and will live on it for some weeks, when the desire ceases; but the child is now cured, and can take other food. Raw beef has much in common with the albumen of white of egg, and in the circumstances mentioned I would just as soon think of giving hard-boiled egg as cooked beef. Beef slightly cooked, and in moderate quantity, is sometimes very grateful to a convales-

cent from acute disease, and for a time may be indulged in with safety and even benefit."—GEORGE S. KEITH in *The Medical Times*.

Insects as Disseminators of Diseases.—C. W. Stiles (*The Sanitarian*) says that we must distinguish between two general classes of diseases—first, those which must necessarily be transmitted by insects; and, second, those in which insects are only accidental, though in many cases important, factors. Thus, malaria is normally transmitted by mosquitos and is dependent upon them; kill off mosquitos and malaria will disappear. Typhoid fever, on the other hand, *may* be transmitted by flies, yet it is not dependent upon them; kill off all flies and you will undoubtedly decrease typhoid; but since insects are only accidental and not necessary spreaders of this malady such measures will not eradicate it. He lays down two general biological rules. The first rule, to which at present a few exceptions are known, is that diseases which are accidentally spread by insects are caused by parasitic plants, particularly by bacteria; the second, to which no exceptions are as yet known, is that those diseases which are dependent upon insects or other arthropods for their dissemination and transmission are caused by parasitic animals, particularly by sporozoa and worms.

Prevention of Ophthalmia Neonatorum.—The Paris correspondent of the *Lancet* says that while certain legislative measures relative to public health were being discussed in the Senate, a Senator, who was also a medical man, proposed the introduction of a clause making it compulsory for midwives and accoucheurs to bathe a new-born child's eyes at once with a solution of permanganate of potassium, in order to prevent ophthalmia. The Minister of the Interior consequently requested the Academy of Medicine to supply him with an outline of the instructions which ought to be given to midwives in this respect. M. Pinard, to whom the question was referred, was of opinion that permanganate of potassium ought not to be ordered specially and exclusively, as it was by no means the only substance efficacious in the treatment of ophthalmia. The recommendations of M. Pinard were as follows: (1) The distribution in all *mairies* of short descriptions of the causes; (2) immediate notification of purulent ophthalmia, everywhere and in all cases; and (3) the appointment in connection with lying-in establishments (clinics and maternities) of ophthalmologists to superintend the treatment of purulent ophthalmia, and to give the requisite instructions to the pupils, medical men, and midwives.

Rheumatoid Arthritis.—G. L. Bailey (*Cincinnati Lancet-Clinic*) groups the disease into

(1) Heberden's nodosities, the mildest form of the disease, consisting of small osseous tubercles on the lower extremity of the dorsal aspect of the second phalanges of the fingers and possibly the toes. Other joints of the hands and feet may also be affected. This is generally a local condition, but may be the beginning of the general progressive form.

(2) Partial or mono-articular rheumatoid arthritis affecting one or a few joints, and producing similar changes to a more serious degree than the preceding form, as seen in morbus coxæ senilis. Foreign bodies may develop within the joint, but visceral complications are rare.

(3) Chronic progressive form. This is the gravest form of the disease, and, although exhibiting a preference for the smaller joints, may involve any or all of the larger ones, affecting the muscles, nerves, and adjacent structures, and may, according to Charcot, involve the viscera. The local changes are mainly those of a dry arthritis.

Urogenital Neurasthenia.—B. Goldberg (*Therapie der Gegenwart*) classifies this condition into three groups:

(1) Those in which serous disease of the urinary apparatus exists, such as tumor of the bladder, stricture, or recent gonorrhœa. (2) Those in which the patients have the remains of a former affection, such as an old gonorrhœa, mild degree of sterility, urethral infiltration, or chronic prostatitis. (3) Pure functional neuroses without organic changes. In the first group treatment must be directed toward the underlying disease, but with attention to the neurosis. Treatment, therefore, must not be too energetic, and short. In the second group local therapy is contraindicated, and suggestive methods alone are useful. In the third group, instrumental, and short, painless therapeutic measures are indicated—galvanization, bougies, etc.

Athleticism and Longevity.—The point as to whether athletics, as carried on in colleges, is conducive to long life is a somewhat open question. Dr. James M. Whiton, a graduate of Yale in the class of 1853, tells the tale, in the *Boston Courier*, of the first Harvard-Yale rowing regatta, and presents some instructive figures bearing on the matter. He writes as follows: "It is noteworthy that, at the end of nearly forty-nine years, nearly one-half are still living—20 of 41, or 48.78 per cent. Of the 27 who rowed the race, 15 survive, or 55.55 per cent. But in the Yale class of '53, though this included, as President Woolsey pertinently remarked, 'a great many boys,' only 50 now survive of 108, or 46.29 per cent.; of the Harvard class of '53, but 40 of 90 survive, or 44.44 per cent." These facts would seem to show that the practice of athletics does not shorten life, but at the same time it must be borne in mind that in those days sport was not carried to excess. It was pursued more for the fun of the thing, and not, as nowadays, regarded as a very serious business, one almost of life or death. Training in colleges in America is at the present time abused, the result being in many cases a breakdown of the nervous and physical organization, not unfrequently ending in death.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended September 14, 1901:

SMALLPOX—UNITED STATES

		CASES.	DEATHS.
California, San Francisco	Aug. 25-Sept. 1	2	
Massachusetts, Boston	Aug. 31-Sept. 7	13	
Medford	Aug. 31-Sept. 7	1	
Minnesota, Minneapolis	Aug. 31-Sept. 7	2	
New Jersey, Newark	Aug. 31-Sept. 7	9	2
New York, New York	Aug. 31-Sept. 7	6	4
Pennsylvania, Philadelphia	Aug. 31-Sept. 7	12	4
Utah, Salt Lake City	Aug. 24-Sept. 7	5	
Wisconsin, Green Bay	Sept. 1-6	1	
Milwaukee	Aug. 31-Sept. 7	1	

SMALLPOX—FOREIGN.

Belgium, Antwerp	Aug. 17-24	1	
Brazil, Pernambuco	July 17-31		44
British Columbia, Vancouver	Aug. 1-31	1 suspect	
Colombia, Panama	Aug. 26-Sept. 2	12	
Ecuador, Guayaquil	June 22-Aug. 7		1
France, Paris	Aug. 17-24		9
Great Britain, Leeds	Aug. 24-31	1	
London	Aug. 17-24	41	
India, Calcutta	Aug. 3-10		2
Madras	Aug. 3-9		7
Italy, Messina	Aug. 16-24	8	
Naples	Aug. 17-24	115	22
Palermo	Aug. 19-24		1
Russia, Moscow	Aug. 10-17	2	
St. Petersburg	Aug. 4-11	12	
Uruguay, Montevideo	July 18-25	10	

YELLOW FEVER

Costa Rica, Liberia	Aug. 25	Prevalent	
Port Limon	Aug. 18-24	8	1
Cuba, Havana	Aug. 24-31	7	2
Inoculation Station	Aug. 24-31	1	
Mexico, Merida	Aug. 16-24		2
Vera Cruz	Aug. 24-31	3	2

CHOLERA

India, Bombay	Aug. 6-13		2
Calcutta	Aug. 3-10		6
Madras	Aug. 3-9		45
Japan, Island of Shikoku	Aug. 6	3	
Yokohama	Aug. 3-10	1	

PLAGUE—INSULAR.

Philippines, Camp Stetzenberg	July 13-20	2	
Manila	July 13-Aug. 3	26	21

PLAGUE—FOREIGN.

India, Bombay	Aug. 6-13		197
Calcutta	Aug. 3-10		17
Karachi	July 24-Aug. 11	17	13
Japan, Formosa	Aug. 5	Epidemic.	
Straits Settlement, Singapore	July 20-27		1
China, Hongkong	July 27-Aug. 3	13	11

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A MATTER OF INTEREST IN BLOOD STRUCTURE STUDY.

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THE drawings, on which this is commentary, were made with pencil, using an oil immersion two millimeters, by Zeiss, with compensating ocular twelve and the camera lucida, from slides prepared as blood spreads.

The Material Used.—These spreads were made from blood, still fluid, which had been effused into the great lymph space between the deep muscles of the neck of a turkey, consequent upon the cutting of the carotid artery by way of the mouth. The knife thrust had opened the way into the lymph space, and the blood had filled it and, coagulating superficially, had self-sealed the wound of entry. The head and neck were dissected not less than 120 hours after killing. The effused blood was at this time still fluid (the bird's carcass had been in the refrigerator practically the whole period) but was thickened, as by the absorption of the watery portion; the blood was about as fluid as glycerin at 25° C. There was no hint of a clot, and the blood was removed with a pipette. The spreads were stained in various ways, with the Ehrlich "neutrophile stain" the Biondi-Ehrlich-Heidenhain mixture, and with the hæmatoxylin alum, using eosin as a counterstain.

The Drawings.—As stated, these were made with the camera lucida and the pencil. Those familiar with such work will make the criticism that in the drawings certain details show more plainly than was possible in the slides. In a way this criticism is just, but it is quite impossible in giving the correct values to the intensity of the blue stain to avoid this, as the predominating yellow can hardly be indicated more strongly than has been done without results entirely misleading. I seek to prevent the misleading of any, who might be misled, by the statement of the unavoidable difficulty and the way of escape which was chosen.

The Figured Elements Shown in the Drawings.—The drawings are intended to represent certain figured elements, as follows: Nos. I. to V., inclusive, represent the large cells containing eosinophile granules; Nos. VI. to VIII., inclusive, the so-called red corpuscles, the nuclei staining blue; IX., the cells containing small granules staining blue, *i. e.* methylophile granules; X. and XI., the cells containing large methylophile granules. No. XII. represents certain methylophile cells of uncertain function; XIII. is a diagrammatic representation of a nucleated cell, from swan's blood, treated with osmic acid; XIV., the same treated with acetic acid and potassium bichromate; XV., masses of protoplasm containing granule; XVI. is a view of a few of the corpuscles of the blood under discussion, as seen with the amplification and optical combination ordinarily used by the practitioner, a B. & L. $\frac{1}{6}$-inch and a 1-inch ocular. This last was made by my friend, Mr. Davenport Hooker, at his suggestion: "they will go looking for such changes with a dry $\frac{1}{6}$ and an inch eyepiece, and because they cannot see the changes will say they never happened; best show how they look with a $\frac{1}{6}$." My thanks are due him for other and most efficient aid.

When the slides were examined, the first point which attracted attention was the unusual condition of the nuclei of the red corpuscles. No one who has given much attention to the blood of birds, especially of the domestic fowls, can feel much surprise at finding blood corpuscles of the colored variety without nuclei. It boots not to inquire if the evacuation of the nucleus takes place normally as an event in the life history of the cell, or if it be a post-mortem change, or is induced by manipulation; the fact remains the nucleus is evacuated from many cells in every spread of normal blood. It therefore would not be surprising to find red cells without their nuclei; but attention was attracted by the fact that the nuclei had not been evacuated nearly so frequently as experience suggested that they should be; *per contra*, there were by comparison very few cells which had lost them. This circumstance alone would have marked the blood as unusual. At VI. are shown two cells which interested me greatly. It will be noticed that the body of the nucleus has stained nearly the same density throughout, saving a kind of condensation (in the upper one) which I have sought to indicate by deepening the tint as the blue tint was deepened in the specimen. If the deepening of the tint indicates condensation of the karyoplasm, a condition looking toward regeneration or rejuvenescence must be under way. It will be noted in the irregular condensation, that there is, so to say, another within it—a spot in form accurately circular appears. In the adjacent cell there are a number of rather sharply defined round bodies in the nucleus. This representation does not quite please me, but I cannot do any better; the edge is unsatisfactorily defined; it is not shown too exactly, but the representation seems more sharply differentiated than the original. The edge, as seen, seemed to be of a deeper color than the rest, and yet I could not determine if this were due to a real condensation of color-accepting material, to a material-taking color more intensely, or to a phenomenon of refraction. My inability to decide such a question will have been shared by those who have worked much with the objects on the border of certain interpretation; to pronounce positively on such questions is often totally inconsistent with real work. In regard to VII., the same dissatisfaction was experienced; but here, although, perhaps, less distinctly than is indicated, the refractile border certainly exists. No. VIII. shows a number of indistinct darkened spots, less distinct than those in VI*b*, more distinct than those in VI*a*. If we assume the apparent gradation, VI*a*, VIII., VI*b*, VII., we have an orderly sequence in appearances. But have we the true sequence in development? If so, then two questions rise: (*A*) Have we before us a few links in a long chain of which both ends are prolonged beyond all guess; or a completed, or nearly completed, cycle of development of which only the

first and last steps are wanting? In passing, it should be mentioned that the vast majority of the red cells present the coagulation figure of which XIII. or XIV. is the type. But why do not all? What is the reason for the divergent type? What was the condition antecedent to the change? While nothing certain can be said, I am inclined to suspect that the following is the most probable explanation. The life of the tissue elements must be but a short one, even if it extends to days. If we

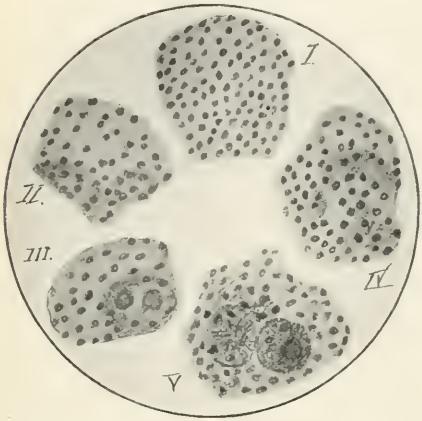

Fig. 1.—Colorless Corpuscles, Stained B E. H Zeiss 2 mm. oc 12. × 2000.

assume, and I think we may, that up to a certain point in the life of the cell, reproduction by nucleus regeneration is a fact, then these red cells which had passed the point in their life history at which this regeneration is possible would remain, under the conditions of the experiment, adult survivors of a previous age; endued with a spurious, because artificial, longevity. Protected by artificial conditions from their natural fate, they remain passive, senile survivors, unable to take any part in the growth-processes going on in the tissue about them. *Per contra*, the conditions being unusually favorable, on this hypothesis, for the cells capable of regeneration, because already adult they were not yet senile, these would set about the process of reproduction with all their stored energy. During the growth-process ensuing, the embryonic tissue produced, being for a time undeterminate, might end in the production not of red blood bodies, but of any tissue capable of production from the germinal layer to which these embryonic tissue cells might, from their origin from red blood cells, potentially belong; that is, the embryo cells would functionate not as red corpuscle nuclei, or formation cells, but as formation cells to tissue elements of the blood-cell group at large. Since the life of a blood cell is probably relatively a short one, there could not be very much difference in the point at which the various regenerated cells would take up the task, and it might be that they would not only be actually few, but relatively still less numerous because of the really enormous number of cells belonging in other categories.

Further, (*B*) did they all take up the new life motif *ab initio*, or did they enter on it at various and sundry points depending on their previous history and development? I believe the second hypothesis more likely. For a certain period of greater or less duration, the life of every cell must be indeterminate; then, so long as this period was not passed, the older cells would continue the indifferent development with a certain advantage over the younger ones. This, within limits. would explain the conditions met with; and, if accepted, would, at the end of a given period of time, bring the oldest of the regenerated cells somewhat further in the renewed development than the youngest; this would be all, and it would seem as if something analogous to this hypothesis had actually come to pass.

Nos. VI*a*, VII., VI*b*, VIII., then, represent only a few stray links in a longer chain; no one can say how long, of which the remaining links may explain many at the moment unexplained and unexplainable facts. These must be sought for, and, if possible, found, after which a new chapter in the healing process, and in those errant healing processes producing pathological growths, will, maybe, be written.

The same unsatisfying condition of half knowledge is all we can reach in reference to the eosinophile granule cells, I. to V., inclusive, as in the case of the erythrocytes we find them all in one or another of a limited series of conditions. If we assume that all the erythrocytes were between *n* and *r* hours old, so we may characterize these cells which contain granules as being representatives of a limited series of which the ultimate members are wanting at both ends. There is not one eosinophile granule cell upon the slides, some twenty in all, which I have examined, and in which every known eosinophile cell is listed, and in many instances carefully drawn and described, which does not fall between the same limits as the cells sketched here if the development of the nuclear system is taken as a guide. When the study had progressed far enough to recognize the relations in a general way, I imagined that these five figures might be said to represent very fairly all the important steps in development within the limit set by the progress of growth, hence these drawings; but more extended study showed that, while the extremes are not changed, the number of intercalated steps must be increased many fold.

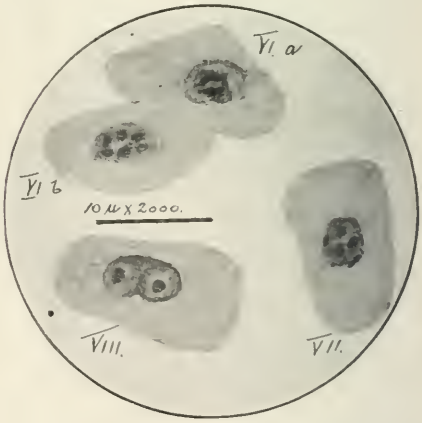

Fig 2.—So-called Red Cells. VI Stained B. E H; VII. VIII. Ehrlich 3 acid. Zeiss 2 mm. comp. oc. 12. × 2000.

Already about twenty stages are distinguishable, marked partly by the development of the nucleus and partly by that of the granules.

In addition to the changes in the nucleus (the methylophile portion of the cell has received this name by common consent, although nucleus in its proper sense it can hardly be) certain changes are to be observed in the eosinophile granules themselves. Their origin, supposedly determined, will in time become a burning question; for in the granule-contain-

ing cells are there not only granules of every size, but at times the granules are twins, true figures of eight. One might almost imagine that they increased in number by division after attaining a certain bulk. This, however, is probably quite out of the question, and would not be suggested as an hypothesis, even by the wildest imagination, still the hypothesis could be defended for a while. For the present, I say no more of them, as I wish to embody all my information in a more satisfactory form at a later day. There is

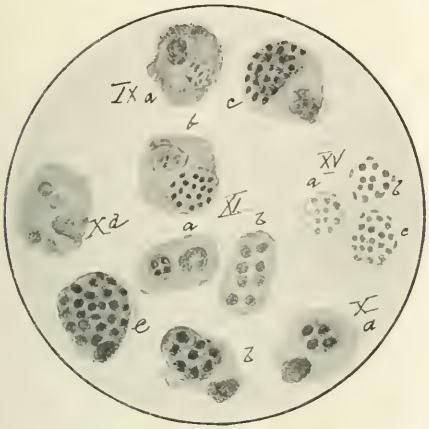

Fig. 3.—Blood Elements not Definitely Classified. XV. Ehrlich 3 acid stain; the other Grubler B. E H. stain Zeiss 2 mm. comp. oc. 12. ∴ 2000.

one item of interest in this connection which not only invites but demands attention, namely, the free granules. Scattered about among the cells of all my slides are groups of eosinophile granules; some contain only a dozen, some twice as many, and one group on another slide contains forty-three granules. From their arrangement, one would say that these granules are contained in cytoplasm. But if so bedded, the containing mass is a cytod, not a cell, for it has no nucleus, no blue organs whatever. Whence come these groups of granules? Not from rude handling of the material; the method of mounting prohibits this, if it presents no other advantage, strain on the anatomical elements there cannot be. Leaving for a moment the question of the method of escape, I wish to draw attention to the fact that in many cases the granules in these cells seem to be outside the cell wall, or at least the cell wall is so thin over them that they seem to be rather outside the cell than in it; the appearance suggests cherries stuck in transparent jelly. The granules having this relation are not only the largest, but they are all of nearly the same size. One can but ask, does the granule-containing cell go to pieces? Are the granules extruded, carrying with them a part of the cytoplasm? If so, what is the after-history? Indeed, what is *actually known*, observed, published, verified in regard to the life-history of the blood elements, compared to the number of questions for which answers are wanting? In this case, as in so many others, we have a penn'orth of bread (observed fact) and an inordinate deal of sack (inference), as Prince Henry says of the contents of Falstaff's wallet. Three of these detached groups of granules and the containing protoplasm are shown at XV. They are taken from different slides, but in all the conditions were alike. A granule-containing corpuscle, with the granules to all appearance completely outside, or at least in the extreme superficial, surface is not far off. It has never been my good fortune to see the division, but it would not be surprising if a corpuscle with the condition shown at the lower half of II. were to extrude some of the granules, and hardly more surprising if a portion of the cytoplasm was extruded with them. This granted, a spherical mass of cytoplasm-containing granules, but no nucleus, a cytod, in fact, would most obviously result.

There remains for consideration the "methylophile bodies." These include all those which take the blue color, no matter what their origin may be, which is in effect, so far as this inquiry is concerned, purely an academic and speculative question. These methylophile cells or cytods, or elements resembling them, are those figured as IX., X., XI., XII. Of these X. and XI. may be various stages of one form, if so, the order of development would seem to be XI*a*, X*a*, X*b*, X*c*, XI*b*, while X*d* is an aborted condition. These will hereafter be discussed as the "methylophile cells with large granules," or as "large granule cells" for short. IX. represents an entirely distinct element form, which may very properly be called the "methylophile cell with small granules," or the "small granule cells." XII. represents an element which I have never before seen in the blood of any animal. In fact, so far as I can remember, it is a form entirely unknown to me. In some slides examined there are none to be found; in others there are several, still they are very few, and it would be no exaggeration to say that they are excessively rare.

Discussion of these various forms can in this paper be made but briefly, still there is room to show their suggestive character. Starting with IX. and X., we note that cells closely resembling them in shape, organization, and staining reactions, and in the size of the contained granules, have been pictured by Von Jaksch in his chapter on the pseudo-leukæmia of infants. Indeed, if my interpretation of his plate is correct, they would be indistinguishable one from the other. Von Jaksch gives no extended discussion, but I fancy that, in both cases, the cells are true

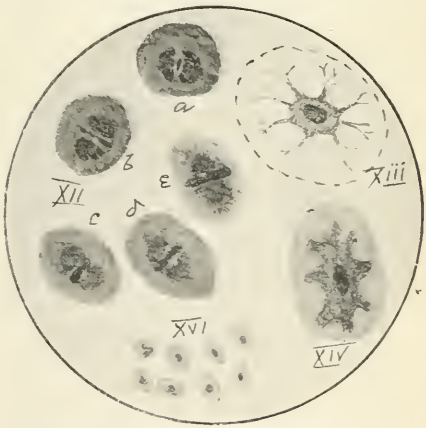

Fig. 4.—Various Blood Elements. XII. Grubler B. E. H. stain, oil im. 2 mm. comp. oc 12; XVI; Hæmatoxylon-eosin B & L. dry ½ inch objective with inch ocular, × 420; XIII. XIV are diagrammatic.

"leucocytes," and, in all probability, "lymphocytes" as well. The position in which the blood specimen was found would justify this conclusion apart from any further consideration. It is plain that the indications of the life history shown here exhibit but a small part of the whole cycle; still enough is shown to justify much study and not a little speculation, yet no generalization, however tentative, would be even excusable.

The small granular cells are equally interesting,

and, if anything, still more difficult to identify. They do not resemble accurately any element ordinarily found in the blood of birds nor of reptiles, but they do surprisingly resemble certain cells found from time to time in embryonic structures in tadpoles and newts. Their special resemblance to cells sometimes found in the gills of embryo frogs must strike anyone who has studied such embryos; they resemble them even in the detail of the double contour of the granular nucleus. They also resemble certain other embryonic structures, *e.g.* the round corpuscles which appear in or near the surface of the gill, in that only one portion of the divided nucleus is granular. But they differ from them in the fact that the whole of the karyoplasm seems to be converted into methylophile granules. For a long time past, ever since Professor Gage read his paper on Necturus, 1882, I have been indulging the hope that some one would see the evacuation and after-development of this granular nucleus, and follow its changes from a methylophile to an eosinophile body. It is quite conceivable that the granular nucleus might be evacuated and developed into eosinophile corpuscle of the blood, which we call the "white blood corpuscle." The only difficulty in the way of accepting the notion that the nuclei of these small granular cells have some such formative function is the completeness of the change to granules. It is, however, possible that the artificial character of the surrounding has affected them, as it obviously has the "red cells." It must be remembered that this blood is in a lymph space, is mixed with another fluid of a character quite unlike blood, which is far less specialized, and it is really possible that these cells properly belong in the lymph and not in the blood. There is another point to be considered not without interest in this connection. We frequently find in the blood of mammals a blue granular cell which bears a marvelous resemblance to a small eosinophile cell, barring its staining reaction. We also certainly know that cells do change from a methylophile to an eosinophile condition with age; this being an attribute of the cytoplasm and confined to it, and not in any way affecting the relations of the karyoplasm; for example, the cells in the foot of very young, unhatched larvæ of Limulus and Crepidula, and certain cells in the "gills" of the oyster. If this faculty belongs to unspecialized cells in one organism, there is no good reason why it should be denied *a priori* to embryonic, or at least unspecialized, cells in any other. If this is tenable as a "working hypothesis," as a proposition in biological geometry, to be examined and to be proved right or wrong, and it is not suggested as anything else, it might be stated in this form: Theorem (using the method of Legendre's Euclid), "I say that the so-called white blood corpuscles, containing eosinophile granules, are formed from a karyoplasmic structure differentiated within the methylophile cells with small granules; the change from methylophile to eosinophile structure being the accompaniment of the development from an embryonic to an adult condition."

This theorem is not a matter of personal opinion or belief; it is simply a theorem, a concrete proposition which may be studied and proved or disproved by investigation in my laboratory or that of another. It is proper, however, to say that while I have chosen for promulgating it an occasion offered to me by this blood, I have for a long time had in mind the intention of publishing an article in some suitable journal with this proposition for its burden. The reason for its present publication is simply a fitting opportunity.

Turning from these cells to those shown in XII. is turning from a form analogous at least to something well known to an inquirendum quite foreign to any figured element pictured anywhere within my ken. During the months which have passed since this material came into my possession, I have studied these cells for hours and hours, and, do my best, I can form no theory which fits the appearances except the following: In a form of cell, no longer existing in the material when the mounts were made, this figured element consisted simply of a mass of cytoplasm, perhaps with a cell membrane, perhaps without one. In this mass of cytoplasm, condensation took place, forming the more shaded portion which in *a* has already divided, forming two apparent nuclei, and between them a band with less absorption power, or less thick than the masses on the two sides. At *b* these have become contoured, and contours seem to belong both to the divided nucleus (*sic*) and the intervening mass. The remaining figures show the changes within the limits of observation. The only explanation possible is that these are eggs, or some other bodies quite foreign to the blood, or that they represent forms in some way concerned in the growth of some element of the blood. If this element is an erythrocyte, then the figure XIII., which is from an osmic-acid preparation and the chromate, *i.e.* acetic-acid result diagramed at XIV., represent the ultimate condition of XII. I do not care to speculate on this subject. I draw these cells simply for the sake of recording the fact that I have seen them, and I intend to find an opportunity for further study before I hazard even a guess at the meaning of the forms shown here.

Only one point remains for discussion here: How did it chance that the blood did not coagulate, and that the changes, which seem to be development changes not quite usual, took place? *Why* these happened, it stands to reason, I cannot know; I cannot even hazard a rational guess; but may it not have been some function of the situation and the temperature? It is well known that certain structures, *e. g.* the hair, retains its power of growth under certain conditions for many hours after somatic death even in the human being, if decomposition is prevented, especially in the case of those who have died suddenly, being well nourished. This fowl was very fat, his body was saturated with food, the blood was peculiarly in condition to feed the corpuscles which might be regarded as the only living cells left in the body. Equally, if food was plentiful, air was not, but the condition of excess of food and deficient respiration is particularly that of embryonic existence. At the same time, the conditions differed; the temperature of embryonic life is very high, here it was depressed. Does this combination of ample food with deficient respiration and insufficient heat explain the pertinacious following in the steps of development impressed upon the substance of the cells, the exceeding slowness of metabolic change, the persistence of these shadows, these simulacra, of embryonic conditions? If so, one is tempted to ask, "What would have happened between the condition reached and the moment when the pseudo-embryonic tissue, its growth-impulse exhausted, or no longer protected by environment, was assailed by the agents of decomposition?" The answer to this question is easily given, "We do not know."

341 Adelphi Street, Brooklyn

Professor Rudolph Virchow, whose eightieth birthday will be celebrated by his admirers all over the world on October 13, will receive special honor in his own city. There will be an official banquet given by the city authorities at the Rathaus, and as a further token of appreciation Berlin will give 100.000 marks to the Virchow foundation.

REPORT OF A CASE OF INTRACRANIAL TUMOR; OPERATION; RECOVERY.*

By WILLIAM M LESZYNSKY, M.D.,
NEW YORK CITY.
CONSULTING NEUROLOGIST TO THE MANHATTAN EYE AND EAR HOSPITAL; NEUROLOGIST TO THE DEMILT DISPENSARY, ETC.,
AND
JAMES H. GLASS, M.D.,
UTICA, N. Y.
SURGEON IN CHARGE, PAXTON HOSPITAL.

On the 27th of May, 1899, Mr. E. P., fifty-six years of age, merchant, of Utica, N. Y., was kindly referred to me for examination and diagnosis by his physician, Dr. James H. Glass of Utica. The following history was obtained from the patient:

He was in good health until two years ago, when he first noticed occasional cramp in the calf muscles of the left leg after lying abed and asleep for a few hours. This local muscular spasm was painful and severe, lasting two or three minutes. It occurred once a week for four or five months. During this time, he also noticed that occasionally while walking, he would be unable for a few moments to move the left foot forward. There was also occasional "twitching" and "jerking" of the left leg, immediately followed by inability to move it. These attacks occurred from once a week to twice in one day, gradually increasing in frequency and severity, and also in the degree of transient weakness until five months ago. During the intervals the leg remained normal. Eight months ago, the left leg became heavy and "dragged," and he frequently tripped and fell. This weakness has increased rapidly. He is easily fatigued. There has been neither "jerking" nor "twitching" during the last five months. When the spasm in the leg was most severe, the left hand and forearm also jerked. He now complains of progressive loss of power in the left arm and hand, but the clonic spasm has subsided. There has never been any disturbance of speech or consciousness, and neither the face nor the right side of the body has ever been involved. No defect in memory, judgment, or attention. Neither headache, vomiting, nor vertigo. No diplopia nor other visual disturbance. No history of injury of the head, and he positively denies any known syphilitic infection. Family history is unimportant. He has always been moderate in the use of alcohol. He sleeps well. Appetite variable. Digestion good. Bowels regular.

Examination.—Pulse 84 and regular. Slight arterial tension. Heart, accentuated second aortic sound. Lungs and abdominal viscera normal. Pupils equal at 4 mm. Reactions normal. Vision, R. E., $^{20}/_{30}$; L. E., $^{20}/_{20}$. Fields for white and form slightly contracted in all meridians. R. E., hazy vitreous and neuroretinitis; L. E., receding papillitis. Hearing, taste, and smell normal. No aphasic symptoms. In percussing the skull no tenderness is complained of. Tongue and facial innervation normal. *Left upper extremity.*—Paresis affecting all extensor muscles and shoulder girdle. Grasp with dynamometer, L., 65 (R. 100+). No atrophy. No muscular rigidity. Elbow-jerk active. No objective sensory disturbance. No astereognosis. Right upper extremity normal.

There is no static ataxia. In walking, he drags the left leg. He is unable to stand on the left leg alone. The flexors are partially paralyzed, and there is also some paresis of the extensors. The foot is extended in the position of talipes equinus on account of paralysis of the tibialis anticus muscle. He is able to extend the toes. There is no muscular rigidity. The left knee-jerk and the Achilles reflex are exaggerated. No ankle clonus. Plantar reflex of normal character present, but weaker than on the right side. Abdominal reflex not obtainable (pendulous abdomen). Cremaster reflex feeble on the left side. No atrophy. No objective sensory disturbance. Right lower extremity normal.

Result of examination of urine negative.

Diagnosis.—Intracranial tumor of slow growth involving the arm and leg centers in the cortex of the right hemisphere. Character of neoplasm undetermined. On account of the increasing hemiplegia, exploratory operation was advised, and, if practicable, removal of the growth.

*Read at the annual meeting of the American Neurological Association, June 20, 1901.

OPERATIVE PROCEDURE FOR TUMOR OF THE BRAIN.

By JAMES H. GLASS, M.D.

In confirming the diagnosis of tumor of the brain, Dr. Leszynsky had advised a course of medical treatment with inunctions of mercury and increasing doses of iodide of potassium. This had been followed for nearly the prescribed time without appreciable change for the better, and an exploratory operation was then decided upon. Preliminary to this, the head was carefully shaven, sterilized, and diagramed after the method of Müller, as modified by Kocher, with the aid of the instrument devised by Dr. Schenk of Berne, the lines being drawn with a strong solution of silver nitrate, that indelible yet surgically clean landmarks might be present at the time of operation, thus avoiding possible confusion.

The method is as follows: An equatorial line is drawn, the margin of which strikes in front the crista glabella, is limited by the occipital protuberance behind, and skirts the upper attachment of the auricle on either side; a meridional or sagittal line is traced from the crista glabella in front to the occipital protuberance behind. Over a point midway on this line is arranged a graduated disc, and anterior and posterior oblique lines are traced at an angle of 60° intersecting the equatorial line. The tracing of the fifth line is more difficult. The sagittal meridian is divided into three equal parts, marked anterior and posterior third point; the posterior half of the sagittal meridian is again divided into two equal parts, anterior and posterior fourth point; midway between the posterior third point and the posterior fourth point an oblique line is traced around the skull intersecting the equatorial line at a point 1 cm. posterior to the intersection of the anterior oblique line. This method, though somewhat complicated in its description, is very simple of demonstration with the instrument of Dr. Schenk. According to the classification of Horsly, the anterior oblique line of the diagram would indicate the motor cortex involved in the above case, *i.e.* the arm, hand, leg, etc. With the aid of the De Vilbiss surgical engine, which we have found most efficient in all varieties of bone-surgery work, a large omega-shaped osteoplastic flap was turned back, care being taken to preserve the relations (therefore the nutrition) of the scalp and cranium and the dura exposed. The feature of this, as indeed each successive step in the operation, was the profuse hemorrhage encountered, it being necessary to overcast all soft tissues and plug with bits of bone the nutrient canals of the cranium. The vessels of the exposed dura were engorged with blood, and were ligated before this membrane was incised, which done, revealed almost centrally located in its relation to the opening, the convex surface of the growth pushing out above the surface of the brain. The tumor was enucleated

up to the longitudinal sinus, to which it was attached through the falx cerebri, and from this membrane it was carefully dissected off. In shape, the tumor was nearly spherical and about 20 mm. ($\frac{3}{4}$ in.) in diameter. The oozing continuing troublesome, it was thought best to pack the wound for forty-eight hours with strips of gauze tape, the ends of which were brought out through drill holes in the angles of the wound, after replacement of the osteoplastic flap, which was secured with silver wire. On account of the great vascularity of the field invaded, this case would have been operated most advantageously after the two-stage method of Horsly. The patient made a good recovery from the effects of the operation.

We are indebted to Dr. C. W. Kinney, pathologist to the Manhattan Eye and Ear Hospital, who made the microscopical examination of the growth, finding it to be an endothelioma.

We saw the patient together two months after the operation. At that time, there was almost complete paralysis affecting the left upper extremity. He could only flex the fingers, and feebly flex and pronate the forearm. In the lower extremity the posterior thigh muscles were paralyzed. The knee-jerk was highly exaggerated and accompanied by ankle clonus. There was no objective sensory disturbance; no astereognosis; but muscular rigidity was present on the hemiplegic side.

A recent letter of inquiry addressed to Dr. Glass, who still has the patient under observation, elicited the following reply:

"I saw Mr. P. yesterday, and secured answers to the questions which you suggested. There seems to be no impairment of sensation. The condition of the left arm and leg changes little. The condition of muscular rigidity is less marked, yet quite apparent. Response to motor impulses, while still delayed, is, I think, better, an opinion concurred in by his daughter, a trained nurse, and his office mates, although the patient seems loth to admit this and some other signs of improvement. Several times each month, averaging perhaps four, and usually during bed-time, he has some muscular twitching or convulsive movement of the hand and arm, sometimes extending to the leg and foot. As a result of these attacks, there is more or less muscular fatigue. He moves about briskly, walking as rapidly in a straight line as the average individual, greater uncertainty being apparent in the more complex movements, such as turning quickly, etc. He has no general convulsive seizures, headache, or vomiting, and his general health is excellent. He is employed daily as an accountant."

A few weeks ago, the eyes were examined by Dr. T. H. Farrell of Utica, with the following result:

"R. V., 20/40: 20/15 w—.75 ax. 90°; L. V. 20/15.

"Ophthalmoscopic examination: Right, physiological cup obliterated by former neuritis. Level of disc same as retina. Slight haziness of disc and surrounding retina. Macular region normal. Left, normal. Opaque nerve fibers up and in from disc."

This case is recorded as an additional instance in which an intracranial tumor has been accurately localized and successfully removed. The operation was performed two years ago, and the patient is now following his daily occupation as an accountant, the present condition of partial hemiplegia being the result of the destruction of brain tissue previous to the removal of the growth. A noteworthy feature in the present case was the entire absence of headache or vomiting during the course of the disease.

Had the diagnosis been made about two years earlier, when the symptoms clearly indicated involvement of the leg center in the cortex, and an early operation undertaken, the patient would have been saved from the incapacity induced by a permanent hemiplegia.

THE PROPHYLAXIS OF TUBERCULOSIS.

By JOSEPH KUCHER, M.D.,
NEW YORK.

Before advising prophylactic measures against any infectious disease, it ought to be considered whether the proposed measures are practicable and whether the obtainable results are worth the efforts and costs by which they are obtained. Sanitary laws and regulations which are enacted in disregard of these precautions meet soon with so much silent or open opposition, that they remain a dead letter. And laws that are not and cannot be enforced are always harmful. For this reason the laws proposed by several boards of health against the spreading of consumption are of very doubtful utility. A still greater objection to them is that they lay too much stress on things of minor importance to the neglect of things of paramount importance. The measures that have been enacted or proposed are all based upon the supposition that the greatest danger in regard to consumption arises from infection. This is a dangerous belief, as it leaves the public to the fallacious conclusion that it is more important to keep away from the danger of infection than to observe the most necessary sanitary laws. And then, this belief in the dangers of infection is not founded upon undisputed facts. Many physicians with large experience in the treatment of consumption either deny the danger of infection altogether or concede to it only a slight importance

Dr. Brehmer ("Aetiologie der chronischen Schwindsucht") says: "Since 1854 there have been in Gerbersdorf more than 10,000 consumptives. What quantities of sputa have not been ejected on either the paths or public highways! What quantities of such sputa, such infectious matter, have not been carried into the air which has been breathed by the inhabitants of Gerbersdorf! and the percentage of consumptives among them during the last twenty-six years has decreased from 0.41 to 0.18 pro anas."

Dr. Pollock (*Medical Examiner*, February, 1899) says: "As regards infection, Dr. Williams and I have investigated it at the Brompton Hospital, from the very beginning until now, that is, nearly fifty years, and there have not been among the nurses, among those who scrub the floors, among the physicians, house physicians, dispensers, and others, more than four cases in fifty years. I have found that, out of about 4,000 cases which I have attended in hospital practice and investigated, at least thirty per cent. have had the hereditary element."

The same experience has been made in other hospitals for consumptives. In the State of Massachusets in former years fifteen women to ten men have died from consumption. So in the last ten years the mortality from consumption decreased for men and women, but considerably more for women as only nine women died to ten men. This improvement was brought about by the improvement in the food and in the manner of living, and not by any preventive measures against infection.

British barracks were formerly constructed with no regard to ventilation, and consumption was the cause of a very large proportion of deaths; since the buildings have been improved, by giving a large space and air supply, the mortality from consumption has diminished more than one-third.

In the zoological garden of Paris consumption affected nearly all the monkeys, until care was

taken to introduce fresh air, when consumption almost wholly disappeared.

There are certain occupations in which the majority of workingmen sooner or later die from consumption. M. Napias, the well known sanitarian states that eighty per cent. among the cutters of silex, seventy per cent. among needle-sharpeners, sixty per cent. among file cutters, forty-five per cent. among lithographers, forty per cent. among grindstone cutters, seven per cent. among cement workers, five per cent. among tin-foil workers, die of consumption. According to Napias, the harder the dust is the more apt it is to lead to a phthisical condition, it adheres to the mucous lining of the bronchial tubes and deranges the circulation and prepares a favorable soil for the tubercle bacillus.

It is well known what an important part heredity plays in consumption. Although the disease is, as a rule, not inherited, the predisposition to it is. Statistics of life insurance companies show that, notwithstanding the most careful selection of applicants, there is always a larger proportion of deaths from consumption among those who have a hereditary taint, and the stronger the taint the greater the mortality. And the mortality is by far the greatest among those with a hereditary taint, who neglect their physical welfare either from ignorance, carelessness, or necessity. In all large cities the percentage of consumptives increases with the density of population. If there were half as much danger from infection as some physicians want us to believe, it were most injudicious to send persons suspected of beginning consumption to places full of consumptives. It is true that some people of Southern California have begun to protest against the coming there of consumptives; not that they had any proofs of the danger of infection, but they became frightened by the general talk about the charges of infection and the preventive measures of some boards of health.

More than one hundred years ago the most stringent measures against the spreading of consumption by infection were enforced in Naples for several years. The result was a great hardship on the population without the least decrease of mortality from consumption. There is also this striking difference between consumption and other infectious diseases, that of the latter not even an experienced physician can predict which one of several persons who have been exposed to infection will be attacked, while in regard to consumption even a layman can beforehand, in many cases, tell which one is more or less sure to suffer from it. There is in most cases a pretuberculous stage, understood by the most superficial observer. Probably no case of consumption occurs which cannot be traced to irregular living, over-application to business, study, or pleasure, especially with much confinement in impure air—anything that interferes with the physical or moral well-being, and consequently lowers the vitality. Indigestion or very poor appetite in young persons is one of the earliest symptoms, and their persistence always calls for physical examination of the lungs.

It has properly been said that consumption originates in the stomach as malnutrition. These pretuberculous stages become more serious if tuberculosis has been already present in the family, or if the person is constitutionally weak or engaged in a business predisposing to consumption.

Anyone who has given some attention to the causes of consumption must soon come to the conclusion that the danger of consumption from infection is of very subordinate importance in comparison with the many other causes. It is, therefore, surprising that not only laymen but many physicians are so ready to accept, in a given case, infection as the cause of consumption without inquiring whether there are not other more plausible reasons for it. From the earliest time to the present the idea has always existed, and it has occasionally been the accepted doctrine, that consumption is infectious, but it was always understood that undoubtedly a susceptibility to it plays the most prominent part; while nowadays infection is everything. Under these circumstances the present edicts of the boards of health do more harm than good. They confirm the public and many physicians in their preconceived ideas that it is more important to avoid the dangers of infection than to observe the most necessary hygienic precautions. If the boards of health, instead of wasting their efforts upon impracticable measures of doubtful value, would concentrate their attention upon regulations of undisputable merit which at the same time are practicable, a great deal of good could be accomplished. Such a change for the better can be expected when the boards of health and the public have become convinced (1) That the tubercle bacillus is ubiquitous and that we cannot escape it anywhere. (2) That the bacillus is harmless until it finds a congenial soil. The same is true also of some other bacteria. It was shown at von Leider's clinic in Berlin, some time ago, that ordinary bacteria in the blood circulation of animals affect the heart valves only when these are already injured. (3) That the human body offers a congenial soil when its vitality is undermined by one or the other of the many causes that are deleterious to health. (4) That there is no better and surer and easier preventive against consumption than to keep the body proof against the tubercle bacillus. This can be done by avoiding the causes that make the human body susceptible to it. Foremost of these and the one most disregarded is working, living and sleeping in a confined and contaminated air. Out of all of the United States, only fourteen have laws relating to inspection of factories and workshops. In this city there are many offices and workshops deficient in the most necessary sanitary requirements, but they are ideal places in comparison with the accommodations that serve most of the poor people as sleeping rooms. Even among the better situated people the best part of the house or apartment is kept for show and the worst part for sleeping room. But most surprising is that many of the very rich build houses in which every luxury is provided for, except the most important, to wit, sunlight and good air. The next noteworthy causes that undermine the vitality are certain occupations, as before mentioned, or prolonged working to excess, worry, dissipation, and irrational feeding. Any of these causes shows its effects, of course, much sooner in a person who is constitutionally weak or in whose family there is a hereditary taint of consumption.

32 East Sixtieth Street.

The Rocky Mountain Interstate Medical Association.—At the annual meeting of this society, recently held at Denver, the following officers were elected: *President*, R. Harvey Reed, Wyoming; *First Vice-President*, Donald Campbell, Montana; *Second Vice-President*, Walter R. Pike, Utah; *Treasurer*, E. S. Wright, Utah; *Recording Secretary* George P. Johnston, Wyoming; *Corresponding Secretary*, S. D. Hopkins, Colorado; *Board of Trustees*, T. J. McKenzie, Wyoming, James Crater, Wyoming, R. A. Fisher, Utah, C. H. Jones, Arizona, J. H Bean, Idaho, and W. W. Grant, Colorado.

THE HOME MANAGEMENT OF EPILEPSY.*

By ROBERT H. PORTER, M.D.,
CHICAGO.

This paper was written on the theory that the primary origin of idiopathic epilepsy is due to degeneration of the cells of the central nervous system. When these cells with impaired or perverted nutrition are stimulated into action, they produce incoordinate or perverted functional activity. The demand of the impaired cells for more and better nourishment causes an increased blood supply, in harmony with the pathological law that impaired nutrition excites local congestion. Owing to the exhaustion of the cells, they are very sensitive and easily excited by the slight congestion into perverted action, and herein lies the essential features of idiopathic epilepsy. It is a well-known fact that the post-mortem examination of the brain of the chronic epileptic shows great dilatation of the blood vessels in certain regions. This dilatation of the blood vessels is due to severe chronic congestion of the brain; in fact, the epileptic has too much blood in the brain all the time. And this corresponds with the opinion expressed by competent observers for centuries, that congestion of the brain is the cause of epilepsy.

In the treatment of the disease, as congestion of the brain is such an important factor in the production of the attacks, it is of the greatest importance to reduce the brain circulation at once, since by preventing a recurrence of the acute congestion the convulsions can be permanently arrested, and by the use of suitable soothing tonics the nutrition of the brain can be improved and the patient cured.

In the management of the patient, appropriate mental therapeutics, with a suitable psychic environment, are as important agencies in promoting the recovery of the patient as the chemical or material measures used.

Owing to the disease of the brain which is associated with epilepsy, there is a morbid psychic as well as somatic condition that must be carefully investigated, for often the psychical seizures are more important and complicated than the convulsions.

Often a word carelessly spoken or the sight of some familiar object may be sufficient to start a train of morbid thoughts, and these becoming aggravated, sometimes produce a recurrence of the epileptic seizures.

Frequently these patients are greatly benefited by being removed from their old environments. A well-organized colony, such as the Craig Colony in New York, or the one at Gallipolis, Ohio, or similar homes in other States, affords the very best place for such cases. Owing to the great improvement in the care and attention which they receive, many patients can be cured in a colony who could not be anywhere else.

Only a small number can be taken care of in colonies at the present time compared with those who must be provided for elsewhere, so that any suggestions that will serve to improve the home conditions will greatly benefit this much-afflicted class.

The home management of the epileptic is second only to that of the medical, and it is of the greatest importance that there should be the most perfect harmony, sympathy, and co-operation between the two for a given and well-understood purpose, namely, the cure of the patient. This one great object must always be kept well in view, and everything else must be made subject to it. The best results for the patient can be secured only when each and every member of the family earnestly and actively co-operates, in harmony with the medical management, to secure the greatest possible benefit for the afflicted one. Now, on the part of the patient, owing to the disease with which he is afflicted, there is confusion, disorder, deterioration, and degeneration of the brain itself, and therefore we may expect him often to be irritable or perverse and unstable in all things. If the environment is unfavorable, with more or less friction in the home between one or more of the family and the patient, not the fault of either, but the great misfortune of all, then the demon within, conspiring with the enemy without, may serve to counteract the very best medical measures that can be used.

In the treatment of epilepsy one of the greatest dangers to be feared is that from an unfavorable environment. Every one, even among those who are well, has often felt the disagreeable effects that always follow an unjust and harsh criticism, although the words were not spoken either in anger or viciousness; then how much greater and more disastrous must the reaction be in the sensitive epileptic! One illustration of the detrimental effects of a pernicious environment will be sufficient.

A refined, highly organized, sensitive young lady, an epileptic, had been for more than a year free from the attacks, with a marked improvement in her general health and every indication of permanent recovery, when one day she was harshly and unjustly found fault with. Within a short time afterwards she was seized with a convulsion, and as both her psychic and material surroundings were very unfavorable, her condition gradually developed into one of hopeless epileptic insanity. If she had received a blow on the head of sufficient force to have knocked her down and rendered her unconscious, the effect could not have been more disastrous.

Neglect on the part of the one who is charged with the care and welfare of an epileptic may prove equally detrimental. The patient, as a rule, is not competent to take care of himself, and certainly ought not to be trusted to prepare and take the necessary medicines and follow out the instructions.

He is often forgetful, irregular and uncertain about everything, therefore it is of the greatest importance for him to have systematic training, both mental and physical, so as to once more develop order, regularity, and system, instead of the disorder and irregularity which have for so long a time been the most prominent characteristics of his life.

Owing to the individual peculiarities of each patient, the great difference in the environment, and the complex problem presented by the disease itself, no fixed rules or regulations can be given for the home management. This, like the remedial measures, must be modified from time to time according to the varying conditions, and the ever-changing moods of the patient. The first great principle that must never be lost sight of, is to do at the time and under the circumstances whatever will best promote the benefit, welfare, and recovery of the patient, and which, when intelligently applied, even under the greatest difficulties and the most trying conditions, will always produce the best possible results.

Now, to apply these principles carefully to the daily life of an epileptic may often require great patience, forbearance, and self-denial; and yet it may mean all the difference between success and

*Read at the First Annual Meeting of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics, held in Washington, D. C., May 14 and 15, 1901.

failure in the treatment of the patient. The "one touch of nature that makes all the world akin" is shown when one sees a fellow-man in distress and ministers to his wants. How much more, then, is this called for when the person in distress is of one's own household? And he must be ministered to not grudgingly or irregularly, but with a free goodwill all the time.

A few of these patients, especially among children, may show some minor defects in manners and deportment or be exceedingly mischievous; it is best in such cases, as far as possible, to ignore many of their shortcomings. At least, it is exceedingly bad for the patient to have some one always reproving or finding fault with him. This may soon develop into a form of persecution or torture, and, under a feeling of injustice, the patient may develop an irritability, perverseness, or even viciousness with destructiveness.

Very much better is it to develop and encourage by all means possible the good; to notice and praise the favorable, and at the same time ignore and discourage the unfavorable—to restrain the morbid. In some instances the bad behavior may be due to a lack of mental development on the one hand, or, on the other, to emotional perversions. In either case, when carefully studied, the defects will be easily recognized as a part of the morbid history of the patient, and the same should be treated accordingly. When the underlying disease is removed, these deficiencies will surely and steadily disappear.

In these cases especially the mental environment has a very great influence over the progress of the patient, and this will serve to explain, to some extent, at least, why some patients improve so much more rapidly and better than others, under otherwise similar conditions. Therefore it is of the greatest importance that each and every member of the family earnestly, persistently, and all the time co-operate to make and maintain all the conditions, both mental and physical, most favorable for the recovery of the patient. It is only by such measures as these that the very best results possible are to be secured by the home management. When these principles are properly applied, aided by love, patience, forbearance, and self-denial, in connection with the necessary and proper medical measures, beneficial effects, well-nigh marvelous, may be secured.

One example of what may be accomplished by the aid of a favorable environment may be most appropriately given just here.

On October 12, 1900, Mrs. H. brought her demented epileptic son, aged sixteen years, to the writer to see if anything could be done to improve his deplorable condition. She gave the following condensed history of the case: He was a strong, active and ambitious boy, well advanced in his studies at school, but when eleven years old he began to have slight spasms at irregular intervals. These had gradually increased both in severity and frequency, in spite of everything that could be done for him. The parents thought they had exhausted every resource to arrest the progress of the disease, and that without any avail or permanent benefit. For the preceding year or more the lad had had an average of from fifty to sixty hard convulsions a month; sometimes the attacks would occur daily, varying from two to eight, and continue in this manner for a while, then they would change, and there would be a series of from twenty-five to thirty spasms in rapid succession, and after this probably a free interval of one or two weeks.

Notwithstanding the frequency and severity of the seizures, his appetite was good or ravenous, so that he was well-grown for one of his age, but his mental condition was such that he had to be confined at home. He could not comprehend or carry on a conversation, and if he got out alone, he wandered off and could not find his way back. The mother was devoted to her afflicted son, and had already given up everything else that she might take care of him both night and day as no one else could. She was ready, willing, and able to do any and every thing possible to promote his recovery. Under these most favorable conditions, aided by the proper medical measures, I was able to arrest the attacks at once, and the boy went two months and a half without a symptom of the old trouble; then, owing to an error in the medical management, there were several slight seizures, but these were soon controlled, and there has been no recurrence of the symptoms since. The great and rapid improvement in his mental state and the entire freedom from all of the epileptic symptoms or seizures promise a permanent recovery in due time.

In general, there are few or no rigid restrictions in regard to the diet; the patient should be careful, prudent, and temperate in all things, avoiding whatever disagrees with him, and eat light suppers. As a rule, a ravenous appetite proves beneficial, as good nutrition is one of the most important factors in the long, tedious fight against the disease. When the patient is frail, delicate, and sensitive, with the digestion and assimilation poor, appetite capricious and variable, the epileptic problem is rendered much more difficult and complicated.

Stimulants, such as beer, wine, and spirits of all kinds, and tobacco in all forms are to be avoided. In all of these things, the patient's only safety depends on total abstinence. The influence of inebriety in the production of epilepsy is sufficiently well known, and some of the worst cases of epilepsy and insanity that it has ever been the misfortune of the writer to see were produced by the excessive use of tobacco; and what may ordinarily be termed the moderate use of either whiskey or tobacco may serve to counteract the best remedial measures that can be used in these cases.

Last, but not least in the study of this phase of the subject, comes the proper training and control of the emotions, such as excitement, worry, anger, ego-mania, self-absorption, the various forms of emotional perversions, etc.

These may sometimes serve to tax to the very utmost the resources of the most skilful management, yet patience, forbearance, and perseverance in the good work will surely prevail in the end. Then as the underlying morbid conditions are removed the patient gradually but surely returns to the normal. Great and permanent benefit may often be secured by proper mental diversion.

Solomon has well said, "For as a man thinketh in his heart, so is he." This great truth is as applicable to the psychic and somatic conditions of a man as it is to his moral state. Owing to the long continuance of his disease, the thoughts of the epileptic have become morbid and perverted, and one of the first considerations is to instruct and train him into right thinking. A man's thoughts can be controlled as well as his actions. The importance of securing the active co-operation of the patient in combating his disease has heretofore been underestimated. He must be instructed in the fact that all emotional disturbances serve to make his disease worse, and that much depends on the amount of self-control and self-denial that he is willing and able to practice. Then great benefit may be secured by his own mental

effort at resisting all nervous manifestations, and he must carefully avoid everything that is likely to excite again any of the old symptoms.

A thought is one of the most potent factors in the world, and it is to-day more powerful than ever before. Admiral Dewey's thoughts in a few hours not only changed the map of the world, but also revolutionized the American people and changed the policy of the government. The thoughts of Dr. Ephraim McDowell, in a little town in Kentucky, opened up the great field of pelvic surgery. Lister's thoughts revolutionized the practice of surgery to such an extent that he is to-day recognized as the father of modern aseptic surgery. Many other suitable examples of the power and influence of great thoughts over the progress of the world will readily suggest themselves.

How were these results secured? By accident, or in a short time? Not at all. They were obtained after many years of careful investigation and study. If a man's thoughts can so modify the progress of the world, when properly directed, they ought also to aid in changing his own organization from a morbid to a normal condition, especially when working in harmony with and aided by the laws of nature.

The patient must not only be told of the importance of right thinking, but he must be instructed in the best means of controlling and repressing his morbid thoughts, and at the same time how to stimulate helpful thoughts. First of all, he must be prohibited from talking about his disease to any one but his physician, and next to this, he must stop thinking about it. While his family and friends are to encourage all the favorable indications, and aid him by pleasant and helpful suggestions at the same time, they must avoid talking in his presence about his disease, and how bad he has been, and refrain from expressing doubts of his recovery, for this will have the effect of exciting in his mind a fear of a return of the old attacks, and nothing will do him so much harm as fear-thoughts.

Since writing the above, a patient informed me that he accidentally heard one of his family talking to some one else about him, in which the opinion was expressed that my patient would never recover. He was very much depressed by this, and before the depression passed off he had one or two slight threatenings; yet during the preceding six months there had been no return whatever of any of the old epileptic seizures.

Fear-thoughts, anxiety, and worry do more to prolong and aggravate chronic diseases than all other causes combined. Now, it is of the greatest importance to recognize the difference between "fear-thought" and "forethought." Fear-thoughts are the primary cause of all worry and prove very detrimental, while forethoughts, combined with courage, are very beneficial and promote recovery. As forethought, courage, and perseverance so often prove successful in the battle of life, when properly aided by the necessary medical measures, they will be even more successful in the great battle against disease. For in the latter case, they are assisted by the laws of nature in a persistent effort to eliminate the disease and promote a recovery of the patient.

In the presence of the invalid it is certainly best not to talk about his illness, and the discussion of diseases in general ought not to be the subject of conversation. While both the physician and patient may often recognize the injury produced by an unfavorable environment, yet neither of them may be able to change the conditions. An instance in point is when there is a wealthy but cranky parent, who has strong prejudices that run counter to the best interest of the patient, and on the other hand ignorance and poverty may erect an equally insurmountable barrier.

While it is of the greatest importance to the patient to think right himself, yet it is also essential for his family and those with whom he is most often associated to aid him by an intelligent and active combination of their psychic powers to promote his recovery. Both when he is present, and also when absent, each and every one should think and talk about his improvement and recovery, say earnestly and firmly that he must get well, and do all in their power to promote this end, and the result may be well-nigh marvelous. Every one knows that a combination of the psychic power of numbers often proves irresistible, and that this great influence may frequently be felt and recognized without even a single word being spoken. Therefore, we should make and maintain all the time, and under all circumstances, both the psychic and all the material conditions as favorable as possible for the recovery of the patient.

THE VENDOME

ON THE ORIGIN OF RETROVERSIOFLEXIO UTERI AND ITS PATHOLOGICAL DIGNITY.

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WHEN we consider the numerous operative methods used in correcting retrodeviations of the uterus, and the general adoption of the Alquié-Adams operation for the correction especially of mobile retrodeviations, it would seem that retroflexioversio uteri was of itself a condition demanding operative treatment.

The annoyances so frequently found associated with these displacements, such as dysmenorrhœa, sterility, metritis, endometritis, oophoritis, bladder, rectal, and nervous symptoms, have been viewed from two entirely different standpoints. The belief, on the one hand, is that complications alone are the cause of the symptoms, and that the latter are not the result of the version or flexion. Proof is furnished by the fact that before puberty and after menopause deviations are found without annoying symptoms, by the further fact that the same symptoms are present with the above mentioned conditions without uterine deviations, and by the important fact that treatment of the "complications" brings about a cure. The opposing view is supported by the statement that treatment of the deviations relieves the annoyances, that close examination shows the same symptoms to have existed before puberty and to continue after the menopause. The congestion of menstruation is considered, in the latter view, as being naturally an important element in increasing the annoyances during functional life.

Theilhaber expresses the opinion that most retroflexions of themselves cause no annoyance, that the symptoms are not the result of the retrodeviations, but are caused by other conditions standing in no direct relation to the retroflexioversio. He finds that after reposition the subjective symptoms often disappear in a few days, and yet examination shows the uterus to be retroflexed in spite of the pessary. In a large percentage of cases the patients feel no improvement, as regards their nervous systems and the local disturbances, yet frequently examination shows the replaced uterus to be in perfect anteflexion. He finds no improvement as regards fluor, in spite of reposition of the uterus, and the bleedings are diminished decidedly in very few cases. He does not believe that retroversion or retroflexion can cause a congestion in the uterine circulation. Further, the symptoms in many cases of decided retroflexion are almost nil, while in others the mobile

uterus, but little displaced, shows the so-called "typical symptoms" of retroflexion.

He does not doubt that the orthopedic treatment of retroflexion will be done away with, just as the intrauterine pessary treatment of anteflexed uteri has gone out of use.

In discussing a question of this importance, it is absolutely necessary to consider the supports of the uterus, and to remember that it is imbedded in, and surrounded by, a large amount of connective tissue. Originally, no pelvic fascia exists, since every muscle fascia is simply connective tissue, which has been developed by tension and exercise. The pelvis in the fœtus is filled with a non-differentiated connective tissue, forming the common basis for the pelvic contents, uniting and dividing the different organs, and permitting mutual movement, as well as uniting the pelvic contents to their surroundings. The peritoneum covers all the organs, and lines the depressions, covering especially the uterus, the tubes, and the vessels which run to the uterus. The ligaments are simply peritoneally covered connective tissue bands, surrounding the important blood vessels, and in them muscle fibers subsequently develop. The only ligament which is not formed passively is the ligamentum teres; it is preformed, while the others depend for their position upon the development of the uterus. While it is true that a lack of elasticity on the part of the uterine ligaments is a frequent cause of inhibition of uterine mobility, no one of them is an active factor in preserving the normal anteflexed position of the uterus. An important function of the parametria with their numerous muscle fibers is to preserve the cervix in an elevated position, and they are intended to give the uterus free play. Winter says, "The uterus may be pulled up to the symphysis, pushed into the sacrum, up to the lateral pelvic wall, or half way up to the umbilicus; the portio may be pulled down to the vulva, and all this without pain." When the uterus is pushed up or pulled down it returns to its normal place because of the elasticity of its surroundings. It belongs, therefore, to the most movable parts of the body, which fact speaks against an active influence on the part of the peritoneum or any one ligament in determining its position.

In the adult woman, the uterus lies between the planes of the pelvic inlet and outlet. In the standing woman, with the bladder empty, the uterus is in a horizontal position. The cervix is nearer the posterior than the anterior pelvic wall, and lies in a plane passing through both spinæ ischiadicæ. A perpendicular from the external os passes through the posterior portion of the perineum; from the internal os a perpendicular would pass through the middle of the perineum, while one from the anterior end of the corpus, which lies on a level with the fourth sacral vertebra, passes through the middle of the septum urethrovaginale (Waldeyer). It may be seen that, in this position, the cervix is further back, and but little lower than the fundus. The cervix enters into the upper end of the vagina at an angle with the latter, and the fixation of the vagina by the levator ani and the surrounding connective tissue, and the support furnished by the parametria, make the situation of the cervix a relatively fixed point. So long as the cervix is retained in this position and at this level, so long as the uterus, its "ligaments," and the levator ani preserve their natural elasticity, so long will the forces of pressure and tension within the abdominal cavity preserve the uterus in its normal anteflexed position.

Under retroflexion we must distinguish two forms, the congenital and acquired. Suffice it to say, that in acquired retroflexion the position of the uterus is due to such weakening of the parametria, especially the ligamenta-lata, and to such an injury to the levator ani that the resulting descent of the uterus and prolapse of the vaginal walls (independent affections) are pathological conditions which constitute not only a retrodeviation, but also an hysteroptosis. This latter condition is the important factor in the causation of numerous symptoms. It is by no means necessary that an hysteroptosis should be complicated by a retrodeviation, but acquired retroflexions and retroversions are the result of hysteroptosis. Naturally, this discussion concerns mobile conditions, for a retroversioflexio fixata involves a peritonitic affection.

It is interesting, therefore, to consider the etiology of congenital retrodeviations, and to note the frequency of their occurrence. No further proof is then necessary to establish the fact that retroversioflexio *per se* is not a pathological condition.

In the embryo, the Wolffian ducts take a course which follows the curve of the fœtal body, and the ducts of Müller make their way following closely the curved line of the Wolffian ducts. The sexual strand, which includes the ducts of Wolff and the ducts of Müller, at an early stage shows an angle which represents the situation of the future external os of the cervix. In the future development of the embryo the proximal end of the sexual strand, the subsequent uterus, takes on a position of anteversion. This position is aided by the descent of the ovaries and the remains of the Wolffian body, and by the pressure of the intestines gradually filling with meconium. This pressure can be appreciated from the fact that on the ovaries and tubes impressions of the intestines may be recognized. This anterior curve of the uterus becomes gradually more pronounced, so that in some cases the corpus uteri lies horizontal. This second resulting angle represents the position of the future internal os. In embryos in the second half of pregnancy the uterus is usually anteverted, with a somewhat anteflexed corpus. In the newly born the uterus rarely lies in the median line, but shows, as a rule, a deviation to one side or the other. It lies partly within the large pelvis, and the fundus projects above the inlet. It is therefore seen that anterior inclination of the uterus, with more or less anteflexion of the corpus, is the original position depending on certain processes of embryonal development (Nagel).

In the newly born fœtus, the intestinal tract and the urachus are thin tubes, while the genital tract fills out the remainder of the long, narrow pelvis, and the relatively large uterus lies mainly above the symphysis. The bladder is not yet unfolded, is long, and its fundus remains for a long time above the symphysis. With the gradual development of the bladder from its pyramidal to a round form, the pelvis also undergoes changes whereby it is no longer a straight continuation of the abdominal cavity, and its axis forms with the axis of the latter an angle which gradually becomes one of 90°. The pelvis becomes wider, and the urethra is no longer a straight continuation of the bladder, but forms with the long axis of the latter a curve which is concave anteriorly. The uterus, which in the fœtal period filled out almost the entire straight, narrow pelvis, is now only a small dependence on the posterior wall of the bladder, and, lying parallel to the main axis of the pelvis, the uterus takes on with the changed inclination of the latter a still more anteverted position. The anterior inclination of the pelvis becomes later still more pronounced, and is necessary for several reasons. One reason is that the bladder, when filled with fluid contents, would otherwise be carried as a burden by the elastic pelvic floor alone, and a full emptying

of its contents would be impossible, for the lowest point of the pelvic floor in an upright position would lie lower than the external opening of the urethra. If, then, the pelvis did not take on a forward inclination, a condition like that in cystocele would result, for the bladder of the female lies deeper than that of the male (v. Arx).

The ovary descends from its point of origin at the sides of the upper lumbar vertebræ, and lies in the newly born on the psoas and the vasa iliaca externa. Its final position in the fossa ovarica is gained during childhood. The ovary is connected with the tube and the ligamentum ovarii proprium, but does not make the complete descent which the testicle does, although conditions are favorable, as is proven by those cases where the ovary or tube is found in the canal of Nuck. In the ligamentum genitoinguinale, later the ligamentum teres, is a muscle homologous to the cremaster. The ligamentum suspensorium ovarii is the former plica phrenicomesonephrica.

Although embryonal processes bring the uterus into the position known as anteversioflexio, errors of development may be the cause of malposition. The formation of a short vagina, with an embryonally long cervix and small fundus, displaces the cervix so that it lies close to the anterior pelvic wall, and the action of abdominal pressure may then change this retroversion into a retroflexion. In the descent of the ovaries the presence of a short ligamentum ovaricopelvicum prevents the normal anteflexion of the uterus, so that, even if other factors produce no further change, a retroversion exists. Küstner finds a poorly developed corpus and a straight stretched retroverted uterus to be often present in a poorly developed fœtus, while in a well-developed fœtus a normal, flexible anteflexed corpus is the general rule. Further, a fixation of the portio near the anterior pelvic wall, as a result of a poorly developed or short anterior vaginal wall, is productive of a malposition of the uterus. Such conditions have been found frequently enough in the fœtus to explain the origin of congenital deviations, so that embryonal development is responsible, not alone for the normal position of the uterus, but likewise for a large proportion of malpositions.

The examinations of Schroeder are of the greatest interest. To determine the frequency of retroversioflexio in healthy women, and in women not suffering from pelvic symptoms, he examined 184 women six weeks postpartum, 82 other patients complaining of no pelvic symptoms, and 145 general cases in the internal medical clinic in Königsberg. His examinations of 411 patients included virgines intactæ, nulliparæ, and multiparæ. In 25 virgines intactæ without pelvic symptoms, he found a retroversioflexio ten times. In 49 nulliparæ without pelvic symptoms, he found 14 cases of retroversioflexio. Three virgines intactæ with pelvic symptoms furnished 1 case of retroversioflexio, while 5 times retroversioflexio was found in 13 nulliparæ suffering with some pelvic symptom, giving for 90 nulliparæ 30 cases, *i. e.* 33 per cent. of retroversioflexio.

One hundred and ninety-one multiparæ without pelvic symptoms furnished 42 cases of retroversioflexio, while 29 retrodeviations were found in 85 patients acknowledging some pelvic symptoms, making a total of 71 cases of retroversioflexio in 276 multiparæ, *i. e.* 25 per cent.

At the menopause 13 retroversioflexios were found in 38 patients without pelvic symptoms, while 4 cases were found in 7 women with pelvic symptoms, giving 17 retrodeviations in 45 patients, *i. e.* 37 per cent.

In these 411 women were found 18 per cent. of retroversions and 10 per cent. of retroflexions, giving a total of 28 per cent. In 303 patients without pelvic symptoms were 79 retrodeviations, 26 per cent. In 100 cases with symptoms were 39 retrodeviations, 36 per cent. It is to be mentioned that the symptoms were brought out only on special questioning.

It seems, therefore, that 25 per cent. of healthy women have retrodeviations of the uterus, of which two-thirds have retroversions, and one-third retroflexions. Of the 79 cases of retrodeviation without symptoms, 8 suffered from hysteria, 3 from neurasthenia, 4 from indefinite stomach symptoms, 3 from headache, and others from backache, dizziness, ischias, lumbago, etc. Of these 79 cases only 16 evidenced a more or less profuse menstruation, so that menorrhagia is no result of retroflexion.

Of 39 cases of retrodeviations with symptoms, 6 nulliparæ complained of some pain in the pelvis and back, with some disturbance (pain) during menstruation, 5 had shortened or painful folds of Douglas, 11 shortened, infiltrated, and painful parametria; 3 descended ovaries, and 5 descent of the anterior vaginal wall, giving 24 cases suffering from pain in the pelvis or back in whom causes other than the retrodeviation could be found.

This review is quite sufficient to establish the fact that congenital retrodeviations are very frequent, and that retroversioflexio constitutes a practically normal condition.

How large a proportion of those retrodeviations, found during pregnancy or after pregnancy or abortion, are such congenital retrodeviations every one can decide for himself.

The course involved in pregnancy is shown by the rare occurrence of retroflexio uteri gravidi incarcerata. Martin found in 24,000 gynecological patients 121 cases of retroflexio uteri gravidi, none of which caused decided annoyance. Of these, 94 came under observation with retroflexio uteri gravidi, while 27 became gravid after they had been under observation. All these cases are probably pregnancies in a uterus already retroflexed. The majority of such cases are not observed because practically no symptoms are present.

In the opinion of Küstner prolapse of the uterus results from a retroversioflexio, while Veit holds that prolapse of the vaginal wall is an important factor in pulling the uterus out of its normal position. When we consider how difficult it often is, in a vaginal hysterectomy, after opening the vesico-uterine plica, and after entering by incision into the sac of Douglas, to bring down the uterus, we may understand how improbable it is that the vaginal wall can affect the uterus as Veit believes. Only when the parametria at the sides of the cervix and uterus are incised do we make a decided impression upon the uterus.

On the other hand, if the view of Küstner be correct, the frequent occurrence of congenital retroversioflexio should be often followed and complicated by hysteroptosis, which, however, is not the case. Hysteroptosis has in its train symptoms which may be understood when we consider the annoyances associated with gastroenteroptosis, ren mobilis, etc. Above all, the predominant pathological element is œdema, not only of the uterus, but especially of the connective tissue constituting the parametria.

Retroversioflexio and hysteroptosis, though often combined, are separate affections. This distinction has a bearing also on the question of postpartum treatment. Too much stress is laid upon retrodeviation. Küstner advises an upright position within a few days after labor, believing that in this way, and through the consequent exercise given to the uterine ligaments, the normal position of the uterus is assured. Such a view leaves out of con-

sideration the all-important fact that involution includes not only a return of the uterus, but a return of all the pelvic structures and the pelvic connective tissue to a normal condition.

The indications for treatment, surgical and otherwise, are different for hysteroptosis and retrodeviations. Leaving out of consideration the interesting question of retroflexio fixata, and the peritoneal complications of retrodeviations, I summarize my views as follows: 1. Retroversioflexio *per se* is not a pathological condition. 2. The majority of retrodeviations are of congenital origin. Retroflexioversio is not an obstacle to the cure of pelvic affections. 3. Where retroversioflexio without peritoneal, tubal, or ovarian complications causes symptoms, an hysteroptosis must be taken into consideration, always bearing in mind the possibility of other physical states, especially gastroptosis, enteroptosis, ren mobilis. 4. Prolapsus vaginæ and cystocele, while often associated with retrodeviations, are independent affections. 5. Where retroversioflexio is accompanied by severe local symptoms, these, if not due to peritoneal, tubal, or ovarian complications, may be corrected in the vast majority of cases without surgical treatment.

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TREATMENT OF TYPHOID FEVER.*

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The domain of medicine contains two great subjects: physiology and pathology. When nature puts into existence a being she aims at but one end, and that is to maintain the law of physiology.

Disease may hinder or even arrest this law, but the struggle is kept up until restoration or death. As we are coworkers with nature, we must have physiology as our guide or the result will be a failure.

The physician, then, who prescribes without this particular end in view is a menace to suffering humanity. His intentions may be good, but the physiological action of pills and capsules will not be changed to cover his mistakes.

Any disease that has a duration of two or three weeks tests the skill of the physician. The patient has but one stomach, and upon this organ falls the duty of absorbing medicine and liquids, and digesting the foods necessary for the nourishment of the patient. The mind and the muscles can rest, but the stomach and the heart must work or the struggle soon ceases. These are the two sentinels upon which depends the safety of the patient.

The patient must be congratulated if he has a physician who will aid these organs in their struggle, but he is to be pitied if the physician taxes them unduly in his efforts to cure typhoid fever. The treatment of any disease does not consist merely in getting a patient out of bed; that is only the foundation of the building, so to speak. There is more honor in keeping a man out of the fire than there is in dragging his charred remains from the flames. He is then out of the fire, it is true, but is not of much service to his family afterward.

Nature with her fixed laws is the attorney for the patient, and we are the judges to sit upon the case and allow no advantage to be taken by the ever-alert bacteria that inhabit the body and are constantly waiting for an opportunity to attack and devour when the vitality is lowered.

There are rules to guide us in the treatment of disease. Treat the patient and not the disease; keep in touch with nature and have a scientific reason for everything you do and say; treat the case as nature treats it and you will be nature's assistant. The constant irritation of the delicate mucous membrane of the stomach by medicines for two or three weeks may change a once healthy stomach into a diseased one that may end the patient's life. Injudicious feeding may cause an intestinal catarrh from which the patient may never recover. The responsibility of the physician in prolonged diseases is far greater than he realizes. It is no honor to make a "catch-all" out of a healthy stomach and bowels during an attack of typhoid fever, and make a physical wreck out of what was once a perfect type of physical manhood.

When we look over our record and see the number of lingering cases of typhoid fever, we may safely say that ninety per cent. of these cases would have progressed differently if we had treated the cases skilfully. We may nurse and feed the patient faultlessly, loving hands may smooth the pillow and make the bed easier, anxious friends may kindly remember, but one irritating and useless drug may defeat our plans and wreck the case.

Then whose is the fault? It is not the drug's; for pills and bullets are blind and wound friend and foe alike. You can claim the fault as your own. We must reason from cause to effect and from effect to cause, meet every indication with its corresponding remedy and give medicine for its effect. Routine feeding and prescribing are vicious practices. A drug that is indicated in the father may kill the son, though they lie side by side with the same disease. The sum total then is, know your patient.

As typhoid fever is a septic disease, we must favor elimination and assimilation. The toxins must pass out as rapidly as they are absorbed, but the system has enough to do to eliminate the toxins alone without the extra labor of eliminating undigested food and useless drugs.

The functions of the stomach are threefold—digestive, absorptive, and germicidal. The three work in harmony, and what impairs one impairs the other two. We frown upon the surgeon who tries to cleanse his wound and at the same time dresses it with a foul dressing, but we pat the physician on the back and label him a hero who feeds and stimulates a patient every three hours for six weeks or two months when the latter finally gets up in spite of his physician's efforts to the contrary.

When called to see a patient with typhoid fever, open the journal and examine his liabilities and assets. Is the patient apparently older than his age? If so, why? Is his pulse excited, weak, or strong? If so, why? Is he nauseated, full of aches and pains? If so, why? Is there gurgling in the right iliac fossa, and is his tongue foul? If so, why?

If there are these symptoms, be sure that you can wash your hands clean of their cause. There is no necessity for foul tongue, delirium, sick stomach, pains, headache, insomnia, high temperature, or weak pulse in typhoid fever. If we will but practise physiology instead of medicine, we shall avoid these.

When you get a fever patient in bed, give him a rest—I mean a rest from the soles of his feet to the crown of his head. There will be a drain on the system, a disturbance of the equilibrium between assimilation and waste. The patient lives on himself to a certain degree, and so we must minimize waste in every organ. The patient's mind must not be upon his business; if he has been irregular in his habits, we must at once establish a regularity; in fact, we must, as nearly as possible, reorganize his organic harmony and let each organ do its work.

Let us divide our patients into two classes: First,

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those who have been healthy prior to the acute disease; second, those who have had some chronic disease for years. In the first class we have an opportunity to show our skill or put the patient into the second class for the next case of fever.

Patient "A" is in the first class. He is a perfect type of physical manhood. He had been complaining for a few days and had called at the doctor's office several times for medicine. He was given calomel for biliousness and quinine for malaria. His already inflamed bowels were irritated by the calomel and his liver wondered why it was dosed and stirred up for a trouble that lay ten or fifteen feet down the the alimentary canal and over which it had no control. The patient grew worse, and after a chill, a restless night with aches and pains, he sent for the physician. His liver, irritated by the calomel, had poured out a lot of bile and he had been vomiting it into the slop jar for several hours. The sight of so much "bile on his stomach" proved to the doctor that the patient was very bilious and must have more calomel. (His physician failed to realize that the slop jar was more bilious than his patient.) The calomel was repeated and so were the deleterious effects of the drug.

The patient had been taking medicine irritating to his stomach and had been eating indiscriminately since the first symptoms of his trouble, and the chill, high fever, and headache tell us of the fact. If the physician recognizes typhoid fever, he at once informs the nurse that he must begin to nourish and stimulate the patient to tide him over a long and dangerous illness. He directs the patient to take a glass of milk or a bowl of soup every three hours, and if the pulse is a little accelerated from the action of the toxins, he mistakes this for an indication for stimulants and directs him to take a tablespoonful of whiskey every three hours until he returns. How many of us have ever been guilty of this mistake? A link in the trinity has already been broken, and we make the separation greater and perhaps permanent by over-feeding and stimulants. A healthy stomach has enough to do to digest three meals a day, but when the patient takes typhoid fever the stomach needs a rest. Yet we cause it to work constantly by giving food every three hours. This is kept up for a week or more until the patient begins to vomit. We have been pouring antiseptics and septics into the man day and night, disturbing his sleep to give him food, so that if he dies the family and we can say that everything was done for him that could be done! This is true in one sense of the word. No wonder it takes him weeks and months to recover. The doctor and the disease make a combination disastrous to any patient, though he have a constitution of iron. The temperature is running to 104° or 105°; the man's expression is dull; he is delirious; sordes are upon his teeth; he sleeps with coma vigil; his pulse is weak; there is diarrhœa; there is gurgling in the right iliac fossa. We have now got our patient into what is called the typhoid state—a state that we ought to be ashamed of.

Each glass of milk gives impetus to the trouble, for it passes into the bowels undigested and the patient poisons himself hourly. Now about the whiskey you have been giving. Here is another fatal mistake. Why? Because the pulse laboring under the poison is accelerated and you mistake this for weakness or an indication for stimulants. The heart needs a rest instead of stimulation. Stimulation causes overwork and exhaustion at the time when good circulation is most needed. Let the heart alone; it knows its own business better than we do. It is useless and disastrous to stimulate a weak heart muscle.

Now for treatment of case "A." The best rule is if you don't know just what to give, don't give anything. Guess work in medicine is bad practice. There already exists an inflammation in the bowels and it is unsurgical to cause severe peristalsis by giving a purgative—the giving of calomel is then unsurgical. If the patient is nauseated, I withdraw all food until his stomach is in a condition to digest it. Then I feed him three times a day and give just such food as he can digest perfectly. If the patient is not hungry at meal-time, I direct him to wait until he has an appetite. If the stomach is taken care of, this waiting will not occur very often. His food consists of beef tea, beefsteak, scraped to a pulp and heated gently, cracker crumbs rolled fine, eggs, either raw or cooked, and soups in small quantities and highly nutritious form. I never allow the patient to eat anything that he is required to masticate, yet always prepare food so that it needs to be mixed with the saliva. Then his stomach will digest perfectly the food, and the patient will be nourished and the germs starved, while the stomach will get the needed rest. There will be no self-poisoning from decomposed food that passes out of the stomach. Orange or lemon juice will be grateful to the patient and will do no harm.

When the temperature runs over 100°, I use as an antipyretic, antifebrin, or give a tepid bath for twenty or thirty minutes. About two or three doses a day and one at bedtime will keep the temperature down and will make the patient more comfortable. I prefer the bath, however, when it can be given. The patient is bathed two or three times a day with tepid water for about twenty minutes. If the patient is a little restless at night I give him a sedative; bromides act nicely and leave no bad after-effects. As a rule, the patient will rest well after a few nights, if the nurse does not disturb him every few hours during the night to give medicine and food. This is a point that I wish to emphasize, "Avoid disturbing a patient during his sleep." Rest is essential to health, and of course a sick man needs it; let him sleep until he awakes of his own accord.

If the tongue is dry, it shows a morbid condition of the stomach and the patient must be watched with care. I let the patient drink all the water his stomach can absorb.

It is next to impossible to give antiseptics enough to render sterile the alimentary canal; furthermore, most antiseptics are gastric irritants and their continued use is dangerous.

If there is much decomposition, I use small doses of some saline cathartic until the canal is cleansed, and then I use tincture of iodine and carbolic acid in small doses until their physiological effects are manifested.

I keep the mouth clean and let the patient chew tolu for a few minutes during the day. In my efforts to guard the stomach, I do not forget the colon and rectum; I irrigate the colon three times a day with warm water, and if there is catarrh, I add to the water concentrated extract of pinus canadensis, and then at night inject into the sigmoid flexure a mixture of almond oil, bismuth, and iodoform. This will relieve the catarrh and prevent the lower bowel from absorbing the putrefactive material, and thus help to relieve the system of what plays an important part in the production of the typhoid state.

If water is not taken in sufficient quantities by the stomach, I inject about a quart into the colon and leave it for absorption.

Case "B." This class of cases gives us much more trouble, because we begin the struggle at a disad-

vantage, but we have an opportunity to use the same care and judgment as in Case "A." Most chronic diseases are in the lungs, kidneys, heart, or alimentary canal. I have seen consumptives pass through an attack of typhoid fever as easily as robust patients, but dyspeptics are a source of worry to the physician. We must watch the digestion with especial care. If there is myasthenia with fermentation, we must give a small amount of food, easily digestible and slow to ferment. The white of an egg given raw with pepsin and hydrochloric acid suits this class of patients; it is digested and leaves the stomach in about an hour and a half, thus giving that weak organ much-needed rest. Do not give milk to a patient with gastric catarrh or myasthenia; milk given every three or four hours will kill more patients than the fever. Treat the stomach and feed it just as you would if the diseased stomach was the only trouble the patient had. The colon is irrigated and the baths are used as detailed in case "A."

In the treatment of your cases let your motto be, "Remember the stomach first, the colon next."

Results of Serum-Therapy and Protective Inoculation for Dysentery.—K. Shiga obtains a serum, as in typhoid fever, cholera, or the plague, from a perfectly immune animal, the horse or ass being preferred. The method of producing immunity in the animal is as follows: A slant agar culture of the bacillus which has been in the incubator for twenty-four hours is scraped off and ground up in an agate mortar; to this is added physiological salt solution, and the mixture is kept for twenty minutes at a temperature of 50° to 60° C. A small dose of this mixture is used for the first subcutaneous injection. The dose is increased from time to time until a certain degree of immunity is established, after which intravenous injection is used. After a high degree of immunity is obtained, the blood is withdrawn three weeks after the last injection, and the serum is then obtained. To this serum, carbolic acid in the proportion of five per cent. is added. Before using serum on a patient, its strength should be first tested on an animal. The method of using the serum is similar to that in other serum treatment. The side of the chest is preferred as the seat of injection. The amount injected in the mild form is from 6 to 10 c.c., while from 15 to 20 c.c. is used in the serious form. The serum is readily absorbed within one or two hours, and the point of injection does not usually show any change. There is not very often an eruption following the injection. There are sometimes pains in the joints, and at times these are accompanied by muscular pain. The results of serum treatment are far more favorable than those of medicinal treatment. Even in the most favorable results of the latter the death rate is twice that of the former. The following medicines were used in addition to the serum treatment: calomel or castor-oil was first used to cleanse the bowels, and an enema of salt solution or soda water was afterward used repeatedly. Besides these, dilute hydrochloric acid lemonade, claret, and some alkaline remedies were used.—*The Sei-I-Kwai Medical Journal.*

The Pathogenesis of Chronic Gastric Ulcer.—W. v. Yzeren reports a series of unusually elaborate experiments he carried out on rabbits, and which seem to justify Talma's theory that gastric spasm is the underlying cause of chronic peptic ulcer. By cutting the vagi of rabbits below the diaphragm, the author found that he could produce ulcers which in almost every particular corresponded to those found in human stomachs. This ulceration appeared several days after the operation, and showed no tendency to spontaneous healing; there was usually but one ulcer, and this was situated in the pyloric region on or close to the lesser curvature. The ulceration was preceded by necrosis of the mucosa, while the structures more remote from the pylorus were not affected. Gastroenterostomy and incision of the pylorus seemed to prevent the formation of the ulcers, or, at least, to postpone it. After the operation, the stomach was distinctly harder on palpation, indicating a condition of spasm, and this, the author thinks, is the important part of his observation. Spasm of the gastric musculature produces anæmia of the mucosa, which results in necrosis; and as the muscle is thickest about the pylorus, it is here that the lesion is situated. A similar condition of spasm undoubtedly occurs in the human stomach, though the rationale of its causation is still unexplained, and the result is chronic ulcer. Sometimes such a spasm may be recognized by palpation, but usually the rectus is also contracted and prevents this, but an important diagnostic sign is the detection of intermittent retention. Any remedial measure, to be effective, must prevent the occurrence of the spasm, and this, the author believes, is best effected by his method of extra-mucous incision of the pylorus. This consists in dividing the substance of the pylorus down to the submucosa, which is left intact; if done near the lesser curvature, the bleeding is very slight, and the wound does not require suture.—*Zeitschrift für klinische Medicin.*

The Best Method of Removing the Tonsils.—Macleod Yearsley advocates the removal of the tonsils by enucleation, and gives the following directions for the performance of the operation: The patient is put under general anæsthesia, and the mouth is held widely open by a gag. The tonsil is seized by a pair of forceps and pulled out as far as possible from its bed. A pair of forceps with a large grasp is required, as the tonsil is very friable and may tear away from the instrument when least expected. He has found a pair of ordinary vulsellum forceps, slightly curved, to be most useful. Holding the tonsil up and out with the left hand, the operator snips through the mucous membrane at its lower border with a pair of scissors curved on the flat. Then with a flat or curved director he undermines the tonsil at this point and frees it. The gland is then shelled out from below upward, the fingernail furnishing the most ready and efficient instrument for this purpose. When the tonsil is much bound down and adherent the operation is often difficult, and requires patience, but by working carefully and methodically, aided by good sponging by the anæsthetist or an assistant, the tonsil can be systematically and thoroughly removed in any case. When the gland has been completely shelled out, the finger should explore the space left, and any remaining shreds of tonsillar tissue should be removed with a sharp spoon.—*Medical Times and Hospital Gazette.*

Aneurysm of the Thoracic Aorta of Traumatic Origin; Treatment by Introduction of Wire and Electricity.—De Forest Willard, in describing the technique of this operation, states that the size of the wire should be graduated to the caliber of the needle, whose bore should be perfectly smooth. Size 27 to 30 is probably best. He sees no practical difference between gold, silver, and platinum wire. The amount of wire should be regulated by the size of the aneurysm, as it is to form a skeleton for a clot. The wire should reach all parts of the sac and thus should be previously so wound as to coil in all directions. The tissues must be protected from the galvanism. The best insulation of the needle is afforded by French lacquer or varnish, set by heat. This can be sterilized by dry heat up to 300°. A long veterinary hypodermic needle is better than a trocar and cannula, for the wire can be pushed half-way into the needle before the puncture is made, and assists in controlling primary hemorrhage. Permanent cures are few; still, in one-half of the cases reported life was extended and comfort increased. The results stand as follows: Ten patients re-

ceived positive benefit, one was unimproved, and the others died within a year. This method seems to offer a greater hope of success than any other now known.—*University of Pennsylvania Medical Bulletin.*

Diagnosis of Mild and Irregular Smallpox as Found in the Present Outbreak in the United States.—Heman Spalding describes cases which have come under his observation in the past two years. While the typical case is always present in epidemics there are many deviations. He classifies the cases seen in two outbreaks of the disease in the Chicago Isolation Hospital under the heads of the hemorrhagic form, the confluent, semi-confluent, severe discrete, mild discrete and a form modified by vaccination; he also recognizes a form of smallpox without eruption. An absolute diagnosis cannot be made before the eruptive stage, but in all the cases, however mild, there was a general conformity to the history and course of a typical case. In making a diagnosis of variola, it must be remembered that there are always some prodromal symptoms, and that the patient will feel better when the eruption appears. The early appearance of the eruption is to be looked for on the vascular parts, and one must not depend on finding umbilications, as they are often absent in mild cases. The deep lesion of smallpox is distinguished from chickenpox, the latter being superficial. It is also to be remembered that an irregular mild case, while it gives immunity, can yet convey typical confluent or hemorrhagic smallpox to others.—*Department of Health, City of Chicago.*

The Complications and Degenerations of Fibroid Tumors of the Uterus, as Bearing Upon the Treatment of these Growths.—Charles P. Noble takes issue with the teaching that fibromata of the uterus rarely causes grave symptoms, and tend to undergo spontaneous cure after the menopause. An examination of 218 cases operated on by the author shows that the complications were such as to lead in 66, to inevitable death; to threaten life in 25, and to leave 30 of the remaining patients permanent invalids. The menopause may not bring any improvement, and even if it should, necrosis may occur subsequently. Twelve patients were over fifty when they sought relief from sufferings that should have been symptomatically cured, according to the teachings. In women with fibroids the menopause is delayed from three to ten years. The mortality of hysterectomy and myomectomy for fibroids varies from two to ten per cent.; that of the tumors their degenerations and complications are upward of thirty-three and one-third per cent. Early interference not only greatly lessens the mortality, but shortens convalescence and does away with the prolonged invalidism which is otherwise unavoidable.—*British Gynecological Society Reports.*

Cæsarean Section in Eclampsia.—A. Sippel says that every case of eclampsia is a situation of utmost gravity, and demands unremitting watchfulness. As soon as delivery is possible by version or instrumentally, it should be undertaken without awaiting the development of serious complications. If these do arise, if the temperature goes up, the pulse remains small and rapid in the intervals between the seizures, and the cyanosis persists, indicating impaired respiration and circulation, while the urine is much diminished, and the pharynx filled with masses of mucus, delivery is urgently required, and should be performed in whatever way will prove most speedy, safe and least hazardous to the child if it is viable. In addition to the usual vaginal methods by dilatation and incision, the abdominal route must be kept in mind and Cæsarean section is often the most rational method of procedure; while the conditions requiring it may not arise frequently, still the necessity for rapid and energetic therapy, which it appears will be the future treatment of eclampsia, may sometimes justify the assumption of more than ordinary risks, and this operation deserves a place in the list of measures available.—*Monatsschrift fur Geburtshulfe und Gynäkologie.*

A Case Resembling Morbus Cæruleus, Probably Due to a Dusting Powder Containing Acetanilid.—Samuel E. Earp reports the case of an infant one month old, whose entire body was of a bluish-gray appearance, the lips and tongue being nearly black; the condition was accompanied by mental dulness, cold skin, abnormally slow respiration, but no evidences of dyspnœa. A week previous there had been a mild attack of diarrhœa, and the buttocks were raw from contact with the discharges. The blue appearance lasted several days. There had been no drugs given which could have produced cyanosis, but the buttocks had been dusted with equal parts of boric acid and acetanilid. The author concludes that the cyanotic condition was due to the acetanilid poisoning, excluding morbus cæruleus on account of absence of congenital heart or lung disease, and atelectasis, because at the age of one month there had been no previous evidences of the above condition. The child at the time of the report was two years old, and there had been no recurrence and no symptoms of the former attack. There was no luetic history.—*Pediatrics.*

The Home Treatment of Tuberculosis.—Robert H. Babcock believes that the general practitioner depends too much on medicinal therapy in treating tuberculosis. The successful treatment of pulmonary tuberculosis lies in the hygiene of the patient's daily life, such as superalimentation, sojourn in the open air, hydrotherapy and careful regulation of daily life. These requirements can be obtained at home. Regarding nutrition, the essentials are food at short intervals, of a kind easily digested and assimilated, and that is most nutritious in the least bulk. The tuberculous patient should remain at absolute rest in the open air when he has a temperature above 99°, or when exercise increases the temperature. This obtains in all weather, care being taken, however, to protect him against cold. A bath, followed by vigorous friction, should be given every morning, and the temperature of the bath should be decreased gradually until the patient can stand a cold douche. The daily regime must be systematically observed, the physician seeing the patient often enough to control him.—*Illinois Medical Journal*

The Fate of Congenitally Syphilitic Children.—J. Karcher investigated the further history of all the hereditary-syphilitics discharged as cured from the children's hospital of Basle during 1876-1896. Those were thirty-one in number, and it was possible to obtain information concerning sixteen. Six died in infancy, and four were found past the age of puberty and perfectly well. Another patient was healthy and employed in a factory, though no details as to his condition could be obtained. Five children were found who suffered from subsequent tubercular infection. The author concludes that the prognosis in cases of this sort is not as hopeless as it is usually considered, and that a thorough course of inunctions is sufficient, not only to cure the immediate manifestations, but also to offer good prospects for the future health of hereditary infantile syphilitics.—*Correspondenz-Blatt fur Schweizer Aerzte.*

Agglutination of the Blood in Malaria.—During the course of laboratory experimentation, D. La Monaco and L. Panichi discovered that if a drop of blood from one malarial patient be added to a drop from another malarial patient, the erythrocytes become agglutinated to a greater or less extent. Normal blood does not thus affect other normal blood, but malarial blood does produce this same phenomenon in normal blood. The authors describe the processes by means of which they confirmed the discovery. Agglutination is not peculiar to malarial fever, but none the less it may be of great use in the study of the course and progress of the disease and of its treatment.—*Il Policlinico.*

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ALCOHOLISM AND TUBERCULOSIS.

THE connection between alcoholism and tuberculosis has been and is still the cause of a wide diversity of opinion among medical men, and has given rise to copious discussion.

The physicians of a time gone by were generally implicit believers that alcohol was antagonistic to tuberculosis, and carried this belief into practice by dosing their patients with heroic quantities of spirit. Gradually, however, a change has come, leading to the rejection of this once popular view, and now many of the medical profession hold not only that alcohol is contraindicated as a therapeutic remedy in phthisical cases, but that the habit of alcoholism strongly predisposes to the contraction and propagation of tuberculosis.

Dr. Brouardel of Paris, in his eloquent address delivered before the Congress on Tuberculosis, recently held in London, dwelt with special emphasis on this phase of the matter, and declared it to be his conviction that the relationship between alcoholism and consumption was very close. He said in part, "Alcoholism is the most potent factor in propagating tuberculosis. The strongest man who has once taken to drink is powerless against it."

Baudran of Beauvais has shown that the mortality from tuberculosis and that from alcoholism are nearly identical. Dr. Brouardel also drew attention to a mistake made too easily in the different countries of the world by ministers who have charge of the financial department of the State. They like to calculate the sum the State gets from the duty on alcohol, but they should deduct from it the cost to the community of the family of the ruined drunkard, his degenerate, infirm, scrofulous, and epileptic children, who must have shelter. The invasion of alcoholism ought to be regarded by everyone as a public danger, and this principle, the truth of which is incontestable, should be inculcated into the masses, that the future of the world may be in the hands of the temperate.

In the *Edinburgh Medical Journal* for September is an article by Dr. Kelynack of Manchester, which follows the same line of argument. Dr. Kelynack puts the position, as regards the aspects from which the question is viewed by present-day scientific men, as follows: (1) That alcoholism is antagonistic to tuberculosis; (2) that alcoholism bears no special relationship to tuberculosis; (3) that alcoholism definitely predisposes to tuberculosis; and he gives the views of well-known physicians of various countries bearing on the point at issue.

Flint used alcohol freely, that is from 6 oz. to a pint of spirit daily, and appears to have had a firm belief in its efficiency in the treatment of tuberculosis. Chartens, writing in 1877, concerning the administration of whiskey to phthisical patients, says: "In private practice I order it to be taken ad libitum." Hermann Weber expressed himself in like terms, but Bell of New York as far back as 1859 opposed the view, then generally current, of the beneficial influence of large quantities of spirit on the course of pulmonary tuberculosis.

That alcholism definitely predisposes to tuberculosis has of recent years received much support, and the theory would appear to be gaining ground at a rapid rate. Hector Mackenzie believes that alcoholism must be regarded as a powerful predisposing cause of tuberculosis. Osler refers to the subject thus: "It was formerly thought that alcohol was in some way antagonistic to tuberculous disease, but the observations of late years indicate clearly that the reverse is the case, and that chronic drinkers are much more liable to both acute and pulmonary tuberculosis. It is probably altogether a question of altered tissue soil, alcohol lowering the vitality, and enabling the bacilli more readily to develop and grow." Dr. Kelynack himself says that, having had exceptional opportunities of studying large numbers of cases among workhouse and hospital patients, he is convinced that the public house or saloon must be considered as one of the most serious obstacles to the speedy and effectual stamping out of tuberculosis.

Italians, Germans, and physicians of other countries who have studied the effects of alcoholism in connection with tuberculosis have arrived at similar conclusions. It is further contended by some that, in addition to a general impairment of vitality and pernicious environment, there is a special prejudical influence arising from the action of the alcohol and its associates. This, as Dr. Kelynack points out, is very hard to prove, and at present, and until investigations have more clearly elucidated the matter, we must rest content with the knowledge already gained—that alcohol exerts little or no beneficial influence on the course of tuberculosis, but that on the contrary it tends to predispose to the malady those who consume it to any extent. Indirectly, of course, the fact is undeniable that alcohol is a prominent cause of tuberculosis, by lowering the vitality of its subjects, by inducing poverty and necessitating life in unhealthy surroundings, by causing degeneration of the individual and offspring, and by these means rendering the race more susceptible and prone to infection. Suppression of alcoholism should go hand in hand with that of tuberculosis.

RHEUMATIC CHOREA.

ALTHOUGH it has long been thought that some relation exists between chorea and rheumatism, and the belief is now growing that the former is an acute infectious disease, while a number of investigators have regarded microorganisms as the cause of the latter, the etiology of chorea is yet shrouded in obscurity. In this connection the important fact must be borne in mind that not all forms of involuntary, incoordinate movements are choreic, nor all

forms of articular pain, swelling, and discoloration rheumatic.

At a meeting of the Medical Society of London, Dr. Leonard Guthrie presented a communication (*British Medical Journal*, May 18, 1901) in which he considered ordinary or Sydenham's chorea as a rheumatic manifestation and not as a disease in itself. In his opinion, shock from any cause, whether produced by injury, chill, exposure, or emotion—such as fright—lowers vitality and favors the action of the diplococcus of rheumatism. When chorea ensues there is doubtless some peculiar instability and weakness of the nervous motor elements as well. Two main varieties of chorea were recognized, (a) sthenic or explosive and (b) asthenic or pseudo-paralytic. Each of these may be either severe or mild.

Severe cases of sthenic chorea are characterized by spontaneous, uncontrollable, conflicting movements, increased by efforts at voluntary motion and when the patient is under observation. The milder cases include those (1) in which spontaneous movements cease during rest, but are excited by voluntary motion and by observation; (2) in which spontaneous movements can be controlled by an effort of the will, although the effort results in rigidity of the limbs—extreme incoordination or attempted voluntary action is common in these; (3) residual chorea, in which the symptoms continue, although the complaint seems cured, for spontaneous movements cease and voluntary motions can be performed without ataxia and rigidity when the child makes an effort of the will. The duration of severe sthenic cases seldom exceeds two or three weeks. Sometimes one or other of the subvarieties then makes its appearance, but more commonly severe sthenic cases become equally severely asthenic in character. Sometimes mixed cases in which both types prevail are encountered.

In cases of severe asthenic chorea all movements cease and the patient appears paralyzed from head to foot. Rapid emaciation is the rule. Mania or dementia sometimes ensues and complete mutism lasting many weeks is common. In milder cases movements are also absent and the patient seems to be paralyzed in one or more limbs. Mild cases sometimes become severe. Severe asthenic chorea rarely becomes sthenic in type.

Severe sthenic cases should be treated by absolute rest in bed, protection from injury, and in some cases by restraint of movement by splints and bandages. Chloral hydrate and bromides are the best remedies. Other sedatives also are useful. Severe asthenic cases require rest in bed, abundant diet, stimulants and tonics, massage, and galvanism.

The methods employed in milder sthenic cases include (1) suggestion; (2) suggestion with passive movements; (3) suggestion with voluntary movements under guidance; (4) voluntary movements and exercises without guidance. Incoordination may be treated, according to Frenkel's system as employed in cases of locomotor ataxia, by exercises and various toys and games calculated to aid precision in movement.

Treatment by suggestion and encouragement of voluntary action is serviceable also in cases of asthenic chorea. Arsenic in ordinary doses is useful in many cases, but the employment of heroic doses is useless, unjustifiable, and dangerous.

THE UNSATISFACTORY POSITION OF THE ARMY SURGEON.

THE *Army and Navy Journal*, August 24, prints an editorial, which appeared in this journal on August 10, bearing on the above matter, and comments upon the same. While deprecating the assertion made in the MEDICAL RECORD that "Congress seemed to take an especial delight in degrading the Medical Department" as somewhat unnecessarily harsh, nevertheless it frankly admits the cogency of the argument, in so far as the statement that the Medical Corps has not been given its just dues is concerned. The reason assigned by the *Army and Navy Journal* for this ignoring of the Medical Department—that its members have refrained from self-assertion, and that the medical profession as a whole has always exhibited a supreme indifference to politics, is undoubtedly the right one. The old saying that "God helps those who help themselves" is to the point in this case, and medical men would do well to put it into practice.

It would be hopeless to expect that the medical profession will ever be able to push its claims with the same persistence and success as that of the law. A lawyer is trained to this style of warfare; indeed, the art of lobbying may be termed a branch of his profession, and he can give time and brains to the perfecting of the science which would be in the nature of things impossible to the physician. But although the medical man may never hope to shine as a lobbyist, he may still, by organization and by exerting himself in the fields of politics, show that he is not altogether the negligible quantity which Congress, judging from its shabby treatment, would appear to regard him.

The medical man, whether in the army or in civil life, may rest assured that unless he takes such steps, his interests will be disregarded in the future as they have been in the past. Effective organization and a steady advocacy of its claims are the only weapons by which the medical profession can hope to fight a successful battle for its rights.

A New French Hospital is to be built by the French Benevolent Society of this city during the coming twelvemonth. It will be on Thirty-fourth Street near Tenth Avenue, with a frontage of eighty-four feet, and a depth of ninety-eight feet nine inches. It will be seven stories in height, built of brick and limestone, and practically fireproof. A novel feature will be an isolating ward for tuberculous patients on the top floor. The kitchen and laundry will also be on this floor. Another feature will be the number of sun parlors. Each ward will have a sun parlor of its own in the rear of the building, thus allowing the patients of the various wards to enjoy the sunlight without coming together. A large roof garden, attractively furnished, will surmount the whole. The floors will be reached by stone and iron staircases and a complete system of electric elevators. Mosaic and tiled floors will be used throughout the building. The furniture in all of the wards will be of glass and iron. The system of bathrooms and of general drainage will be of the most approved pattern. The French Government has contributed $20,000 together with a valuable Gobelin tapestry to the hospital fund. The tapestry is said to be the finest of its kind in America, and is valued at $50,000. It will be sold for the benefit of the society.

News of the Week.

Persistence of Yellow Fever Infection on Shipboard.—A steamer arrived a week ago at Santiago, six days out from Jacksonville, with three cases of yellow fever on board. The vessel left Progreso six weeks ago and arrived at New York with one case of fever on board. The man died in the harbor, and the ship was disinfected. The steamer left New York in apparently clean condition, but the captain's wife was taken ill soon after leaving this port and died while on the way from New York to Jacksonville. One man died the day the ship arrived at Santiago, and the autopsy showed plainly that he had been suffering from yellow fever. The crew was removed to the yellow fever hospital, which is situated on an island two miles from the city. The steamer was fumigated and held in quarantine in the lower bay, and in the course of a few days eight new cases of the disease developed among the crew.

The Latest Fashion in Superstition is reading of the fate in the soles of the feet, which is said to be crowding out palmistry. The new science may be appropriately called solecism.

Dr. T. S. Dedrick of the Peary Arctic Expedition resigned his position as surgeon to the expedition last August, in consequence of a disagreement with Lieutenant Peary, and started to return on the *Erik*, with the Peary Relief Expedition. At Etah, on the shore of Smith Sound, he suddenly left the vessel, announcing his intention to remain among the Esquimaux at Etah or Anaritok. Every effort was made to induce him to return with the party, but he persisted in his refusal, in spite of all arguments, and of Dr. Cook's warning that to remain alone in the Arctic region through the long winter night might be attended with serious results for him, particularly in regard to his mental condition. It is thought by some that his staying behind was due to an unwillingness to leave the party without medical help in case of need; others believe that his strange action can be accounted for only by some mental aberration.

The Second International Congress of Life Insurance Examiners was held in Amsterdam, September 23-26. Delegates were in attendance from nearly every country of Europe, from Japan, Brazil, Canada, and the United States. Among the subjects discussed in their relation to life insurance were albuminuria, glycosuria, syphilis, arteriosclerosis, alcoholism, tremor, appendicitis, hernia, middle-ear disease, ocular affections, diseases of the skin, wounds, and prolonged residence in tropical countries.

The Plague.—Seven cases of what is believed to be bubonic plague were discovered at Naples on Wednesday of this week. The government has ordered that energetic measures be taken to prevent the spread of the disease, and the authorities have sent to Paris for a quantity of plague serum, and are circulating leaflets giving information as to the measures necessary to be taken in the way of personal prophylaxis. Three of the persons attacked had already died when the suspicions of the health authorities as to the nature of the disease were aroused. The annual increase in the number of plague cases in Bombay has begun. During the first week of September the total number of deaths reported from this cause was 4,822, and during the second week this number rose to 6,386. These are the returns for all India, but most of the deaths were in Bombay Presidency.

The Spitting Evil in Boston.—Six offenders were fined $5 each last Saturday, in a Charlestown court, for spitting on the floor of elevated railroad cars.

Dr. Nelson H. Henry of this city will, it is reported, shortly be appointed Adjutant-General by Governor Odell. Dr. Henry is at present Assemblyman for the Fifth New York City District. He was connected with the medical department of the National Guard almost continuously from 1883 to 1898. He was appointed Assistant Surgeon of the grade of First Lieutenant, Twelfth Regiment, on March 16, 1883; Captain and Assistant-Surgeon on May 21, 1884; Surgeon with the rank of Major on June 23, 1888; Assistant Surgeon-General, S. N. Y., with the rank of Colonel on April 8, 1893; was honorably discharged on April 25, 1895; was made Assistant Surgeon-General, S. N. Y., with the rank of Colonel on March 29, 1897; Surgeon National Guard with the rank of Colonel on May 28, 1898, and Major and Chief Surgeon of Division United States Volunteers on July 8, 1898, to September 24, 1898 (Spanish war service).

The Rockland County (N. Y.) Medical Association.—On September 6, the members of the Fifth District Branch of the New York State Medical Association met at Nyack and organized a county association by the adoption of by-laws and the election of the following officers: *President*, Dr. Gerritt Blauvelt of Nyack; *Vice-President*, Dr. D. B. Van Wagenen of Suffern; *Secretary and Treasurer*, Dr. N. B. Bayley of Haverstraw; *Fellow*, Dr. S. W. S. Toms of Nyack; *Alternate*, Dr. Charles D. Kline of Nyack. Addresses were made by Drs. John A. Wyeth, Edmund L. Cocks, C. E. Denison, and J. W. S. Gouley of New York, Milton C. Connor of Middletown, and C. S. Payne of Liberty.

Civil Service Examinations.—The United States Civil Service Commission announces an examination to be held at various places throughout the United States on October 22, for the position of physician in the Indian service. Candidates must be between twenty-five and fifty-five years of age. The vacancy now existing is at the White Earth Agency, Minnesota, the salary attached to the position being $900 a year. There will also be an examination on October 29 and 30 for the position of Assistant Surgeon at the Freedmen's Hospital, Washington. The salary is $1,000 to $1,500 per annum. Although the examination is open to American citizens of any race, the practice of the Department is to appoint to vacancies in the Freedmen's Hospital only colored physicians if any such are eligible. Those desiring to compete in either of these examinations may obtain all needed information by applying to the United States Civil Service Commission, Washington, D. C., for application forms 304 and 375.

A French Commission for the Study of Yellow Fever.—A sum of 100,000 francs has been appropriated by the French Government to pay the expenses of an expedition to be sent to Brazil under the direction of the Pasteur Institute, for the purpose of studying yellow fever. The etiology and pathology of the disease will be the special subjects of the commission's investigations.

A Long Service as Ship's Surgeon.—Dr. Lloyd Parker of the American Line Steamer *St. Louis* will celebrate next week, upon his arrival at Southampton, the completion of his five hundredth trip across the Atlantic. He has been sailing with the company (originally the Inman Line) for twenty-one years, and in that time has traveled about 1,600,000 miles.

Philadelphia County Medical Society.—The Northern Branch of the Philadelphia County Medical Society was organized on September 19, Dr. Albert M. Eaton being elected permanent chairman, and Dr. R. L. Pitfield, clerk. Forty-seven members were enrolled at the meeting. To be eligible for membership in the local branch, membership in the parent society must first be acquired. It is intended that the membership of the Northern Branch shall be constituted of physicians residing between the Delaware and Schuylkill Rivers, and Fairmount Avenue and Wingohocking Street. Meetings are to be held monthly. The formation of a Southern Branch is in contemplation.

Dr. Lusk Exonerated.—The indictment found by the Queens County Grand Jury, last spring, against Dr. Obed L. Lusk, chief sanitary inspector of the Borough of Queens, charging neglect of duty, was dismissed a few days ago, the charges on which it was based not having been sustained. The indictment was found in connection with the death of a man from smallpox. The body was not removed for several days, and it was alleged that the delay was due to Dr. Lusk.

The Southwestern Tri-State Medical Society.—The second annual meeting of this society, membership in which is divided between Texas and Oklahoma and Indian Territories, will be held in Dallas on October 1 and 2. The program contains twenty-one titles, exclusive of the president's address. The president of the society is Dr. H. K. Leake, and the secretary and treasurer Dr. S. E. Milliken, both of Dallas.

No Poison on Czolgosz's Bullets.—City Chemist Hill of Buffalo and Dr. H. G. Matzinger, who were charged with a search for poison in the pistol used by the assassin of the President, have reported that the most careful bacteriological and chemical examination of the bullets, cartridges, and revolver has revealed no traces whatever of poison.

The Census of New York Physicians.—The Medical Directory of New York, New Jersey, and Connecticut, recently published, contains the names of 12,644 physicians, of whom 10,112 are in the State of New York, 1,472 in New Jersey, and 1,060 in Connecticut. Of the 10,112 names in New York State, 3,991 are credited to the Boroughs of Manhattan and The Bronx. The total number of physicians in all the boroughs of Greater New York is 5,579.

An Eclectic Hospital Incorporated.—The Cosmopolitan Hospital Society has been incorporated at Albany, "to maintain in New York City a hospital wherein the method of treating the sick shall be according to the Eclectic School." Among the directors are A. Stephen Aaronstamm of Brooklyn, Dr. Henry J. Doll, Dr. Meyer Wolff, Dr. Alfred W. Herzog, and Dr. Jacob Oshlag.

Disease in Alaska.—The Rev. Father René, in charge of the Catholic missions in Alaska, reports that epidemic disease has caused a terrible loss of life among the Indians of the lower Yukon. He estimates that the deaths have numbered more than 3,000, the aged suffering especially. The disease appears to have been influenza, in its abdominal form chiefly.

State Aided Hospitals in Pennsylvania.—The following are the amounts, we learn from the *Maryland Medical Journal*, given by the State of Pennsylvania to various hospitals in Philadelphia and elsewhere: The Medico-Chirurgical Hospital gets $190,000; the Free Hospital for Poor Consumptives, $110,000; the Medical Department of Western Pennsylvania Hospital, $100,000; University of Pennsylvania, $25,000; University of Pennsylvania Hospital, $58,000; Taylor Hospital, $15,000; Titusville Hospital, Jewish Hospital (Philadelphia), St. Joseph's Hospital, $10,000 each, and smaller appropriations to several other medical institutions.

Prosecution of Milk Dealers.—The State has undertaken the prosecution of certain manufacturers of condensed milk for selling or otherwise disposing of bad milk. Under the State laws dealers and makers are forbidden to dispose of cans that are hermetically sealed, unless each has upon it a label showing both the name of the maker and the brand of the milk. The charge is that some of the companies, although they do not sell bad milk directly to consumers, dispose of it to dealers, who in turn get rid of it either in unlabeled cans or in receptacles on which they have placed new labels of their own. The companies claim that they did not sell sour milk to dealers, but only to bakers who prefer it to fresh milk for bread making.

Dr. Presley M. Rixey, Medical Inspector in the Navy, and the late President's family physician, will be appointed by President Roosevelt Surgeon-General of the Navy, upon the expiration of Dr. Van Reypen's term of service in December next. Dr. Rixey was born in Virginia, and was appointed assistant surgeon in the Navy in January, 1874. He was selected as the President's physician in 1898, when his predecessor, General Leonard Wood, then a surgeon in the army, organized the Rough Riders.

An American Instructor in a Russian Dental School.—Dr. Oscar Gerber, a dentist formerly of East Orange, N. J., has been appointed Instructor of Prosthetic Dentistry in the Dental Clinic at St. Petersburg, Russia. Dr. Gerber is a graduate of the New York College of Dentistry and of the University of Pennsylvania, and after receiving his license from the New Jersey Board of Examiners went to Berlin. While there he received his appointment on the Faculty of the Russian College.

Dr. Mary Walker, the eccentric physician who dresses as a man, was nearly mobbed the other day in Syracuse, for some anti-imperialistic disparagement of President McKinley. A man who overheard her remarks, mistaking her for one of his own sex, was on the point of knocking her down when he discovered his error. After some threats and jeering by the crowd, she was allowed to go free.

Burning of an Insane Asylum.—The State Asylum for the Insane and adjacent buildings at Norfolk, Neb., were destroyed by fire on Monday of this week. Six hundred patients were in the institution at the time. Two patients are missing and it is supposed they were burned to death.

Obituary Notes.—Dr. Abram Litton of St. Louis died in that city on September 22 at the age of eighty-seven years. He was born in Dublin, Ireland, and came to this country with his parents when four years old. For half a century he held the chair of chemistry both at Washington University and the St. Louis Medical College.

Dr. William T. McKinley of Polk, Pa., died of apoplexy on September 14, at the age of forty-four years. He was a graduate of the Baltimore Medical College.

Dr. Lucius T. Sheffield, a dentist of this city, died on September 20. He was a graduate of the Harvard Dental College, and practised for a few years in Paris before settling in this city. His father was a widely known dentist in New London, Conn., where the deceased was born in 1854.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

A ROYAL COMMISSION ON TUBERCULOSIS—SUGGESTION FOR ONE ON CANCER—SMALLPOX—WINTER HEALTH RESORTS—MAJOR ROSS—BROMPTON HOSPITAL—CHIGOE—RECENT DEATHS.

LONDON, September 6, 1901.

THE Congress on Tuberculosis is not to be altogether fruitless. The King has issued a commission to inquire and report with respect to tuberculosis (1) whether the disease in animals and man is one and the same; (2) whether animals and man can be reciprocally infected with it; (3) under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favorable or unfavorable to such transmission. The Commissioners nominated by His Majesty are Sir Michael Foster, Dr. Sims Woodhead, Dr. Sidney Martin, Professor McFadyean, and Professor Rupert Boyce. It must be admitted that these names are calculated to inspire confidence, and it is satisfactory to find England so prompt in setting about the inquiry so generally admitted to be called for. The commission will probably begin to take evidence early next month.

Apropos of tuberculosis, some publicity has been obtained here for views expressed by Professor Baumgarten in a Berlin journal. He refers to an experiment made by a physician, now dead, on patients with incurable cancer and sarcoma. They were inoculated with murrain bacilli—pure human bacilli being at that time unobtainable—without any effect, good or bad. Baumgarten says that at the post mortem of some of these patients, who were under observation to the end, he was present and found small scars at the point of injection entirely free from any trace of tubercle or bacilli. These experiments, therefore, were as negative as the converse ones practised by him, as well as Koch, with human tubercle bacilli on cattle. It is now admitted that cancer and sarcoma may coexist with tuberculosis in the same patient, even in the same organ, so that the old argument that persons with these tumors offer an unfavorable soil to the bacilli loses its force. But Koch's interpretation of the experiments is rejected by Professor Baumgarten, who regards the human and bovine bacillus as identical. The changes that take place in bacteria in different environments are, he thinks, sufficient explanation, as was pointed out by Lister and Nocard at the recent Congress. Though he thinks that cattle tuberculosis is comparatively innocuous to man, he admits that it may be transmitted, and so he does not venture to advise an interruption to the precautions that have been enforced to prevent the possibility of such transmission. This conclusion seems obvious enough; for the danger if Koch, after all, should not be right is too great to incur. This was recognized by Koch himself, who said in conversation after his paper was read, that he had stated the facts with which he had met, but if people thereupon threw over all precautions the responsibility would not be his.

Referring again to the commission, the question has been mooted, why not another for cancer? You will remember that the King in his address to the recent Congress referred to this terrible disease as having up to this time baffled the skill of the medical men of the world, and said the discoverer of a cure would deserve a statue in every capital. Knowing the suffering of a near relative of the King, we can understand the pathos of his prayer, "God grant that before long you may be able to find a cure for it or to check its course." Many doubt whether a Royal Commission would be the best way of promoting this end, but if the general public desires it, there is accumulated already plenty of material to employ one. The King would, no doubt, have a special pleasure in appointing one if his advisers thought it desirable. The medical world could have no objection, and would applaud the step. Even those who expected no available results would be glad to see the accumulated statistics marshaled by able men and their suggestions embodied in a report, such as a Royal Commission would probably make.

The smallpox outbreak has been met with energy and promptitude. A fall in the number of cases marked the close of the week. There were only three notifications on Saturday. On Sunday there were five admissions, on Monday nine, Tuesday six, Wednesday one. The outbreak has remained local, most of the cases occurring within a circle having a radius of a quarter of a mile. Five of the cases in the hospital ships were fatal on Saturday and Sunday, and seventy-six were under treatment on Tuesday, while several others were awaiting removal at the Shelter. On Wednesday the disease was reported to have broken out in the Workhouse Infirmary, Clare Market, from which a sick man had been sent a fortnight previously to another workhouse, where he died shortly afterward. His nurse and another inmate were subsequently attacked. Of course the other inmates were then isolated and disinfection attempted. But one naturally asks whether that nurse and inmate had been revaccinated. The Guardians have reported that the back of the outbreak is broken, and that all have been revaccinated who would accept it. In the case of a nurse, it may be said, that submission to the operation should be a condition of employment It is stated that two patients have carried the infection from London. One of them was attacked at Mansfield; the other went to Maidstone and died there.

About his time of year winter health resorts begin to send forth assurances that their mortality is low, their sanitation satisfactory, and so forth. If whispers of epidemic diseases or rumors of bad drainage have occurred in the summer, it is proclaimed that the circumstances were met with promptitude, that in a very short time all danger disappeared and that now the health of the resort is phenomenally good.

Cannes is already sending its protest against the alleged slander current in the summer of a serious death rate from typhoid fever. The report, we are now told, was grossly exaggerated. It is admitted that there were some instances of typhoid, but that was as far back as May, and three or four cases do not make an epidemic. The deaths in May this year were only four above the number in the same month of the preceding year, and exactly the same as in May, 1899, namely fifty-two. These statistics are official, and it is asserted are ample refutation of the calumnious reports. It is insinuated that the Cannes outbreak may have been known elsewhere, but not in Cannes itself.

It may be remarked in connection with this matter that all along the Riviera—indeed from Toulon to Genoa, not to go farther—cases which English doctors would class as typhoid pass under euphemistic terms in the several localities. One favorite term of late years has been "grippe abdominale" and this is sometimes spoken of as a sequela of influenza. Health resorts are naturally reluctant to admit any danger to visitors, and those most in favor are generally ready to abate any nuisances complained of. But that any one is absolutely free from the possibility of typhoid is not to be admitted. In that respect I do not think there is much to choose between them.

Major Ronald Ross arrived from West Africa on Monday, and has expressed himself as having no doubts as to the success of the attempt to clear Freetown of mosquitos. He does not think the climate of the West Coast so deadly as often represented, but says that with care Europeans may live there as comfortably as in India. He is down for a paper on "Tropical Parasitology" next week at the meeting of the British Association for the Advancement of Science.

The Brompton Consumption Hospital is about to establish a country convalescent branch where the open-air cure can be persevered with. I hear that it will be fitted up for the reception of 100 patients. The site selected is near Bagshot. It might, perhaps, have been better at a distance farther from town.

Sir H. Colvill reports that the chigoe or jigger is spreading rapidly in Uganda, and he anticipates that this terrible insect pest will soon invade Arabia and even India. It is said that Emin Pasha's expedition carried the pest into new districts. South America is commonly considered the original habitat of the chigoe, but it seems to travel in all directions. Some friends of mine were greatly troubled by it when exploring along the Congo river, but fortunately for them they knew how to deal with it, and were able to teach the natives to extract it as soon as it lodged in the skin.

Brigade-Surgeon A. N. Hojel died on Sunday, aged sixty. He joined the Indian Medical Service in 1859 and retired in 1875. During his service he was employed at the time of the disturbances in Persia, 1866-1871, taking part in the dethronement of two revolutionary Sultans of Muscat, in the bombardment and capture of Bahrim Fort, and the capture and destruction of Arab war vessels and piratical craft. He was mentioned in despatches on these occasions. Afterward he became physician to Jamsetjee Jejeebhoy Hospital, and professor of physiology at the Grant Medical College

Among other deaths last month are: Dr. H. C. Buckley, J.P., died on the 26th ult., aged fifty-seven. He was a graduate of Aberdeen, and practised for some years in his native town, Llanelly, but having sufficient of this world's goods he retired in 1890 and came to reside in London. He was more than once asked to contest a seat for Parliament. Dr. Lawrence, professor of midwifery and gynecology at Bristol College, died on the 30th ult., while on his holiday in Devonshire. Dr. Cahill of Berwick-on-Tweed, who retired in 1896, having then reached his jubilee in practice, died on the 18th ult., from influ-

enza. He was an earnest naturalist. Dr. H. W. Livett of Wells died on the eighty-seventh anniversary of his birth, August 21. Dr. Kelly of Glasgow, aged sixty-six, and Dr. J. H. Tuke (South Kensington, formerly of Stratton, Cornwall) both died suddenly, the former on the 18th, the latter on the 26th of August; Brigade-Surgeon Baker died on the 21st.

HYDROTHERAPY AND QUACKERY.

To the Editor of the Medical Record:

Sir: Two editorial articles in your issue of August 10 demonstrate that the Medical Record is now, as it always has been, on the outpost of the great medical army, giving warning of danger or bringing good tidings of progress in the interest of suffering humanity.

To one who has for many years studied to enlist the interest of his colleagues in the clinical value of water, your able leader on "The Claims of Modern Hydrotherapy" affords gratifying encouragement, because it will doubtless arouse attention to the fact that "it is the duty of practitioners to become acquainted with the theory as well as the practice of hydrotherapy, to further the teaching of this branch of medical art in a thorough and practical manner in our medical schools, etc."

Your article on "Quackery in Germany" is also timely, for these "natural physicians" are already invading our country. Several of them thrive in New York City. Some of these prescribe boldly the water treatment; others pretend to practise it only under direction of physicians, while they really take every patient they can get, thus obtaining a clientèle from the medical as well as from the lay public.

In my little book on "The Uses of Water in Modern Medicine," I wrote (page 22): "It is a singular paradox that the German Government does not protect the people against these uneducated quacks. Whether they shall be allowed to pursue their calling here remains to be decided. Thus far, I know only one such hydrotherapeutic institute in New York, in which the treatment is most crude and unscientific, and under the management of an ordinary masseur. Let not the profession stand idly by, and again allow the value of water as a remedial means to be overshadowed by the efforts of these unskilled advocates." It is marvelous that this class of men has increased so enormously in Germany since the above was written, and it behooves us to take warning lest the clientèle of the educated physician, which already suffers from the inroads of Christian Scientists and other faddists, be still more seriously encroached upon by these self-constituted "water-curists." Simon Baruch, M.D.

Elberon, N. J., September 15, 1901.

IODINE IN THE TREATMENT OF WOUNDS.

To the Editor of the Medical Record:

Sir: Permit me to thank Dr. Arthur Stern for his kind note published in the Medical Record of August 24. In this note the doctor emphasizes my suggestion regarding the use of iodine in the treatment of wounds. Dr. Stern, however, errs slightly in assuming that Kocher and Tavel's book escaped my attention. Had it done so, I would be on record as the only surgeon who does not study everything that is new and good in surgery. I must say that modesty prevents including in this list my little manual on the theory and technique of surgical asepsis, which was published before Kocher and Tavel's book saw the light of day, and which, it is true, contains sentences similar to Kocher's, like "Necrotic tissues have to be removed with forceps and scissors." But I am afraid such suggestions are contained in other publications dealing with the same subject.

There is, however, another matter in this connection which doubtless escaped Dr. Stern's notice. A little closer examination of the subject shows that (1) Kocher and Tavel "advise either the frequent application of tincture of iodine or the packing of every small incision with a piece of gauze saturated in tincture of iodine, to be changed every three hours." With due deference to my eminent Swiss colleagues, this seems entirely too heroic a procedure. However, this is foreign to the present question. (2) A rereading of my little effort in the Medical Record for August 3 does not convey to my mind anything else than what I intended to express, viz., the value of iodine tincture in the *primary* disinfection of wounds. My suggestion distinctly was to apply the tincture of iodine once over the carefully dried surfaces, and that further treatment be carried out on general principles. The difference in the two propositions seems to be evident.

I would be crassly ignorant of surgical literature if I did not know, and as I said in the article to which Dr. Stern refers, that the time-honored tincture of iodine was used for skin disinfection before. Indeed, those who used it for that purpose are so numerous that the mere mention of their names would occupy more space than my article and Dr. Stern's criticism thereof.

Although it is hardly worth while to discuss any questions of priority in this connection, thanks are certainly due to Dr. Stern for his kindly criticism which serves to emphasize so simple, albeit so valuable, a matter.

Carl Beck, M.D.

Mount Pleasant, N. H., September 7, 1901.

Progress of Medical Science.

Boston Medical and Surgical Journal, September 19, 1901

Eosinophiles as Constituents of Pus.—Edward T. Williams further discusses the significance of the eosinophile blood cell, and concludes that it can no longer be regarded as a specific cell. It is a purely pathological product, resulting from a natural, alkaline decomposition of the body of a common leucocyte. It is, in other words, a necrotic cell.

The Home (Sanatorium) Versus the Climatic Treatment of Consumption.—Vincent Y. Bowditch says that: (1) From his own experience in New England, he is strongly in favor of the erection of sanatoria for the treatment and cure of consumption wherever that disease prevails. (2) As to the relative results to be obtained by this method in favorable or unfavorable climates, he does not think we are in a position to judge fairly at present. (3) He believes that at present better results can in all probability be obtained by this form of treatment in the Western sections of our country, like Colorado, New Mexico, Southern California, and similar regions, than in the Eastern sections.

Movable Kidney, with Special Reference to Its Consequences and Its Etiology.—Francis S. Watson holds that movable kidney is by no means the harmless condition it has been said to be by many writers. He admits that movable kidney is often present in neurasthenic women, but believes that in such cases it is often the direct cause, and not merely an accompaniment, of the neurasthenia. And further, he says, movable kidney sometimes results in much more serious consequences than the production of neurasthenic symptoms. These are (1) hydro- and pyonephrosis; (2) fixation in an abnormal position of a previously movable kidney, and (3) in a few rare instances, gangrene of the organ produced by the occlusion of its blood vessels brought about by the rotation of the kidney upon its horizontal axis. He does not accept the list of causes (relaxation of the abdominal walls, sudden wasting of the perirenal fat tissue, increase in size and weight of the kidney, downward pressure by an enlarged liver, or a pleuritic effusion, or tight lacing) commonly given by writers on this subject, but says that the ptosis is due to the destruction of certain structures normally holding the organ in position. These are the structures which form the attachments between the posterior and upper aspect of the tunica propria, and the fascia covering the lumbar muscles, and the peritoneum covering the diaphragm, respectively, aided by the less essential ones connecting the anterior surface with the peritoneum overlying it.

New York Medical Journal, September 21, 1901.

Conjunctivitis from X-Rays; Incipient Retinitis Apparently Due to the Same Cause; Report of a Case.—The case is reported by J. W. Sherer. His patient was a physician aged twenty-nine years, who suffered from photophobia and eye-fatigue. Later conjunctivitis developed. The patient had been daily exposed to the action of the *x*-rays for three years and a half. The history of several similar cases is given. In a general way, Sherer believes that the changes in his cases were analogous to those resulting from prolonged and excessive exposure to solar light.

The Social Aspects of Dermatology.—In the second Lane lecture, Malcolm Morris speaks of local inoculable diseases, gives the history of the discovery of the itch mite, stating that the illustrious Napoleon was a sufferer from the malady, mentions the prevalence of pediculosis, and notes the great advance of the last century in ideas of personal cleanliness. He utters a note of warning against the excessive use of the flesh brush and other local applications, saying that over-scrubbing, especially with rough flesh brushes, in people with sensitive skins produces an irritable condition, and may even strip off the protective coating of the horny layer, leaving the denuded surface open to the invasion of microbes. It has been abundantly

shown that a varied flora of the latter kind flourishes constantly even on the cleanest skins. He also says that the common bedbug lies under some suspicion of being the carrier of tuberculosis to man; similarly, the flea may convey the plague; but the problem has not yet been completely worked out whether the flea gets the infection from the rat and conveys it to man, or whether it gives the infection to the rat, which in turn passes it on to man by poisoning his food with its tainted carcass or in some other way.

Medical News, September 21, 1901.

A Few Remarks on a Generally Unrecognized Ear Disease (Otitis Media Mucosa).—Henry A. Alderton states that the recognition of the mucous type of exudative, non-perforative otitis media is often more difficult than that of the serous type. The mucous form occurs more frequently in adults. The affection follows a severe cold, grippal or otherwise. The symptoms are varied. There may or may not be pain. Often an intense tinnitus is present. There is a full feeling in the head. Cerebration is difficult. There may be dizziness. There is hardness of hearing. Inflammation of the nasopharyngeal cavities exists. There is generally very little change in pulse and temperature. There are certain systemic remedies which are beneficial, such as the iodide of potassium in increasing doses. But by far the best treatment is incision and evacuation of the tympanum, repeated if necessary, and always accompanied by regular politzerization and conscientious treatment of the nasopharyngeal condition.

Disappearing Tumors.—A. S. Warthin and W. A. Spitzley emphasize the following points: In spite of skilful clinical observation, the ultimate behavior of a tumor is seldom to be determined except by microscopical examination. Many neoplasms are taken to be malignant when really they are but the outcome of an inflammatory condition. Probably no true neoplasm, malignant in nature, ever disappeared except through retrograde changes induced in itself through infection of the tumor tissue, or through affections or infections of other parts of the body having, by reason of toxins, practically the same effect. To this there are extremely rare exceptions in which the disappearance of the growth takes place by an excess of retrograde processes over those of growth. We must look to the inflammatory process, acute or chronic, for the explanation of the appearance and disappearance of these masses of tissue which before, and even during, exploration appear to be actual new growths.

The Dilatation of the Cervix Uteri in Obstetric Practice.—Henry J. Garrigues first mentions certain drugs which are of more or less value in dilating the cervix. Atropine dissolved in sterilized water may be injected into the cervical tissue in the dose of $\frac{1}{40}$ grain. The application of a ten per cent. solution of cocaine may be used. Chloral hydrate, antipyrin, strychnine, quinine, and ipecacuanha have all proved useful in this respect. Various mechanical means are in use. Tamponade may be tried by inserting a strip of iodoform gauze into the cervical canal as high as possible, and then packing the vagina with gauze or cotton wrung out of one per cent. creolin solution. This is to be left till the next day. If circumstances demand a rapid dilatation, various methods are available—manual dilatation, dilatable bags filled with fluid, expanding metal dilators, and deep cervical incisions. Garrigues has found manual dilatation of great value. The bag of Champetier de Ribes is of great value for the induction of premature labor, and in cases of placenta prævia. Incising the cervix is indicated only when the cervix is obliterated and the os not sufficiently dilated. When the incisions are made, it is better to close them with sutures immediately after delivery.

Philadelphia Medical Journal, September 21, 1901.

Light and Radiance in the Treatment of Pulmonary Tuberculosis.—George G. Hopkins speaks of light as being a powerful germicide, the actinic rays being able to penetrate even deep-seated tissues. By means of Finsen's apparatus, the heat rays are eliminated. The writer has treated ten cases. Within a few days, cough, expectoration, high temperature, and nightsweats have been relieved. The appetite has improved rapidly. He expects much from this treatment in the future. The patient should not be exposed to cold for some hours after the treatment, as the pores are open, and the kidneys will suffer from sudden cooling of the skin. Careful examination of the urine in every case is most advisable.

Treatment of the Apparently Unaffected, or at Most but Slightly Involved, Eye in Cases of Glaucoma.—G. E. de Schweinitz advocates keeping the non-affected eye under the influence of a myotic until the other eye is entirely healed and free from irritation. He says that in cases of acute glaucoma the apparently unaffected eye should be operated upon as soon as the anterior chamber is restored in the opposite eye, *i.e.* as soon as the wound is closed, if indications show that it is likely to suffer a glaucomatous attack like its fellow, especially if the patient will probably pass from under observation. In chronic congestive glaucoma the same advice applies, and the operation should be urged if the apparently unaffected eye has had attacks of nebulous iridescent vision, associated with increased intraocular tension. In chronic simple glaucoma, if any increased intraocular tension whatever is shown, operation should be performed, even with perfect central and peripheral vision. Even in this case there may be a scotoma. If so, operation should not be postponed. In absolute glaucoma, the rules laid down for cases of acute glaucoma are applicable.

American Medicine, September 21, 1901.

The Significance and Treatment of Floating Kidney in Women.—Henry D. Beyea believes this to be a most important subject. The frequency of prolapsed kidney does not seem to be generally appreciated. The typical symptoms are nervousness, chronic indigestion, dragging pain in the loin, usually the right, abdominal distention, and often appendical or ovarian pain. He describes in detail the operation which he advocates. After the incision is made and the kidney is brought out through the wound, two pieces of ordinary rubber drainage tubing are passed around the kidney, one above and the other below the hilum. Neither the ureter nor vessels are interfered with. The kidney is replaced, the wound sutured and covered with an oblong piece of gauze, over which the tubes are gently tied. After three weeks the tubes are removed. In this time they have caused the formation of two connective tissue tubes, which permanently keep the kidney in a fixed position.

The Therapeutic Value of Alcohol.—Leon L. Solomon declares that alcohol should always be given tentatively, never as a routine medicine. It must be in a state of dilution before it can be absorbed. It is a conservator of vital power. Within certain limitations, it may be called a food. It adds force if it does not make tissue. Its employment in disease is manifold. The very young and the very old bear it better than those of other ages. It is useful in acute diseases, like typhoid, diphtheria, smallpox, septicæmia, etc. In malignant disease, alcohol gives comfort. In chronic suppuration and in wasting diseases, its effects are often surprising. In tuberculosis it improves appetite and digestion, and promotes formation of new tissue. It is always indicated when adynamia is a striking symptom. Muffled or absent first heart-sound is one of the first indications for its use in acute disease. Locally, it has various uses, for example, as a gargle, astringent, anæsthetic, and antiseptic. It is almost a perfect aseptic. It is locally, also, a hæmostatic, anhidrotic, and rubefacient.

The Lancet, September 14, 1901.

Note on a Case of Tetanus Successfully Treated by Antitetanic Serum.—E. M. Sympton's patient was a man of forty-five years whose nose had been cut by a fall on a rusty nail. The symptoms first appeared on the eleventh day. Bromide of potassium and chloral having been given without relief, the injection of serum was begun and continued at intervals for eight days with relief to the patient, who made a good recovery.

Intermittent Pulse under Chloroform.—The patient of R. R. Lakhdhir was a Hindu boy of twelve years, operated on for sinuses under the mastoid process. Examination previous to anæsthesia disclosed nothing abnormal. Whilst chloroform was being administered, he had struggled a great deal. When fully under its influence, his pulse was distinctly felt to beat according to a well-marked intermittent type, the cycle being that after every fourth beat there was a pause, followed by four beats and a pause, and so on. After the operation was over, and as the patient was coming from under the anæsthesia, his heart sounds and pulse were very carefully watched. The heart sounds were normal, and there was not the slightest trace of intermittency in the pulse. Since that time, the patient has been kept under observation, but he has never shown any sign of intermittent pulse.

Some Points in the Pathology of Pernicious Anæmia.—William Bain is disposed to agree with Hunter's assertion that there is under normal conditions a disintegration of red cells within the portal area. In pernicious anæmia this hæmolysis is increased, and the all-important question is the cause of the increased hæmolysis. Is it due to a toxin produced by a special microorganism, to an excess of some substance having a physiological origin, or to a new, and therefore essentially pathological, metabolic product? The area of its production appears to be within the portal system, for there is no hæmoglobin-

uria, and therefore no free hæmoglobin in the general circulation. In brief, the facts are at present too scanty to justify a definition of the actual cause of the hæmolysis, yet sufficient to suggest the inadvisability of restricting attention to the discovery of a purely hypothetical microbic agent.

Changes Effected by Antityphoid Inoculation in the Bactericidal Power of the Blood; with Remarks on the Probable Significance of These Changes.—A. E. Wright lays down the following propositions: (1) The employment in primary inoculation of large doses of vaccine—meaning thereby doses sufficient to give rise to very severe constitutional symptoms—would appear to be always inadvisable, while it would probably be associated with danger in cases in which inoculation is resorted to in the actual presence of a typhoid epidemic. (2) The employment of moderate doses of vaccine—meaning thereby doses sufficient to give rise to marked but not unduly severe constitutional symptoms—would appear to be inadvisable when making primary inoculations in the actual presence of a typhoid epidemic. On the contrary, such doses would seem to be appropriately employed when an interval of several weeks is to elapse before exposure to infection, and when there are difficulties in the way of carrying out two successive inoculations. (3) The employment of small doses of vaccine—meaning thereby doses which produce only a slight constitutional disturbance—would appear to be the only appropriate form of inoculation in the actual presence of typhoid infection. It would seem to be also in all other cases the most appropriate form of inoculation. Such primary inoculation ought, however, in all cases to be followed up by second inoculations with an increased dose of vaccine. (4) When the blood of a patient who has recovered from typhoid fever is found to possess a bactericidal power inferior to the average, and when re-exposure to typhoid infection is contemplated, it would seem advisable to secure for the patient the additional protection associated with the possession of a high bactericidal power. (5) On the other hand, when the blood of a patient who has recovered from typhoid fever is found to possess a bactericidal power considerably above the average, it would appear to be impracticable to increase that bactericidal power by the inoculation of sterilized cultures. (6) Whenever a doubt as to the efficacy of a particular antityphoid vaccine arises—and such doubts may obviously arise, either in connection with modifications introduced in the methods of preparing the vaccine or in connection with prolonged storage of the vaccine under unfavorable circumstances—it will always be possible to arrive at a decision on the efficacy of the vaccine by observing the effect exerted by the vaccine in question upon the bactericidal power of the blood.

British Medical Journal, September 14, 1901.

Caffeine in Carbolic Acid Intoxication.—G. A. Ferraby reports the case of a young man, aged twenty-three, who had taken crude carbolic acid, and was in a comatose state. All the means tried did not seem to lessen the coma, until a hypodermic was given of 2½ gr. of caffeine dissolved in water with the aid of sodium salicylate. In about an hour the dose was repeated, and the patient recovered.

Case of Infection of Leprosy Through a Wound.—W. Loudon Strain describes this case. The patient was a woman of fifty-four years, who had a breast tumor removed. Before the wound was healed, she returned to her home, where lived a son afflicted with leprosy, as was afterward learned. In about six months the woman returned to the hospital with a very acute infection of leprosy. The cicatrix gave evidence of the entrance of the bacillus lepræ at this point.

The Urine in Plague.—Alice M. Corthorn, in her work on this subject, has gathered the following data. The specific gravity is usually fairly low. The quantity of albumin is a certain guide to the gravity of the prognosis. Albuminuria is very common in plague patients, but generally clears up with the other signs of acute disease. Casts, both hyaline and granular, are frequently present. Plague bacilli were not found in her cases. Traces of blood were found in a few cases. Retention occurred far more frequently in the fatal cases.

A Further Note on the Biological Test for Blood and its Importance in Zoological Classification.—George H. F. Nuttall is studying various kinds of blood, his object being gradually to produce various antiserums, and by means of them to study the reactions which occur with the blood of different groups of animals. The method of collecting is to soak up the blood (avoiding clots) on one end of a strip of pure filter paper about three by five inches. The animal may be dead or alive. The strips must not come in contact when still wet. The writer is desirous of obtaining as many specimens as possible. The classification and any notes may be written on the clean end of the strip.

The Influence of Color upon Anopheles.—George H. F. Nuttall discovers from experiments the colors in their order as preferred by anopheles. The result is as follows: Navy blue, dark red, brown, scarlet, black, slate gray, dark green, violet, leaf green, blue, pearl gray, pale green, light blue, ocher, white, orange, and yellow. Dark blue is most attractive. The khaki uniform should thus offer advantages. The writer believes this knowledge can be utilized in choosing tints for walls. He also suggests the use of traps of dark blue, for instance, in which the insects would congregate and could then be destroyed.

Inoculation and the Incubation Stage of Plague.—W. B. Bannerman states that in India those patients who were actually suffering from plague at the time of inoculation showed a case mortality of 48.8 per cent. only, which is not far from the death rate in the same outbreaks among those who developed plague more than ten days subsequent to inoculation. It is the general opinion of plague inoculators that it is advisable to operate on all who have been exposed to infection. The case mortality is not increased by inoculation, either in those who are in the incubation stage or in those in whom the symptoms of plague are already developed. No harm comes from the injection of Haffkine's plague vaccine, even in the presence of plague itself. There is little difference in the mortality of those attacked before and those after the first ten days' period after inoculation.

Berliner klinische Wochenschrift, September 2, 1901.

The Relationship of Human and Bovine Tuberculosis.—P. Baumgarten refers to some experiments carried out in 1893 under his supervision by Gaiser in which the difficulty of infecting cattle with human tubercle bacilli was shown, and then describes an instance in which the converse experiment, with, however, a different end in view, was carried out. The investigator, who has since died, impelled by the not unfavorable results that had followed the inoculation of various organisms such as that of erysipelas in cases of inoperable malignant disease, inoculated a number of such hopeless cases with tubercle bacilli. It happened that germs of human origin were not at hand so that organisms obtained from cattle and of cases so approved virulence were used. In half a dozen treated and subsequently examined post mortem by Baumgarten, beyond slight temporary local lesions absolutely no infection was produced. The question of just to what degree it is possible to influence the virulence and other characteristics of an organism by cultural changes is still in doubt and notwithstanding such evidence as the above, it is not right to assume a difference of species. While, the author believes that the actual danger of human infection through food products obtained from tuberculous animals is but slight, still it would be unwise in the extreme to give up any of the regulations at present in force until further investigation has brought more definite knowledge.

The Question of the Origin and Significance of the Basophile Granules and of Polychromatophilic Degeneration in the Red Cells.—G. Jawein was able to make some unusual observations in a case of bothriocephalus anæmia. The patient was a middle-aged man whose blood gave the usual characteristics of a progressive pernicious anæmia which continued to grow worse even after expulsion of the worm. Just as the patient was almost moribund, his red cells being reduced to one-half a million, signs of a slight catarrhal pneumonia developed, followed by almost instantaneous improvement. Three days later the number of erythrocytes had increased to 1,440,000 and the hæmoglobin had risen from eleven to twenty-six per cent., while numerous normo- and megaloblasts were found, together with all stages of basophilic granulation and polychromatophilia. In consequence the author concludes that the latter two conditions are really *regenerative* and not *degenerative* manifestations, as has heretofore been supposed, and his preparations show the various steps by which the origin of these appearances may be traced from the normoblasts by karyorrhexis. The presence of red cells containing basophile granules and of those showing polychromatophilia is therefore an indication of increased function of the bone marrow and is to be observed in all cases of severe anæmia. It is easily possible that where the bone marrow has been only moderately stimulated, it may throw only half ripe, *i. e.* only granulated erythrocytes into the circulation, but not wholly unripe, *i. e.* nucleated cells.

Deutsche medicinische Wochenschrift, September 5, 1901.

The Rôle of Autointoxication in Epilepsy.—Hebold and Bratz find that experiment on dogs and mice does not confirm the conclusions of those who believe that the

seizures of epileptics are due to autointoxication from bodies circulating in the blood, or at least excreted in the urine. Such substances were obtained from epileptics very shortly after attacks, and immediately injected into the animals, but with negative results. In an endeavor to produce conditions similar to those usually considered as predisposing to the disease, dogs were used for experiment that had previously been subjected to brain injury through a trephine opening, and in order to simulate hereditary taint, a bitch received alcohol in increasing amounts for eleven weeks before dropping her litter; but these animals also failed to react to the injection of the epileptic fluids.

The Disinfection of Cutting Instruments with Tincture of Green Soap.—J. H. Polok, carrying out Mikulicz's suggestion as to the antiseptic powers of the tincture of green soap, was led to try its value in sterilizing instruments. The results of his experiments lead him to conclude that for all instruments that will stand it, boiling in soda solution is the best and safest method of disinfection, but inasmuch as the alcoholic solution of green soap kills staphylococci in fifteen minutes, this method is available for knives, etc. Alcohol, in a strength of fifty per cent., is a more energetic disinfectant than in greater or less concentration, but is less efficient than the tincture of soap. The method that for over half a year has been successfully used in Professor Straub's clinic consists in placing the instruments after use in the soap solution for fifteen minutes, after which they are carefully cleaned. Before operation, they are again put into the liquid for the same length of time, are wiped off with sterile gauze and placed in fifty per cent. alcohol, or three per cent. boric-acid solution. The method is especially adapted for use when, as in office or country practice, boiling cannot be carried out, and it gives reliable results.

Observation on the Relationship between Alterations of the Freezing Point of the Blood and Nervous Disturbances.—A. Bickel says that, in spite of the older belief to the contrary, sodium chloride possesses properties which are distinctly toxic to living matter, and specifically to the nervous system. These nervous manifestations, which are due to the chemical constitution of the salt, are, however, usually relegated to the background by other "general" effects produced as the result of its physical properties. The intravenous injection of salt solution in rabbits first causes a gradual drop in blood pressure, which, shortly before death, is replaced by a rapid rise. Cardiac arrhythmia sets in early, while the respiration remains unchanged for some time, then becomes accelerated and finally slowed. In addition, marked diuresis occurs, but the most notable symptoms are those due to irritation and inhibition of the nervous system. Reflex excitability is exaggerated, going on to tonic and clonic convulsions with tremor, nystagmus, and ultimately coma and death. In studying these phenomena in rabbits, after injecting varying quantities of twenty per cent. salt solution, the author found that the nature of the effect produced depended largely on the rapidity of injection of the solution. In endeavoring to reproduce the conditions existing in renal insufficiency, the solution should be injected just as slowly as is technically possible, and the freezing point of the blood must reach a lower point than is usually found in animals in whom the uræmic symptoms have been brought about by interference with the kidneys. The manifestations of increased nervous irritability observed in uræmia are not directly dependent on the increase of molecular concentration of the body fluids.

French Journals.

Cystic Tumor of the Skin.—Cornil reports this case. Under the microscope it resembled a myxoma. It was a sebaceous cyst of long standing, modified by chronic inflammation consecutive to surgical intervention. It exemplifies the difficulties sometimes met in the diagnosis of tumors, as to whether they are malignant or benign, the various parts presenting different aspects.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, September 5, 1901.

Melanotic Carcinoma, Stomach and Large Intestine Being Impregnated with Pigment.—F. X. Gouraud and de Lacombe present this case. The tumor, about the size of an egg, was taken from the little toe of a man seventy-six years old, who had died in a state of advanced cachexia. Histologically, the tumor was a carcinoma. The pigment gave neither the reaction for iron nor that for melanin, but seemed midway between the latter and hemosiderin. The tumor had been growing for ten months, and there seemed no generalization with the exception of enlarged inguino-lumbar ganglia and one cutaneous nodule. But the circulating pigment had impregnated the stomach and large intestine, leaving the small intestine intact. The former two organs were as black as if injected with nitrate of silver.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, September 5, 1901.

Toxicity of Phosphorus.—According to M. J. Cau, the toxicity of phosphorus varies according to the conditions present. It is probable that children support this medication badly. The existence of certain lesions, such as myocarditis, cirrhosis, and nephritis, should be considered as absolute contraindications to the use of this drug. It is dangerous to prescribe phosphorus for a long time if the kidneys are not in perfect working order. Individual susceptibility also plays an important rôle in the toxicity of phosphorus.—*Gazette des Hôpitaux*, September 10, 1901.

Indications for Phototherapy in the Treatment of Lupus and of the Limited Dermatoses of the Face.—Leredde advocates phototherapy in the treatment of tuberculous lupus, though the indications for this treatment in lupus erythematosus are less frequent. Great patience is necessary in the use of this method, as after apparent cures there are sometimes recurrences. The treatment as applied to vascular nævi has met with considerable success. Excellent results have also been obtained in acne rosacea. The results also in cases of sycosis have been very encouraging.—*La Presse Médicale*, September 7, 1901.

American Journal of the Medical Sciences, September, 1901.

A Contribution to the Pathological Anatomy of Sporadic Cretinism.—Frederick A. Packard and Alfred Hand, Jr., report their observations of a sporadic cretin. The boy was admitted to the hospital at the age of six years. Rapid improvement followed the administration of thyroid extract. About a year after his first admission he contracted typhoid fever. He showed practically no power of resistance, and died from asthenia one week after the onset of his illness. Autopsy showed the following points: The pituitary body was enlarged, besides which nothing important was noted in the brain. The thymus gland was greatly enlarged. There was great deficiency in the colloid substance of the thyroid gland and calcification of the walls of the arteries going into it. The lesions throughout the organs produced by the typhoid toxin were intense, there being in the liver a universal fatty degeneration of the parenchyma.

Pseudomembranous Inflammation of the Mucous Membranes Caused by the Pneumococcus.—Charles Cary and Irving Phillips Lyon describe this attack which occurred in the course of an acute lobar pneumonia in a boy of eleven years. They give the following summary: Acute lobar pneumonia of both bases, with development during the first ten days of a profuse pseudomembranous exudate, first upon the tonsils and quickly extending to the mucous membranes of the lips, tongue, cheeks, palate, throat, and nose, and transferred to the eyes, glans penis, and anus; physical signs of fibrinous pleuritis; marked and persistent tympanites; membranous shreds and mucus in the stools. Microscopical examination showed an absence of the bacillus diphtheriæ, streptococcus, saccharomyces albicans, etc. The diplococcus pneumoniæ was present in abundance in the sputum and in the exudate from all locations. Diagnosis: pneumococcic infection resulting in acute pneumonia, pleurisy, and fibrinous exudation upon the mucous membranes.

Hydatid Disease of the Breast.—Robert G. Le Conte characterizes this tumor as a small, hard, painless mass which may be in any part of the glandular breast tissue. It moves freely with the surrounding tissue. Its growth is slow. It occurs only in women in the period between puberty and the climacteric. It is generally smooth and round or oval in shape. It remains firm until it is quite large, and rarely then presents the characteristics of a cyst. Inflammation outside the sac is attended by swollen axillary glands, severe pain, irregular outline, and adhesion to the skin. This condition, or degeneration of the sac wall, is followed by death of the causal organism and a spontaneous cure through ulceration or encapsulation. Only by the use of the exploring needle and the microscope can the diagnosis be positively made. The treatment should always be operative. As to the mode of entrance of the parasite, the eggs probably enter the stomach, where their envelope is digested by the gastric juice and the enclosed embryo set free.

Granular Degeneration of the Erythrocyte.—C. Y. White and William Pepper conclude that: The granules are a constant finding in cases of lead-poisoning, and appear very early in patients under the influence of lead salts, long before subjective or other objective symptoms can be demonstrated. The granules disappear in cases of chronic

lead-poisoning as convalescence is established. Apparently lead does not produce an immunity, as one of the patients worked for twenty-four years, another for twenty years, without having pronounced symptoms of lead-poisoning, and in both of these cases the granules were present in moderate numbers. The granules may be produced experimentally in dogs, appearing in a very few days after the beginning of the experiment, and increasing as the intoxication becomes severe. The granules in the experimental cases are rather fine, and show a tendency to clump at first; later all varieties appear. The writers believe that these granules are the result of a true degeneration of the erythrocyte, and have no relation to unclean fragmentation or to polychromatophilia.

Report of an Interesting Case of Aneurysm of the Internal Carotid Artery.—Walter B. Johnson reports a case of dissecting aneurysm of the internal carotid artery. The patient was a boy aged four years. The child had suffered for more than a year with an acute suppurative otitis, the left ear discharging pus during that time. The present trouble was ushered in by the development of an acute inflammation of the throat. This was followed in ten days by a swelling in the left tonsillar region. An attendant tried to rupture the tumor with the finger-nail. Within a few hours there was a very considerable hemorrhage from the left ear. On the next day, when during examination of the child the tongue was forcibly depressed, there was a second profuse hemorrhage from the left ear. The tumor mass did not pulsate at any point, was not easily compressible, and over it no aneurysmal bruit was to be heard. Examination of the tonsillar mass which was excised showed no evidence of carcinoma or of tuberculosis. Tracheotomy was performed. For a month there was steady improvement, when an attack of bronchitis occurred. About three weeks later the child suffered from severe hemorrhages from the nose and mouth, and died from exhaustion within three days.

Therapeutic Monthly, August, 1901.

Scurvy in the Mountains of Colorado.—G. H. Cattermole describes this case of a miner fifty years old who for seven years had lived at an altitude of about 8,000 feet, during which time he had prepared his own food, which consisted largely of bread, salt meats, and canned goods. On his entrance to the hospital he presented a general cyanotic appearance of the skin and mucous membranes. The gums were swollen, spongy, and blue, and bled freely. The tongue was swollen and speech thick. The breath was offensive. On the shins were several dark-blue spots There were marked swelling and œdema of the arms. When the diagnosis of scurvy was made he was started on a generous meat and vegetable diet, with fresh fruit at meal times and lemon juice between meals; aromatic spirit of ammonia was the only medicinal agent continued. The cyanosis and edema disappeared, the mucous membranes became more normal, and his mental status was much improved.

Report of Two Cases of Epithelial Cancer Treated by Means of Chemical Caustics.—Jay F. Schamberg reports these cases. The first patient was a woman of eighty-three. The ulcer was on the right cheek. At first a twenty-five per cent. pyrogallic acid ointment was applied for a week. After this a fifty per cent. of caustic potash solution was painted over the part every three or four days for about ten days. Then the stick of caustic potash was applied to the deeper tissues after cocainization. Finally there was employed for thirty-six hours an application of arsenous acid—twenty-five per cent. in powdered acacia with sufficient twenty per cent. solution of cocain to make a paste. While the parts were granulating, a simple carbolized petrolatum was used to prevent crusting. At the end of four weeks the ulceration had completely healed. The second patient was a man aged forty-seven years. The ulcer was on the upper lip and right ala of the nose. The patient had been operated on a year ago, but the growth had returned. A fifty per cent. arsenous acid paste was used on the epitheliomatous tissue, while a stick of caustic potash was used in the subcutaneous tissue. There is now present only a healthy granulating ulcer. The writer believes that the use of chemical caustics should have a distinct place in the treatment of cutaneous cancers, although in extensive, deep-seated carcinomata he believes in the use of the knife.

Annals of Surgery, September, 1901.

Frequency of Recurrence of Sarcoma with Especial Reference to Amputation at the Hip Joint on Account of this Neoplasm.—J. A. Wyeth says that from statistics collected by him he finds that of 267 cases of amputation at the hip by the Wyeth method, 131 were done for sarcoma. Of this number fourteen, or ten and six-tenths per cent., ended fatally, wholly or in part as a result of operation. Of the 117 cases surviving operation, he has histories of eighty-three. In fifty-two of these it is noted that the disease recurred, but since, in one instance, the neoplasm could not be entirely removed, this case is properly excluded. There are then a total of fifty-one, or over sixty-three per cent., ending fatally by recurrence. He believes, however, that this estimate of ratio of recurrence is too low. Reference is made to the cases of other surgeons and several personal experiences are related.

Studies of the Blood in Its Relation to Surgical Diagnosis.—Richard C. Cabot, John B. Blake, and J. C. Hubbard conclude as follows: (1) At the end of complete anæsthesia there is occasionally a slight increase of leucocytes, but seldom a marked leucocytosis. (2) At the end of operation, there is a considerable leucocytosis in one-half the cases, and in almost all cases some increase beyond that found at the end of complete anæsthesia. (3) Simple uncomplicated fractures seldom increase the leucocyte count to any considerable extent. (4) The blood after operation for malignant growths is not necessarily much impoverished, and regenerates, in favorable cases, quite normally. (5) A variation in the hourly leucocyte count exists in other conditions than the preperforative stage of typhoid fever, and may occur in health. (6) Very violent physical exertion produces in the blood a condition which leaves physiological limits, and approaches or is identical with that found in disease

The Blood Changes Induced by the Administration of Ether as an Anæsthetic.—J. C. Da Costa and F. J. Kalteyer draw the following conclusions: (1) The number of red corpuscles is influenced by many factors associated with and accompanying the anæsthetic state. The character of this change is, as a rule, a polycythæmia; rarely, an oligocythæmia. (2) The nature of this polycythæmia seems best explained by a lessening of the watery elements of the plasma, thereby reducing the total volume of the liquor sanguinis, and consequently causing concentration of the blood. (3) The three important factors incident to the polycythæmia are: (*a*) The period of preparatory operative treatment; (*b*) the anæsthetic state; and (*c*) the postoperative stage. (4) The blood inspissation is, as a rule, most pronounced immediately after the termination of the anæsthetic stage. (5) The hæmoglobin is always reduced absolutely; in some instances there is an apparent increase, but this rise in the percentage of hæmoglobin is never parallel with the rise in the number of red blood cells. The individual corpuscular hæmoglobin value is therefore reduced. (6) The duration of the anæsthetic state and the amount of ether may influence the blood changes; but the extent of the disturbances could not be determined on account of the many modifying factors. (7) The amount of hemorrhage does not seem to affect the composition of the blood. (8) On account of the hæmolysis, which is shown by the fall in corpuscular hæmoglobin after operation, a very low percentage of hæmoglobin must be regarded as a contraindication to the administration of a general anæsthetic. Below fifty per cent. is a dangerous level.

The Journal of Tropical Medicine, August 1, 1901.

Remarks on Yaws and on the Diseases Most Frequently Met with in St. Lucia.—St. George Gray reports cases of yaws, in which the chief points to be noted are *sessile* granulomata, which under favorable conditions dry up, leaving maculæ which disappear; and *femoral buboes*, which are nearly always present in every case of yaws that has ceased to be local. Granulomata that are exposed to the air dry more rapidly than those kept moist by perspiration under the clothing. As to diseases met with in St. Lucia, West Indies, there have recently been epidemics of measles and whooping-cough; typhoid fever is practically unknown; pneumonia, phthisis, and bronchitis are common, and also influenza does not pass St. Lucia by.

Lecture on Plague.—W. J. Simpson, in speaking of the plague epidemic in Cape Town, says that treatment by inoculation is perfectly harmless if properly performed with properly tested vaccine, and the immunity secured is an exceedingly high one. Unfortunately, the inoculations do not give immediate protection, six or seven days being required to secure immunity. Of the inoculated the equal of .875 per 1,000 have been attacked, of the uninoculated, 4.75 per 1,000. The author believes that in a country such as South Africa, with its native and mixed population, a large proportion of which is living under the gravest unsanitary conditions, and cannot in a few months be taught to be clean. Inoculation of the unsanitary classes and of those living in infected areas is the only practical and effectual safeguard against plague

The Etiology and Treatment of Prickly Heat.—A government medical officer of the West Indies believes

prickly heat to be a true eczema, and that its presence is protective when established. It is nature expressing "You have been trying to introduce into the system poisons that I have thrown out once, I won't have them, so I throw them out again." The author avoids soap, and uses almond oil and lanoline, one to seven, with oleum rosæ. To this he adds dusting powder. His chief reliance, however, is on thin cotton garments under his Jaegers, and changing his clothes three or four times a day. The cotton garments can be washed in a hand basin, with ammonia and water, and dried quickly, the Jaegers can be worn a week, free from all trace of perspiration or odor. Under this regime prickly heat quickly disappears

Bulletin of the Johns Hopkins Hospital, August, 1901.

An Historical Note upon Diptera as Carriers of Diseases.—Howard A. Kelly reviews the account given by Paré of the great destruction wrought by flies on the battlefield after the battle of St. Quentin (1557). He also quotes from Déclat, 1865, and declares that all that is lacking to prove the absolute correctness of this writer's observations is vigorous scientific experiment. Déclat writes: (*a*) The fly visits bodies in process of decomposition. (*b*) Decomposition is nothing more or less than destruction by ferments which are living microscopic structures. (*c*) The fly transports on its feet, its wings, its proboscis, or its mandibles some of these destructive agents, and this material is carried to and deposited upon the living body, where, if there is any abrasion or fissures or any solution of continuity whatever, the contagious virus does its work by entering the vascular system and multiplying indefinitely.

Abstract; The Frequency of Gallstones in the United States.—C. D. Mosher concludes from the statistics consulted that gallstones are less frequent in the United States than in Germany, the proportion being 6.94 per cent. to 12 per cent. The frequency of gallstones in a given number of cases will increase with the age of the patients examined. The American cases tend to confirm the statements of previous observers that gallstones are rare before the thirtieth year and more frequent after that age. Gallstones are more frequent in the white than in the black race, the American cases showing a frequency of 7.85 per cent. in the whites and 5.51 per cent. in the negro. Women are more liable to have gallstones than are men, the American cases showing the frequency in 618 women to be 9.37 per cent., and in 1,037 men to be 5.94 per cent. The American women have gallstones only about half as frequently as the German women. In the United States only about one woman in every ten has biliary calculi, while in Germany, according to Naunyn, gallstones are found in 20.6 per cent., or about in one woman in every five.

Tendon Transplantation.—Sydney M. Cone believes that before operation is decided upon, the patient should have every possible chance for the relief of the deformity. Massage, electricity, and active and passive movements are usually recommended for one or two years before operative measures are advised. If immobility prevents the limb being placed in a good position, "redressement" must precede the operation. A thorough electrical and physical examination must be made. Incision will disclose the condition of the muscle, the normal being dark red, the paretic, rose red, while the completely paralyzed muscle is yellow. The method of joining the tendon varies, but the least possible traumatism to sheath and tendon is required. It is desirable to have the broadest union possible and a freshly serrated surface. Silk is generally preferred, and the quilted suture is desirable. The first dressing is done in nine days, but the limb must remain in plaster for about five weeks, after which massage and passive motion are indicated. In musculospiral paralysis, one or more of the extensor tendons are usually shortened, while at the same time a flexor muscle is transplanted. The flexor generally used is the flexor carpi ulnaris. Some surgeons carry it between the radius and ulna, while others wind it around the wris .

Archives of Pediatrics, September, 1901.

Probable Etiology of Rectal Polypi in Children.—Francis Huber has observed one common feature in all of his cases—rectal polypi were found only in patients who at the same time showed evidences of lymphoid hypertrophies in the nasopharynx with other manifestations of the constitutio lymphaticus, status lymphaticus. Besides the nasopharyngeal changes, the abdominal lymphnodes are much enlarged. In all cases examined by the writer, Waldeyer's tonsillar ring was involved. As far as the large intestine is concerned, the pathology is identical in status lymphaticus and in the case of the polypi

Lamellar Desquamation in an Epidemic of German Measles or of "Fourth Disease."—Frederick T. Simpson reports this epidemic. There was uncertainty at first as to the diagnosis—whether it was German measles or mild scarlet fever. The writer believes that there were two forms of disease—rubella and "fourth disease," so called by Dr. Dukes. Here was a series of cases of an eruptive fever having an incubation period of at least two weeks; eight of the patients desquamated in strips, five of them had had scarlet fever, and four and possibly seven had had German measles. A number of patients also had a second rash, which appeared between two and three weeks after the first. It lasted several days, and though there was a slight rise of temperature, there was no feeling of malaise. The patient appeared to be having a second attack of the disease. The rash was coarse and discrete. The combination of symptoms noted above certainly indicates the probability of the existence of an eruptive fever differing from those already known.

Pernicious Anæmia in Infants, with a Preliminary Report of a Case.—T. M. Rotch and Maynard Ladd declare that cases of primary pernicious anæmia in childhood are rare. As far as can be inferred from the comparatively few autopsies, the pathological changes in this disease as observed in infants do not differ essentially from those in adults. Emaciation is rare, but there is extreme pallor of all he body tissues. Hemorrhages in the various organs are often found. The bone marrow offers the most typical lesion, being red and having many characteristics of the embryonic type. In it are many nucleated red blood corpuscles. The liver, kidneys, pancreas, and heart, generally show marked fatty degeneration. There is generally glandular atrophy of stomach and intestines. The spleen is not as a rule much altered. Freshly drawn blood does not coagulate readily, nor does it form in rouleaux. There is a reduction of its bulk and specific gravity. The hæmoglobin is much diminished, but the relative amount in the individual cells is increased. There are often large numbers of oval and pyriform cells. As to treatment, feeding is of chief importance. Iron may be of benefit. Arsenic is not always tolerated.

The Edinburgh Medical Journal, September, 1901.

Typhoid Bacilluria.—C. J. Lewis says that the importance of this complication of enteric fever has only recently been accorded its full significance. Its essential feature is the presence of the *Bacillus typhosus* in the urine, either alone or associated with other organisms. There may be no symptoms to call attention to this condition, especially during convalescence, a fact which the physician should bear in mind. It does not usually appear before the third week, and may continue for a varying length of time. From five to one hundred and seventy millions of the bacilli are found per cubic centimeter. Proof that the bacillus is excreted in the urine, in a condition capable of infecting other persons, is not wanting. To prevent the spread of enteric fever by means of the urine, efficient disinfection should be practised. By far the best is boiling the urine, but where this is not practicable, equal quantities of 1:20 carbolic acid and urine should be mixed, allowed to stand an hour, and then discharged into the drains; or perchloride of mercury in quantity to give 1:1,000 strength when added to the urine.

Tuberculosis of the Heart Muscle.—Raymond Crawfurd says that the frequency of adherent pericardium in this affection would suggest that the usual mode of propagation to the heart muscle is by direct extension. A second mode of access is certainly through carriage by the blood, while Cabannes and others have brought forward strong evidence of a third mode of propagation by the lymph stream. Tuberculosis of the heart muscle occurs in one of three typical forms: the *large tubercle*, from the size of a lentil to that of a hen's egg; the *miliary tubercle*, and true *tuberculous myocarditis*, in which the heart muscle is invaded by areas of fibrous tissue in which are found collections of young cells and giant cells with Koch's bacilli. The main changes in the heart muscle are of degenerative type, tending more or less to atrophy from pressure; sometimes, however, a localized fibrosis is seen, while the more distant muscle undergoes hypertrophy or dilatation. The study of the clinical aspect of myocardial tuberculosis is most unprofitable. Diagnosis is impossible, and for the most part the condition is masked by the manifest evidence of tuberculosis in other organs.

Treatment of the Ataxia of Tabes by Means of Co-ordinated Exercises.—Edwin Bramwell says that many cases of tabetic ataxia are greatly benefited by this treatment, but that it may be contra-indicated where

there are such complications as grave cardiac disease, serious bladder trouble, a disorganized joint, a perforating ulcer of the sole of the foot, etc., or in the case of an acutely developed ataxia. The best results are obtained in persons who take an intelligent interest in the exercises and are gifted with mental concentration and perseverance, also in those who have been adepts in such exercises as bicycling, skating, etc. The patient must be made to understand that it is not the muscular force which he uses in performing the exercises which is of importance, but the care and precision with which he makes the individual movements. The writer had recently the opportunity of treating a man who had been unable to walk or stand for three years, and who, after ten weeks' treatment, was able to walk alone with the aid of a stick. Directions are given for exercises to be taken in bed, standing, and walking. Patience and perseverance on the part both of the patient and the physician are required if full benefit is to be received from this treatment.

Revue de Chirurgie, August 10, 1901.

The Radiograph in Pulmonary Surgery.—Th. Tuffier considers the radiograph a distinct aid in the diagnosis of pulmonary lesions. When it confirms the results obtained by auscultation and percussion, we need make no further inquiry. Should the results not agree with the plessimetric signs, then our attention should be directed to the locality indicated by the radiograph. If it gives negative results, especially when the lesion is on the left side, our diagnosis will have to be based on percussion and auscultation. x-rays may fail in the case of hydatid cysts, as they cannot indicate the multiplicity of foci which are contiguous or near each other.

The Pathogenesis of Ranula.—L. Imbert and É. Jeanbrau describe the cysts with ciliated epithelium which are situated on the floor of the mouth and called ranula. The ordinary form is not characterized by its pathogenesis, which is as yet undetermined, nor by its symptomatology nor etiology, but by its histological structure. The various theories in regard to the formation of ranula, such as degeneration of the sublingual glands and salivary retention, seem unsatisfactory to the authors, who have been led to believe in a congenital origin—some defect in development as yet not understood, but perhaps connected with the history of the branchial.

The Pathogenesis of Flat-Foot.—De Vlaccos has found by a study of numerous skeletons that a perpendicular line drawn through the middle of the articulation of the foot rarely traverses the middle of the astragalus, while the calcaneum is altogether outside of it. It is easy to see that perpendicular pressure acting chiefly upon the internal portion of the bones of the foot would tend to produce flattening of the plantar arch followed by external rotation. In a normal condition the physiological tendency to deviation is counteracted by the strong tendons of the tibia and by the flexors. Under certain conditions, however, which weaken the action of these muscles, the calcaneum yields to the pressure, and turning around the horizontal anteroposterior axis inclines to one side, and drags the astragalus with it. Ill-fitting shoes are merely a contributory cause, since flat-foot is found among people in the East who have never been shod.

Revue de Médecine, August 10, 1901.

Adiposis Dolorosa.—Charles Féré says that the more or less disseminated but irregular deposit of fat beneath the skin, coinciding with pain, in the absence of all other conditions which might produce the pain, has been considered by Dercum to constitute a morbid entity which he calls adiposis dolorosa. In this form of dystrophy the fat usually forms in symmetrical masses on trunk and limbs. The author holds that we cannot in all cases connect the adiposity with thyroid dystrophy, although in some cases such an origin may be suspected. Neither do the pain and the obesity always coincide, so that, on the whole, it is fair to conclude that Dercum's syndrome is an accidental one, the pain being a mere nervous incident in an obese patient.

A Case of Peripheral Neuritis of Malarial Origin.—M. Busquet reports the case of a man of twenty-four years, suffering from inability to walk and supposed paralysis of both forearms and hands. The triceps and the supinators and extensors of the forearm were notably atrophied in the right arm, but slightly affected in the left. There was hyperæsthesia of the hand, and diminished sensibility existed in the arm and forearm on both sides. The lower limbs were immobilized by pain, but there was scarcely any atrophy. Lead poisoning, syphilis, and alcoholism could be excluded in the etiology, but as the peripheral paralysis had come on at the close of an attack of pernicious malaria, a diagnosis of malarial neuritis was made and borne out by the results of treatment consisting of quinine, strychnine, and arsenic. The patient is at present practically cured.

The "Neurosis of Anguish."—P. Hartenberg says that this neurosis, described by Freud of Vienna in 1895 as a morbid type distinct from neurasthenia, is characterized by general nervous hyperexcitement, a chronic condition of anguish or "anxious expectation," acute attacks of anguish with dyspnœa, palpitation, sweating, etc., rudimentary crises with various cardiac, pulmonary, and digestive disturbances, phobias, and obsessions. The "anguish" is the chief symptom, and consists in the constant and agonizing expectation of death, or of misfortune in some form or another, the imagination calling up every possible accident and illness. Freud believes the condition to be of sexual origin, due to non-satisfied desire. The author, however, does not believe this to be the only cause, but maintains that all exhaustion or overwork of the nervous system may induce the condition. Neurosis of anguish should be differentiated from neurasthenia. Treatment consists in hygiene, rest, isolation, hydrotheraphy, electroptherapy, opium, etc.

Archives de Neurologie, August, 1901.

A Case of Persistent Amnesia Following an Attempt at Suicide by Means of Carbon Dioxide.—M. Truelle and M. Petit report a case in which the amnesia sometimes following carbonic-acid gas poisoning was protracted to an unusual length of time, the patient, ten months after the attempt, having almost complete loss of memory. The cause of the persistence of the amnesia after all the other symptoms had disappeared was somewhat obscure, hysteria, mental shock, and alcoholism having to be excluded in this case.

Statistics Relating to the Service of "Gynecological Observations" of the Public Insane Asylum of Ville-Evrard in 1899.—Lucien Picqué and M. Febvré examined sixty-six of the women patients in that institution, and found genital lesions in fifty-nine. Considering the fact that it is generally conceded that pelvic disorders have a decided rôle in the production of insanity, these authors think it deplorable that French law should allow asylum physicians to make gynecological examinations only when consent of the patient's relatives is obtained. In this particular asylum, consent was given for only sixty-six out of about 450 patients. A mentally deranged person may be torn from her family and deprived of liberty and the use of her property, but it is illegal to care for her health in the way most likely to restore it and her reason! The situation is thoroughly illogical.

Russki Arkhiv Patologii, etc., Nos. 5 *and* 6, 1901.

Enteritis Due to Amœbæ in St. Petersburg.—W. Kernig and A. Ouké report a case of acute gastroenteritis accompanied by hyperpyrexia, the symptoms observed being due to a primary invasion of the digestive tract by amœbæ. The authors review the history of cases of dysentery and enteritis traceable to the same cause, including some observed in St. Petersburg. Experiments on the amœbæ coli are described.

The Rôle of the Immunizing Substances in Phagocytosis.—J. Sawtschenko, having conducted a number of experiments, asserts that immunizing serum may cause the phenomenon of phagocytosis in two ways: first, by fixing itself upon the object of the phagocytosis, *i. e.* the red blood cells or the microbes; second, by entering into the composition of the protoplasm of the leucocytes. Thanks to this double affinity, it causes the avidity between the leucocyte and the object of the phagocytosis. The first step in the process consists of the phagocytosis of the red blood cells in the liver and spleen, followed by the solution of these cells in the plasma, due to the appearance of the alexins which result from the destruction of the leucocytes.

Direct Amitotic Division of the Red Blood Cells in Cold Blooded Animals.—A. Silberberg says that the hypodermic or intramuscular injection of anthrax cultures in a frog induces a marked proliferation of red blood cells. The special point to be noted is that this proliferation occurs not only by karyomycosis, but also by amitotic division, this has never been observed before.

The Maculated Red Blood Cells in Malaria.—W. Stephansky says that in staining malarial blood by the Ruge-Romanowsky method, he found that in all tertian cases the parasite-infected red corpuscles, while not stained, show a number of red spots on their surface. These spots are always red, always of equal size, and uniformly distributed within the cell, and increase in size with the age of the parasite. It is possible that, like certain other special appearances, these spots may be due to the disintegration of the chromation which occurs within the red blood cell.

Nissl's Corpuscles in the Nerve Cells.—M. Polonnard-

vinoff states that his researches have led him to an opposite belief from that held by Keld, who claims that the corpuscles of Nissl are not a morphological part of the nerve protoplasm, but a precipitate of some substance as yet unknown. Fresh nerve cells stained by toluidin show the Nissl corpuscles very clearly, for about ten or fifteen minutes only. The rapid discoloration is evidently due to the reducing action characteristic of living protoplasm. The decolorized cells have precisely the same appearance as non-stained cells, and in neither one are Nissl's corpuscles to be seen, so that the coloring matter has evidently no effect on living protoplasm. The author concludes that Nissl's corpuscles form an organized portion of living protoplasm.

Monatsschrift für Geburtshülfe und Gynäkologie, July, 1901.

Birth Palsies.—L. Stolper says that paralyses in the domain of the bronchial plexus due to the use of forceps occur only when the head is in the extended (deflected) position, and either the rules governing the application of the instrument have been neglected or the extension has not been recognized. Palsies through clavicular pressure are possible when the arm and with it the clavicle have been forcibly pressed upward and backward. In head presentations strong traction during the birth of the shoulders may cause paralysis through the strain on the fifth and sixth cervical nerves when the head is inclined laterally, the injury resulting on the side opposite the inclination; strong traction with the head extended (deflected) favors the development of palsies.

The Formation of Carcinomatous Metastases in the Ovary.—E. Kraus reports on the pathological histology of five cases of malignant disease of the ovary secondary to cancer of the stomach, colon, and bile passages, with a view to determining the avenue taken by the infective material. The conclusion is that the surface of the ovary is peculiarly permeable to even comparatively large foreign bodies, and that carcinomatous cells are capable of penetrating directly into it. When a primary tumor has destroyed the entire thickness of the wall of some organ and has broken through the serosa into the peritoneal cavity the younger elements on its surface are continually exposed to mechanical insult through the movements of peristalsis, respiration, etc., and particles are broken off and set free in the peritoneal fluid. Gravity brings these into the pelvis where they readily come into contact with the ovaries, the process being facilitated by the peritoneal irritation and consequent increased amount of secretion usually attending abdominal new growths. The penetration into the ovarian tissue is made possible by the nature of the germinal epithelium and the transplanted cells are greatly aided in gaining a foothold by the very highly developed lymph and vascular supply of the ovary.

Lo Sperimentale, No. 3, 1901.

Amyloid Degeneration Rapidly Developed During the Course of a Fatal Gangrenous Diphtheria of the Pharynx.—Carlo Comba reports a case in which amyloid degeneration was found in liver, spleen, and kidneys. The patient was a little girl of eight years, and her illness lasted eleven days only, during which time the degeneration must have developed. Whether this was due to the action of the diphtheria bacillus alone, or to that of other bacteria, or both, it is impossible to say with certainty. Further research to be undertaken by the writer may throw light upon the matter.

The Influence of Mechanical Causes on Bone Development.—Guido Bianchi concludes, from experimental researches, which consisted in paralyzing the muscles of the pelvis and lower limb of animals by section of the sciatic nerve, that the diminished growth of the bone which followed the operation was directly due to the absence of mechanical irritation from muscular contraction. This irritation of the periosteal tissues, he holds, causes the abundant deposit of bone tissue at the points of irritation. His conclusion is that muscular action is an important mechanical factor in the development and shaping of the bones.

Histological, Bacteriological, and Experimental Researches into the Nature of Rhinoscleroma.—Umberto Mantegazza holds that the Frisch bacillus is the pathogenic agent in this disease, not only because it is found in abundance in the affected tissues, but because, by its injection in animals, results similar to the process in rhinoscleroma have been obtained. Local methods of combating the affection are ineffectual from the difficulty experienced in reaching the seat of disease. Experimentation in future should be directed to the production of immunity in animals, in the hope that some means may be found of opposing the invasion of the bacillus in man.

The Pulse.—M. Mahillon says that the medical examiner must always keep in mind the following points when taking the pulse: A rate over 85 calls for the test of temperature, and if this prove to be over 98½° under the tongue, postpone the case, but at the same time examine very carefully the condition of the lungs. When the pulse remains from 96 to 100 during the whole of the examination, search minutely the circulation and respiratory systems and defer action. An abnormal slowness calls for postponement or rejection. Arhythmia of the pulse should claim special attention; neglect no search which may put you on the track for the cause and enable you to make a differential diagnosis. Hypotension is generally a serious symptom. It often implies organic heart lesions, and when continuous, diseases of the visceral organs, particularly nephritis, which may be confirmed by examination of the urine. Signs of atheroma and arteriosclerosis indicate an early senility and impose a refusal, or at least a limitation, of the risk, according to the age of the applicant. Absence of synchronism in symmetrical arteries should always be a cause for rejection.—*The Medical Examiner and Practitioner.*

The Use of Gelatin for Controlling Hemorrhage.—Joseph Sailer concludes from a study of the subject that 1. Gelatin increases the coagulability of the blood, whether applied locally, taken internally by the mouth, or injected subcutaneously or intravenously. 2. Applied locally it is usually harmless, but should always have some antiseptic added to it, so that it may not promote bacterial growth. 3. Injected subcutaneously or intravenously it is entirely harmless. 4. When administered by the mouth, from 100 to 300 grammes should be employed daily. 5. It is of advantage in any form of local hemorrhage, such as epistaxis, hemorrhoids, or injuries. 6. It checks certain forms of internal hemorrhage, such as hæmoptysis, hæmatemesis, metrorrhagia, and melæna neonatorum. 7. It is the best treatment for hæmophilia and is of use in purpura hæmorrhagica, and in hemorrhagic forms of infectious diseases. 8. At present it appears to be contraindicated in only one condition, viz., acute nephritis.—*The Therapeutic Gazette.*

The Treatment of Pulmonary Tuberculosis with Cinnamic Acid.—H. Staub's experiences with cinnamic acid and its salts are not as favorable as those described by Landerer, the originator of the method. A considerable number of patients were subjected to the treatment, and careful observations made to determine whether the alleged improvement really occurred, but the result was absolutely discouraging, and the conclusion reached is that the cinnamic acid therapy is without effect on the progress of tuberculous lesions, and that the good results ascribed to it are solely due to the accessory dietetic and hygienic measures employed. A slight tendency to the production of hæmoptysis was noted, but repeated blood counts did not show the leucocytosis which Landerer says is always present, and which forms the cornerstone of his theory as to how the agent produces its beneficial effects.—*Correspondenz-Blatt fur Schweizer Aerzte.*

Functional Significance of the Round Window.—A. Frutiger concludes an article on this subject as follows: 1. Whenever the oval window is greatly altered pathologically, and the lower tone limit much reduced, hearing for bass tones can be improved by using tampons to the round window membrane. This membrane, therefore, seems also to conduct sound from the tympanum to the labyrinth; under normal conditions, however, only such higher tones, perhaps from the small octave (inclusive) upward. 2. The round window membrane serves, normally, but chiefly in conjunction with the two aqueducts, to regulate the variations in tension of the labyrinthine fluids, namely: (*a.*) In case of wave movements produced in the labyrinthine fluids by tones passing through the chain of ossicles; (*b.*) In sudden shocks produced against the chain of bones by direct or indirect force.—*Archives of Otology.*

Book Reviews.

Diseases of the Stomach and Their Surgical Treatment. By A. W. Mayo Robson, F.R.C.S., Member of Council and Hunterian Professor (1897–1900) Royal College of Surgeons, England; Senior Surgeon of the General Infirmary at Leeds, etc., etc., and B. G. A. Moynihan, M.S., Lond., F.R.C.S., Assistant Surgeon, Leeds General Infirmary, Arris and Gale Lecturer (1899–1900), etc., etc. New York: William Wood & Co., 1901.

The surgery of the stomach is always important and interesting enough to make communications from experienced surgeons of interest and value. This volume belongs to this class, and it is presented in a form which increases its value to a great extent. A preliminary chapter is given on the anatomy of the stomach, and the special methods of diagnosis when it is concerned, including exploratory incision, which the authors believe to be applicable to a small percentage of cases. In the pages devoted to gastrotomy a number of cases of extraordinary interest are described, and several astonishing collections of foreign bodies are illustrated. In their remarks upon gunshot wounds of the stomach, the authors say that the Transvaal war has shown beyond doubt that such wounds, when made by modern high-power small-arm projectiles, will heal without operative interference. This is a matter of great interest, and serves to accentuate the fatal character of such injuries occurring in civil life, which are usually made with revolver bullets, for which operation is always necessary. The simple tumors of the stomach, which are of few varieties, do not require much space for their discussion. They rarely come to operation, and those that do, are usually adenomatous. Carcinoma of the stomach and ulcer as the two most important diseases naturally need most attention. The symptoms and clinical history are very clearly given, and it is emphatically stated that our only hope of real benefit to the patient is early diagnosis and prompt surgical intervention in the presence of malignant disease. Considerable statistical material is introduced. The treatment of gastric ulcer is considered from a surgical point of view, and the hope expressed that surgical treatment will in future be resorted to more often than heretofore, as a matter of choice. The last third of the volume is occupied with descriptions of the operative technique of the operations upon the stomach, and the descriptions are terse and satisfactory. Total gastrectomy has arrived at the dignity of having statistics, and these are given. There have been twelve cases reported. The results of a large number of cases of gastroenterostomy have been collected and are quoted. The illustrations are excellent, and some of the photographic reproductions of specimens are remarkable in their fidelity to actual appearances.

Nervous and Mental Diseases. By Archibald Church, M.D., Professor of Nervous and Mental Diseases, Northwestern University Medical School, Chicago, and Frederick Peterson, M.D., Chief of Clinic, Department of Nervous Diseases, College of Physicians and Surgeons, New York. Third edition, revised and enlarged. Philadelphia: W. B. Saunders & Co., 1901.

This book, which has been written as a textbook for medical students and general practioners, has very well fulfilled the aim of its authors. In this, the third edition, as stated in the preface, the work has been thoroughly revised and many chapters have been rewritten and brought up to date. It really consists of two separate books under one cover, two-thirds of the 869 pages being devoted to the description of general diseases of the nervous system, while the remaining third treats of mental diseases only. The portion on nervous diseases by Dr. Church is divided into eight parts, viz., (1) Examination of patients, (2) diseases of the cerebral meninges and cranial nerves, (3) diseases of the brain proper, (4) diseases of the spinal meninges and spinal nerves, (5) diseases of the cord proper, (6) diseases of the general nervous system with known anatomical basis, (7) diseases of the nervous system without known anatomical basis, and (8) symptomatic disorders. This plan for presenting the subject, which is more or less adapted from the German school, is an eminently practical one and is systematically followed.

The treatise on mental diseases by Dr. Peterson is composed of eleven chapters, dealing respectively with the classification, general etiology, general symptomatology, examination of the patient, general treatment, and a description of the special forms of insanity. The entire field of psychiatry is treated in an interesting manner, the various clinical types being so clearly described as to simplify the matter for the medical student.

We do not hesitate in stating that the entire work is a creditable one, and that the authors are to be commended for the concise and practical manner in which they have dealt with the topic that is usually looked upon as the most difficult and abstruse branch of medicine.

International Clinics. Edited by Henry W. Cattell, A.M., M.D., Vol. II., eleventh series. Philadelphia: J. B. Lippincott Company, 1901.

This quarterly of clinical lectures and especially prepared articles by leading members of the medical profession throughout the world comes this time with a colored frontispiece, illustrating the mild form of variola in a child, with groups resembling herpes febrilis. The article having especial reference to the prevalent epidemic is from the pen of Professor Schamberg of the Philadelphia Polyclinic, and is well illustrated. Some of the other articles are: Atony of the Stomach and Colon, Turck; Analgesia by Injection of Cocaine into the Spinal Column, Tuffier; The Oxytocic Effects of Above Process, Doléris; Puerperal Eclampsia, Jardine; Treatment of Malignant Tumors by Anticellular Serum, Wlaeff; Preventive Treatment of Hepatic Colic, Chauffard; Conservative Treatment of Appendicitis, Broca; Actinomycosis, Hektoen; Locomotor Ataxia, Frenkel; another by Allen Starr; Splenectomy, Wathen, etc., etc. A new feature is a list of newer medical words, with pronunciation and definition by W. A. Newman Dorland, the former editor. The general standard of the work is being well maintained.

Les Processus Généraux. Tome I. Histoire Naturelle de la Maladie, Hérédité, Atrophies, Dégénérescences, Concrétions, Gangrènes. Par A. Chantemesse, Professeur de Pathologie expérimentale et comparée à la Faculté de Médecine de l'Université de Paris, Médecin des Hôpitaux; et W. W. Podwyssotsky, Doyen et Professeur de Pathologie générale à la Faculté impériale de Médecine d'Odessa. Paris: C. Naud, 1901.

This is the first volume of a new work on general and experimental pathology, the joint production of the two pathologists of Paris and Odessa whose names appear on the title page. Chantemesse is well known to all students of and workers in experimental medicine in Western Europe and America, but Podwyssotsky has hitherto hidden his light under the Russian bushel, and is but a name to many pathologists. He is, however, the author of the best treatise on general pathology which has been written in the Russian language, and the scientists of the West are to be congratulated that this work is presented to them in understandable form. This new treatise is not a translation of Podwyssotsky's (better transliterated, Podvysotski's) former work, but follows the same general plan, although it is more complete and has also the advantage of Chantemesse's collaboration.

The authors start with the assumption of an almost imperceptible division line between physiological and pathological processes, and this idea is carried on throughout the work. Particular attention is given to cytology, and theories which are not based upon comparative and experimental pathology receive but scant notice. The volume begins with a study of the natural history of disease, or rather of the morbid processes observed in man, and this is followed by a discussion of the general etiology of disease, especial attention being paid to heredity in its cytological, physiological, and pathological relations. Then the authors take up the subject of atrophic processes dependent upon disturbances of cellular nutrition, among which are included the various forms of degeneration—parenchymatous, hyaline, amyloid, colloid, fatty, pigmentary, glycogenic, etc. This part includes also a study of the formation of biliary, urinary, intestinal, and bronchial calculi, and exogenous deposits following the inhalation of various dusts or the ingestion of certain medicaments and other substances. The volume closes with a consideration of the different varieties of gangrene. The second volume, which is promised within the coming year, will be devoted to a study of hypertrophies, tumors, the regeneration of organs, the pathology of the blood and lymph circulatory systems, inflammation, and fever.

The illustrations are deserving of special mention and commendation. They are beautifully executed, many of them being printed in colors, and are said to be faithful reproductions of Podwyssotsky's original sections, which we can well believe they are.

Syphilis; Its Diagnosis and Treatment. By William S. Gottheil, M.D., Professor of Dermatology and Syphilology, New York School of Clinical Medicine; Dermatologist to the Lebanon and Beth-Israel Hospitals, the West Side German Dispensary, etc. Chicago: G. P. Engelhard & Company.

The author here gives in a concise manner (216 pages) the main facts connected with the study of a most important condition. It is a work more suited to the general practitioner than to the needs of the student. There are a number of good original wood cuts. The author's personal views are nicely blended with those held in general upon the various questions discussed.

THE TREATMENT OF FRACTURES. By W. L. ESTES, A.M., M.D., Director and Physician and Surgeon-in-Chief of St. Luke's Hospital, South Bethlehem, Pa. New York: International Journal of Surgery Co.

THIS is one of the most practical little books we have seen, and one which the young practitioner, especially in the country, where the advice of older heads is not always available in an emergency, can ill afford to be without. It is not a general treatise on fractures, for the author has confined himself strictly to his subject as announced in the title, and seldom wanders off into a discussion of the signs or the causes of special forms of breaks in bones. But within his self-imposed limits he does not sacrifice clearness of description to brevity, the directions for treatment being complete in every detail, leaving nothing to be understood by the reader beyond the necessary adaptation of general directions to individual cases. The work has all the charm of originality, as far as this quality can be associated with so old a subject, the author having drawn upon the fund of his ripe experience rather than making a digest of others' writings. The illustrations are numerous and good.

CRAZES, CREDULITIES, AND CHRISTIAN SCIENCE. By CHARLES M. OUGHTON, M.D. Chicago: E. H. Colegrove, 1901.

THIS is a handy little volume, containing in a few pages many points which may be used to advantage by those arguing in support of sanity as opposed to "Christian Science." The aim of the author, he says, has been "to submit a timely, healthful, and interesting thesis for intelligent readers still in possession of open minds and common sense," and this he has succeeded well in doing. A table of contents would be of service, to enable one who had once read the book to refer to any particular point on which he would refresh his memory.

PRACTICAL FIRST PRINCIPLES. Simplifying the Study of Normal and Abnormal Structure and Function, and Aiding Diagnosis. Designed for the Use of Students and Practitioners of Medicine. By A. H. P. LEUF, M.D., Associate Editor of the *Medical Council*. Philadelphia: The Medical Council, 1901.

IN this little book is contained a vast amount of information on cytology—the anatomy, physiology, and pathology of the cell, and through it of the human organism. Beginning with a consideration of the protamœba, or mass of undifferentiated protoplasm, the author studies in regular sequence the cells, cell-compounds or tissues, tissue-compounds or organs, and then the body as a whole; after which he demonstrates cellular nutrition, physiology, and pathology, and the practical application of the general principles previously enunciated. A brief exposition of medical nomenclature is added, and the book closes with a description of the microscope. We know of no book which could better be put into the hands of an intending student of medicine, and if he once mastered it the benefits of the knowledge so gained would be apparent at every stage of his college course. Many old graduates will also find it of great service as a refresher of the memory.

ANÆSTHETICS AND THEIR ADMINISTRATION. A Textbook for Medical and Dental Practitioners and Students. By FREDERIC W. HEWITT, M.A., M.D., Cantab. Anæsthetist to His Majesty the King, Anæsthetist and Instructor in Anæsthetics at the London Hospital. With illustrations. London: Macmillan and Co.; New York: The Macmillan Company, 1901.

WHILE it is true that, for a number of years, increasing attention has been devoted to the subject of anæsthesia and especially its dangers and the methods of avoiding them, it must be admitted that progress has been somewhat slow and several much needed reforms are still in the visionary stage. It has been too long a matter of tradition to regard the anæsthetizer's function as the simplest at an operation and in most hospitals this duty is still relegated to the youngest and most inexperienced member of the staff, and the schools similarly slur over the discussion of this subject by making it merely an incidental in the teaching of materia medica. While the time is undoubtedly coming when a course in anæsthesia, practical and theoretical, will form part of every medical curriculum and be a requisite for graduation, the average practitioner is also in need of enlightenment and for the reader to whom "anæsthesia" means simply chloroform or ether forced upon a patient till insensibility is produced the present volume will come as a revelation. It is truly a monograph on the subject and presents an immense amount of information, every bit of which is practically useful, however, and of vital importance to any one desirous of conducting his patients comfortably, as well as safely, through their anæsthesias. There are five general headings under which are considered, respectively, the history, pharmacology, and experimental physiology of general surgical anæsthesia; preliminary considerations before anæsthetization; the administration; the management and treatment of the difficulties, accidents, and dangers of anæsthesia; and the condition of patients after the administration. The author is particularly to be commended for his insistence on the necessity of strict individualization and has discussed the contingencies of practice so fully that it is hard to conceive of a case for which the proper combination and sequence of anæsthetics is not indicated. That this requires a certain amount of judgment is evident when one considers that he treats of eleven different types of anæsthesia, viz., by nitrous oxide, ether, chloroform; A. C. E. mixture; C. E. mixture; nitrous oxide and ether; A. C. E. and ether; ether and chloroform; nitrous oxide, ether, and chloroform; A. C. E. (or C. E.), ether, and chloroform; and A. C. E. and chloroform, each of which has its special indications and contraindications which are clearly explained. The various forms of inhalers, mouth gags, tongue forceps, etc., are critically discussed as well as the position of the patient and the methods of treating possible accidents.

CHIRURGIE GASTRO-INTESTINALE. Par HENRI HARTMANN, Professeur agrégé à la Faculté de Médecine, etc. Paris: Georges Steinheil, 1901.

WE had occasion to review some time ago a book by this author, in collaboration with Terrier, on the surgery of the stomach, and we are glad to be able to commend this later work by one author. The monograph is devoted to the surgery of the stomach and intestine, and occupies itself chiefly with the more recent advances in this field. There is a well-illustrated preliminary chapter on the anatomy of the stomach and the upper part of the intestine, and then some space is devoted to an historical review of the subject. All the various methods of excising the pylorus are described and illustrated, and the other gastro-intestinal operations receive attention, among which gastrectomy gets its share There are numerous good illustrations of the different methods of making intestinal anastomosis, and a chapter is devoted to the performance of colotomy, which is worth attention. The last chapter is occupied with the consideration of the various methods of removal of the rectum when it is the seat of malignant diseases. It contains much useful information, concisely given, and some good explanatory diagrams.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia; Attending Physician to the Medico-Chirurgical and Samaritan Hospitals, Philadelphia, etc. Fifth Edition, Philadelphia and London: W. B. Saunders & Company, 1901.

THE fact that a revision of this work has been called for within less than a year since the appearance of the fourth edition gives sufficient evidence of the place accorded to it in the medical world. The book is divided into eleven parts, filling 1,297 pages, the index taking up twenty-nine pages. Particular attention is paid to etiology, diagnosis, and treatment. In connection with etiology, bacteriology is emphasized. Fully fifty-six diagnostic tables are scattered through the text, a large number of them being original. Valuable formulas are given throughout the book, both the English and metric systems being used. Modern views have necessitated changes in certain parts, the sections on malaria and yellow fever requiring special alteration. Several new articles have been added, among which are papers on streptococcus pneumoniæ, acute diffuse interstitial nephritis, and fatty infiltration. The illustrations, though not numerous, are good.

THE DISEASES OF THE RESPIRATORY ORGANS, ACUTE AND CHRONIC. Arranged in Two Parts. By WILLIAM F. WAUGH, A.M., M.D., Professor of Practice and Clinical Medicine, Illinois Medical College, etc. Chicago: G. P. Engelhard & Company, 1901.

THIS book of 221 pages is arranged in two parts, the first being devoted to the consideration of acute respiratory diseases, and the second to that of the chronic forms. The author states in his preface that his object in preparing this work was his belief that the treatment of acute respiratory diseases has gone beyond what is found in the general textbooks on the practice of medicine. He believes that the treatment of these diseases in the future will be concerned with the part played by the vasomotor nerves in acute inflammations, and the effect of drugs upon these nerves, rather than with the study of the diseases as pathological entities. There is no index. The book is concise, and has many points of value for both physician and patient.

Clinical Department.

A DAY AT THE CLINIC OF HIPPOCRATES.

W. C. CAHALL, M.D., EDITOR,
GERMANTOWN, PA.

TO THE HIGH PRIEST AND FELLOWS OF THE TEMPLE OF ON: HEALTH!

I HAVE now been sufficiently long with this great master of medicine to make to you my first report. When I left you at the end of the Feast of the Overflowing Nile, I proceeded to the sea, expecting to there await some wheat-ship bound for Greece. I sojourned with our brethren at the little temple at the mouth of the Nile. When I told them that my mission to Greece was to study the methods of Hippocrates, whose fame was sounding throughout the world, and to report to our priesthood by what favor of the gods he has grown so great, one of the priests informed me that he had been called that very morning to see and give temporary aid to a sick nobleman, who was upon his galley in the river beyond the temple, outward bound to see this same physician, and that if I would go with him on his next visit, in the morning, he thought I might be taken to Greece with him, as his ship physician.

This was readily agreed to by the owner of the galley, for he proved to be the Governor of Thebes, who, you will remember, spent several weeks at our temple for a shortness of breath and pain in the left side, and which resisted all our baths, our most solemn exorcisms, even the gilt bull which we had painted on his side. He believes now, as we told him at the time, that he is possessed by a demon, which does not acknowledge the authority of our gods, and now goes to Greece with the hope that the gods, of whom Hippocrates is a priest, will be able to cast it forth.

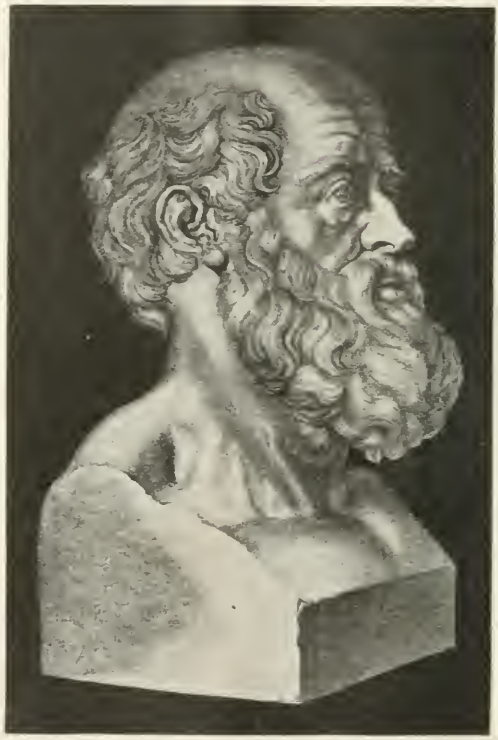

FIG. 1.—Hippocrates.

Our voyage to the island of Cos was uneventful, but we were obliged immediately to reship to Athens, for we found that Hippocrates had gone to that city by the invitation of the Athenians, because of a frightful plague, which was depopulating the country. By the time of our arrival he had gotten it under control, but we arrived in time to witness the extraordinary proceedings of his public reward. Besides large gifts of gold, he was presented in the public assembly with a golden crown, and, greater than all, with Athenian citizenship. And what, think ye, he did to win this great honor?

After the Athenians had marched in innumerable processions to their temples and offered holocausts to appease their gods, Hippocrates simply directed ditches to be dug and bonfires built of aromatic branches; not a procession, nor a sacrifice. He said the plague was caused by bad air, while we all know that the air is filled with evil spirits which afflict human bodies.

Because of my knowledge of Greek, my patron kept me with him. We secured lodgings with Kriton by the Well of Phrynichides. It was well for me that such arrangements were made, for because of his influence and rich gifts to the altars, I had especial facilities accorded me for studying Greek medicine.

I find that these temples of health, as they are called, scattered throughout Greece and her colonies, are under the control of one family of priest-physicians, the Asclepiades, who show scant courtesy to foreign students.

The ritual of these temples, like all others I have seen in Greece, is very beautiful, though inferior to our ancient service in solemnity and impressiveness. Many points in practice and more in philosophy were taken from us. This is not at all strange when you recall that many of their greatest teachers and students have been accustomed to visit our temple schools for study. Indeed, I was much surprised to learn that even the Great Mystery, so jealously guarded by our priesthood, of the unity of God is known here, and openly taught by their greatest philosophers.

The Temple of Asclepios at Athens and its precincts occupy a most salubrious location on the southern slope of the rock of Acropolis, protected from the cold winds from the north and exposed to the warm sun, and at an elevation of about eighty feet above the plain. The Propylæa, the great ceremonial gateway to the sacred precincts, with its columns and decorated frieze, prepares the visitor for surprising beauties within.

Through this gate the motley crowd of sick enter; the poor man with his crutches, a blind woman led by friendly hands, a group of slaves with their supervisor, a Thracian warrior with a poisoned arrow in his body, a pair of athletes to receive a lesson in dietetics, a Jew with oiled locks and a knowing smile, a rich merchant on his litter, or some nobleman, like my patron, having a procession of his own, with his slaves, bearers, and armed guard; such was the human tide which I saw ebb and flow through this gate every day.

Within the gate one sees a forest of columns, upholding each temple and lining the colonnades, incomparable for proportion and grace. Allegorical scenes, in carving and color, decorate every cornice, frieze, and architrave, and innumerable altars and statues line the walks from temple to temple. Nor is the service less beautiful than the buildings. The ritual is highly poetical and the singing of the priests unlike anything heard in Egypt. Such ceremony, in such surroundings, puts the mind and body in a condition most favorable to receive the full benefits

Fig 2 —Æsculapius.

of the use of the healing springs, the baths, the dietetics, and the gymnastics prescribed here, and these priest-physicians have shrewdly worked for that end.

I send enclosed a sketch of the grounds and principal buildings.

Upon entering, the patient is conducted by one of the Kleidouchoi or key-bearers to the Hiereus or High-priest, or one of his officials, the Hieromnemones, to arrange the financial terms of his treatment and accommodation. Then come the rites of purification, the bath in the sacred fountain, the change of linen, the offering of the sacrifice upon the altar. Here an interesting part of the ceremony takes place. One of the Pyrophoroi, bearing the sacred fire, lights the altar, the patient presents his offering—a cake if he is poor, a sheep or goat if he is rich—and places his hand upon the altar, while the priest chants his invocation for succor and health on behalf of the applicant. If at this juncture, one of the temple dogs or a sacred serpent, which are believed to incarnate the god, should come up and lick the diseased spot, it is a happy omen.

Led by the Dadouchoi, the torch bearers, and the singers, the procession then enters the temple of Asklepios through an ivory door, which alone cost thousands of drachmæ. Here sits upon his throne the gigantic statue of Asklepios, whose flesh is of ivory, and garments of gold enameled in colors, and having on his right hand a crouching dog, upon his left a golden serpent, while before him is an altar where further rites were performed.

At nightfall each patient spreads his bed upon the floor or upon the low couches in the abaton, a long portico or corridor-like building, open to the air. Here gifts are laid upon the altar, the fire is lighted, the priests recite the evening prayer for the healing visitation of the god in dreams or visions; the gifts are collected, the fires extinguished, and quiet and sleep enjoined.

During the day, if he is physically able, the patient has many sources of recreation—baths, friction, gymnastics, walks in the shady groves, visits to the various temples, plays in the theater of Dionysius, and the contests in the Stadium outside the precinct; while for the less actively inclined, the bronzes, the encaustic painting, the fountains, a manuscript from the library, the music, the public readers, and the countless votive tablets.

The time goes rapidly enough. Surely the god of beauty broods over these Greeks. I shall not surprise you when I tell you that a short season of this life cures many of these votaries without further medicine. Should, however, the case be found urgent by the examining priest-physician, or if no improvement follows such an introduction, the chief physicians are consulted. It was by such gradual steps that my patron advanced to the clinic of Hippocrates.

A man past middle life, the great dome of his head partially bald, long beard, and heavy eyebrows, the nose smaller and more broken at the brow than the typical Greek nose, the eyes large and lustrous, the face of Hippocrates expressed great benignity, energy, and wisdom.

Hippocrates uses the purest Ionic dialect, and speaks, as he writes, in a condensed yet luminous style. His aphorisms are as famous as any of the sayings of Socrates.

Such was the man we saw, upon our arrival, standing amid a group of white-clad priests and students, expounding to them the principles and methods of medicine as he understood it. As we entered, he was engaged with a slave woman, who had been poisoned by eating mushrooms. A few, swift ques-

Fig. 3.—Hygeia and Æsculapius.

tions put him in possession of the cause of the symptoms. An emetic was administered, followed by a hot bath, and the woman, already with cold extremities and sunken face, recovered. This led him to mention the value of the appearance of the countenance of the sick, and he repeated what is one of

his most famous prognostics: "If the patient present the following features at the beginning of an acute disease, and no removable cause be discovered, it is to be known for certain that death is at hand: a sharp nose, hollow eyes, collapsed temples; the ears cold, contracted, and their lobes turned out; the skin about the forehead being rough, distended, and parched; the color of the whole face being green, black, livid, or lead-colored; when the lips are relaxed, pendent, cold, and blanched."

The next case he examined was that of a wounded soldier with spear wounds on his head and knee-joint.

FIG. 4.—The Acropolis at Athens. [Restoration.]

Among his observations were these: "The most dangerous wounds are those which implicate the large blood-vessels in the neck and groin; then those of the brain and liver; next those of the bowels and bladder. These cases are all dangerous, but not uniformly fatal as some suppose. Large wounds of the joints leave the limb maimed."

Several other observations connected with these injuries are added, of which one of the most important is the direction to practise flexion and extension of the limb, frequently, with the view of preventing rigidity of the joint.

Since the head injury was the more severe he had to trepan the soldier's skull. The instrument he used was a circular one with a serrated cutting edge, and quickly removed the bone down to the meninx. With an elevator he raised the depressed bone and removed the clots. He used no liquid applications, or plasters, or stitches, or tents to wounds of the head, but filled the wound with a cleansing paste in order to hurry healthy granulations.

Among the many clinical observations on the injuries to the head I recall these as being the most striking: the larger the fracture the less concussion to the brain; if you cannot discover whether the fracture be present or not, you must dissolve the jet-black ointment and fill the wound with it when thus dissolved, and apply a linen rag smeared with oil, and then a cataplasm of the maza with a bandage. On the next day, having cleaned out the wound, scrape the bone with the raspatory. If the bone is not sound, but fractured and contused, the rest of it which is scraped will be white, but the fracture and contusion, having imbibed the preparation, will appear black. A bone may be injured in a different part of the head from that on which the person has received the wound, and the bone has been laid bare. And for this misfortune, when it occurs, there is no remedy; for when this mischief takes place, there is no means of ascertaining by any examination whether or not it has occurred, or on what part of the head.

This claim that a blow on one side of the head may give rise to a fracture and hemorrhage on the opposite side has been much disputed, but Hippocrates has fortified his position by the examination of the bodies of the injured after death. Indeed, so far does he go to make his knowledge exact, that he has in his chambers at Cos a complete human skeleton.

The next case was also that of a slave, with a sprained and swollen joint. This case afforded him a text to speak upon the effects of hot and of cold water. "Cold water," he says, "inflames ulcers, burns, fractures, and luxations. The parts of the body which are usually covered endure the cold water worst, and are most refreshed by hot. Cold water disagrees with the brain and its processes, the bones, the teeth, and the nerves; and hence convulsions, distensions, and febrile rigors, which are induced by cold, are relieved by hot water. Hot water occasions delight and determination to the skin; cold, on the other hand, pain and determination inwardly; wherefore the loins, the breast, the back, and hypochondriac region are injured by cold applications, but delight in warm."

Next came two athletes, training for the games, one for relief of a sprained shoulder, and the other for instruction as to diet while training. After attending to their needs, Hippocrates expressed himself upon athletics, regretting the tendency of the times to special training for special prizes.

He said that formerly it was the custom for an athlete to develop all his body, and enter the contests for various prizes, so that it was not unusual for one man to win several prizes, such as javelin throwing, hurdle jumping, with and without armor, wrestling, and running, at the same games. Now the palestræ were becoming schools of training for one contest, necessarily developing the athlete unsymmetrically instead of into the well-balanced and beautiful forms so constantly seen in the older Olympic games.

He next took up a child suffering from club-foot, in which he pointed out to us his reasons for denying the existence of a dislocation of the joint, but only a declination of the foot, and demonstrated to us his

PLAN OF THE ACROPOLIS AT ATHENS.

FIG. 5.—1. Gate known as that of Benié. 2. Temple of Nike Apteros. 3. The Propylæa 4. Terrace Walls. 5. Parthenon. 6 Foundation of old Temple of Athene. 7. Erechtheion 8. Museum of the Acropolis (modern). 9. Old unknown building. 10. Columns in the wall.

method of systematically bandaging the foot during infancy, whereby a cure could be effected without surgical operation.*

* "In fact, until within a very recent period, the modern plan of treatment in such cases was not at all to be compared with his skilful mode of adjusting fractured bones, and of securing them by means of waxed bandages. In particular, his descriptions of the accidents which occur at the elbow and hip-joints will be allowed, even at the present day, to display a most wonderful acquaintance with the subject. In his views with regard to the nature of club-foot, it might have been affirmed of him a few years ago, that he was twenty-four centuries in advance of his profession when he stated that, in this case, there is no dislocation. In a word, until the days of Delpech and Stromeyer, no one entertained ideas so sound and scientific on the nature of this deformity as Hippocrates."—Dr. Francis Adams.

At this point he was disturbed by a young woman, waiting her turn for consultation, who suddenly fell down on the stone pavement in a fit, screaming and gnashing her teeth, her body in a bow, resting on her heels and back of the head. She was supposed to be suffering from the sacred disease.

Hippocrates raised her eyelids, but nothing save the white of the eyes could be seen. His examination was brief, and I thought I detected a smile behind his beard. He arose and said in a loud voice, so that the patient could hear, "The eyes must be brought back to their proper position and then the fit will end. Bring forth the sacred serpents, and have them lick the eyes of this young woman, and she will be restored."

Before the serpents could be brought the young woman arose from the ground, cast an indignant glance at the teacher, and sailed out of the temple court. Hippocrates then made the laconic remark that so potent are some remedies that the mere promise of them is sufficient to cure.

In contrast to the school of Cnidos, his great rival, where diagnosis is made the chief object of study and made cumbersome by its very refinement, Hippocrates has elaborated prognostics. He asks, "How can one know the effects of treatment until he knows the natural history of disease? Knowing this and likewise the effects of drugs, the outcome of the disease, whatever its name, may be approximated, and, after all, this is what most concerns the family of the patient."

There are certain signs and symptoms common to many diseases, some of which indicate recovery, and others which prognosticate death, and these the wise physician looks for. I have been witness to some of these shrewd prognostics of Hippocrates, which sounded, indeed, like divination, but which he declares are the result of clinical observations. He does not claim originality for all his observations. Many of them belong to his family traditions, but even these he has modified, amplified, and made more exact. These, together with what he has himself observed, he has embodied in his book on prognostics, a copy of which, together with many others, I have, and which I will present to our temple library on my return. I will, in this letter, give but one extract from this book, which will indicate the extraordinary wealth of observation contained in it:

"Respecting the movements of the hands, I have these observations to make: When in acute fevers, pneumonia, inflammation of brain, or headache, the hands are waved before the face, hunting through empty space, as if gathering bits of straw, picking the nap from the coverlet, or tearing chaff from the wall—all such symptoms are bad and deadly."

Many other deeds of wonder did this great physician before us, but I must postpone recounting them until my return. I will mention, however, the case of my patron. Had I seen nothing else than his conduct of this one case, I would have been amply repaid for my journey.

Hippocrates carefully examined and questioned my patron. He then performed a manœuver unknown to Egyptian medicine. He applied his ear to the patient's chest, struck the side with his hand, and shook the patient. Whereupon he declared there was fluid in the patient's chest. This manœuver he asked me to repeat after him, when I distinctly heard a splashing sound, like water in a half-empty bottle. Hippocrates then said that, judging from the length of time my patron had been sick, the character of the fever, and the sweats, he was of the opinion that the fluid was purulent. Taking up his lancet, he pierced the side, and out flowed a large quantity of greenish-yellow matter, just as he predicted.

The operator remarked, with evident care to his words, for it was an unprecedented thing for a priest to say, that, however divine diseases may be in their origin, they had a natural history, affected bodies subject to physical laws, that it was but rational to resort to physical means for cure, and that, for instance, a thousand painted bulls were not as efficient as one lancet thrust.

The priesthood received this remark with many scowls of dissent, and I have seen much to support the belief that nothing but the overpowering pre-eminence of the great Hippocrates saves him from banishment, if not from death. But that he is not an irreligious man was shown by his very next act. This was the administration of the oath, which he himself directed at the conclusion of the clinic.

A class of young priests who were to devote them-

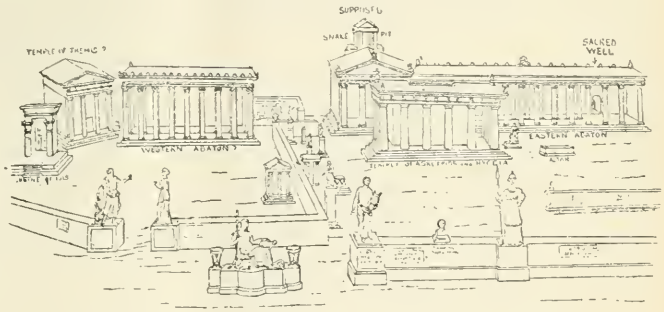

Fig. 6.—Attempt at an Outline Restoration of the Asklepeion at Athens.

selves to the practice of medicine, who had already gone through a form of purification and sacrifices in the more secret temples, and which I did not witness, came marching in a procession of white, chanting their beautiful choruses, and bearing the incense and their serpent-twined statue of Asklepios. They circled the little altar, before which Hippocrates stationed himself; each, with sandals removed and right arm bare and outstretched toward the altar, took the following beautiful and noble oath, worthy of the great physician who composed it and of the young lives devoted to it:

THE HIPPOCRATIC OATH.

"I swear by all the gods and goddesses, by Apollo the physician and Asklepios, and Health and All Heal, that I will keep this my oath and stipulation —to reckon him who taught me this art equally dear to me as my parents, to share my substance with him and to relieve his necessities, if required; to look upon his children as my brothers, and to teach them this art if they shall wish to learn it—and that by precept, lecture, and every other mode of instruction, I will impart a knowledge of the art to my own sons and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine, but to none others. I will follow that practice which, according to my ability and learning, I consider the best for the safety of my patient, and

abstain from whatever is deleterious and mischievous. I will give no deadly medicine to any one, if asked, nor suggest any such counsel; nor will I conspire with a woman to destroy her unborn child. With purity and with holiness I will pass my life and practise my art. Into whatever house I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption, and, further, from the seduction of women, whether bond or free. Whatever, in connection with my professional practice, or not in connection with it, I see or hear in the life of men which ought not to be spoken of abroad, I will not divulge, thinking that all such should be kept secret."*

A man cannot become great without finding enemies, who hate him for his very greatness. Hippocrates has not escaped the fate of greatness, and he has been accused of setting fire to the library at Cos, to destroy the medical records there in order to claim for himself originality for observations which he in reality borrowed from the ancients. That he profited by the careful study of these volumes of detached and unclassified records he would be the last to deny; but that it was necessary to destroy these records and votive tablets in order to display his superiority may be seen by comparing the character of the average votive tablets, a few of which I have copied here and at Epidaurus, and here reproduce, and a few of the aphorisms of Hippocrates, surcharged as they are with the highest wisdom, checked and rechecked by experience.

Votive Tablet 12.—*Case of a man*, who came to the god as a patient; he had but one eye; of the other only the empty eyelids remained, and some of those in the precinct said it was sheer folly for him to suppose that he could see, when he had no vestige of an eye, but only an empty socket. While he slept he saw a vision; it seemed to him that the god mixed a salve, and opening his eyelids poured it in. And when day broke he departed seeing with both eyes.

Tablet 120.—*Case of Alcebas of Halica.* He was blind and saw a vision; he thought the god approached him, and with his finger opened his eyes, so that he could see the trees in the precinct. And when day broke he departed cured.

Tablet 125.—*Case of Thyson of Hermione*, a blind boy, who being licked while awake by one of the temple dogs on the eyes departed cured.

Tablet 68.—*Case of Euphanes, a boy of Epidaurus.* He went to sleep suffering from stone. And it seemed to him that the god stood by him and asked, "What will you give me if I make you well?" And he answered he would give ten knuckle-bones, at which the god laughed, and said he would ease him. And when day broke he departed cured.

Tablet 41.—*Case of a dumb boy.* He came to the precinct to ask a cure of his dumbness; when he had made the preliminary sacrifice and performed the rites, the slave of the god who carried the torch turning to the father of the boy said, "Do you promise that if within a year he gains the end for which he came he will make sacrifice of thanksgiving?" And the boy suddenly answered, "I promise"; the father in astonishment bade him say it again; and he said it again, and thenceforward was cured.

Tablet 111.—*Case of Nicanor*, a lame man. While he was sitting awake a boy snatched away his crutch and began to run off; he jumped up to pursue and was thenceforth cured.

*In some of the European schools this oath is still administered to the young candidate for medical degrees, but, whether actually sworn to or not, everywhere that men graduate in medicine, the moral import of this oath is still supposed to rest upon the practitioner of medicine. —W. C. C.

Tablet 95.—*Case of Enippus.* He carried a spearhead six years in his jaw; when he was laid to sleep the god extracted the spearhead and gave it into his hands. And when day broke he came forth cured, carrying the spearhead in his hand.

Tablet 107.—*Case of Hermodicus.* He was paralyzed; sleeping, he was cured by the god, who bade him go out and bring into the precinct the biggest stone he could carry; so he brought in the stone, which still lies before the hall.

Tablet 113.—*Case of a man*, whose toe was cured by a sacred serpent. His toe was in pain from the bite of a wild beast; he was carried outside by day by the temple servants, and was sitting on a seat, when he fell asleep; and while he was asleep a snake issued from the hall and cured his toe with its tongue, after which it returned to the hall. He, awaking cured, said he had seen in a vision a beauteous youth pouring medicine on his toe.

Tablet 122.—*Case of Heræus of Mytilene.* He had no hair on his head, but a good crop on his chin; being ashamed of being a laughing-stock of his companions, he came to sleep in the hall; and the god anointed his head with salve, and made the hair come.

Tablet 98.—*Case of a man* who was cured of leeches. He slept in the hall and saw a vision; he thought the god cut open his chest with a knife, and taking out the leeches gave them into his hands, and sewed up his chest again. When day broke he departed carrying the creatures in his hands, and was cured. He had swallowed them in consequence of a stepmother's trick, who had put them into a potion which he swallowed.

Tablet 3.—*Case of Cleo*, who went five years with child. She, in the fifth year of pregnancy, came to seek aid of the god and went to sleep in the hall; and no sooner did she come forth from it and pass outside the precinct than she gave birth to a son, who, directly after birth, washed himself at the spring, and began to walk about with his mother. And after meeting these fortunes she wrote upon a votive tablet, "Not the size of the picture but the miracle is the marvel, that Cleo bore the burden in her womb for five years, till she slept here and the god made her whole."

Tablet 22.—*Case of a man*, whose fingers were paralysed, all but one. He came to the god to seek aid, but looking round at the votive tablets of the precinct he was doubtful about the cures and began to ridicule the inscriptions. He slept in the hall and saw a vision; he thought that he was playing with astragali close to the temple, and was going to cast; the god appeared and seemed to seize his hand and stretch out the fingers of it. And when he went away he thought he clenched his hand and then extended all the fingers; the god asked him if he was still sceptical as to the inscriptions on the votive tablets in the temple; and he replied that he was not.

Tablet 33.—*Case of Ambrosia* from Athens, who had but one eye. She came to seek aid of the god; and walking round the precinct, began to ridicule some of the cures, saying it was absurd and impossible that the lame and the blind should become whole merely through seeing a vision. And sleeping, she saw a vision; she thought the god stood by her and said that he would make her whole, but she must for payment dedicate in the precinct a pig of silver, as a memorial of her folly. And with these words the god cut open her diseased eye and poured a drug in. And when day broke she went away healed.

Tablet 90.—*Case of Æschines.* When the suppliants were laid down to sleep he mounted into a tree and pried into the hall; and he fell from the tree and struck his eyes on some palings. Being in an evil

case and having become blind, he turned as a suppliant to the god; and he slept and became whole.

APHORISMS OF HIPPOCRATES.

In all kinds of fevers, and other diseases, voluntary tears be laudable, but if they flow contrary to the patient's mind, they are to be feared.

To have a convulsion with a sore wound is death.

To dote or be distrait, after a blow, is very evil.

Whosoever hath his brains hurt in any way doth suddenly lose his speech.

He that spitteth frothy blood is diseased in his lungs.

The frenzy in a peripneumonia is an evil token.

They who are between eighteen and twenty-five are chiefly troubled with consumption.

Eunuchs be never bald nor gouty.

It is much better that he which hath a convulsion be taken with an ague than he which hath an ague be taken with a convulsion.

The patient must forbear meat in the fits.

Unto extreme diseases extreme remedies are necessary.

Contraries or opposites are remedies for each other, evacuation for repletion, repletion for depletion; when we do anything according to reason, we should not too hastily alter our plan so long as the reasons for continuing it remain unaltered; we should observe what gives ease and what gives pain, what is easily borne and what cannot be endured; we should do nothing rashly, but often pause for observation, since in this way we at least do no harm.

It is the mission of the physician to do good, at least to do no harm.

Life is short; art is long; the occasion fleeting; experiment dangerous; judgment difficult. The physician must not only do what is right himself, but also to make the patient, attendants, and externals cooperate.

Many strange and wonderful things have I seen and learnt at this clinic of Hippocrates, but I withhold them until I see you. BAK-EN-KHONSU.

Therapeutic Hints.

Gastric Catarrh.—

℞ Argenti nitratis ..... gr. ii.
Ext. hyoscyami ..... gr. iii.
M. et ft. pil. No. xii.
Sig. One pill t. i. d.

—DA COSTA.

Urticaria.—

℞ Acidi carbol .....
Spts. menthæ pip ..... āā 1.0
Zinci oxid 12.0
Lanolini 48.0
Vaselini 32.0
M. Sig. Apply locally.

—*Merck's Archives.*

Hyperidrosis.—

℞ Pulv. acidi salicylici .....
Pulv. zinc. carb. præcip .....
Pulv. magnesiæ ustæ ..... āā 16.0
Pulv. amyli 60.0
Pulv. cretæ 80.0
M. Sig. Apply.

—VAN HARLINGEN.

Asthma.—

℞ Pulv. pot. nitratis 20.0
Pulv. stramonii 5.0
Pulv. lobeliæ 6.0
Pulv. belladonnæ 3.0
Pulv. grindeliæ 6.0
Pulv. hydrastis canad 1.0
M. Sig. Burn a teaspoonful.

—JACKSON.

Urticaria.—

℞ Sodii salicyl .....
Potassii bicarb ..... āā 16.0
Aq. menth. pip 96.0
M. Sig. ʒi. after meals.

—*Therapeutic Gazette.*

Nasal Catarrh.—

℞ Bism. subcarb .....
Pulv. talc ..... āā ʒi.
Alum exsicc ..... ʒss.
Morphinæ acet ..... gr. i.
Gum. arab ..... ʒi.
M. Sig. Use as a snuff.

—SAJOUS.

Cathartic Lemonade.—

℞ Sodium phosphate ..... ℥viss.
Spt. lemon ..... ♏xv.
Simple syrup ..... ℥ii.
Distilled water ..... q. s. ad ℥x.
M. S. Take at once.

—*Northwestern Lancet.*

Acute Tonsillitis.—

℞ Quininæ sulphatis ..... gr. xlviii.
Acidi muriatici diluti .....
Tinct. aconiti ..... āā ♏xlviii.
Syr. pruni virgin ..... ℥i.
Aquæ ..... q. s. ad ℥iii.
M. Sig. ʒi. q. 4–6 hrs. for an adult.

—*Medical Times and Hospital Gazette.*

Diabetes Mellitus.—

℞ Acidi arsenios ..... gr. xl.
Pulv. opii ..... gr. lxxx.
Ammonii muriat ..... gr. ccc.
M. ft. in pil. No. cccxx.
Sig. One t. i. d.

—MARCUS.

℞ Codeinæ sulphatis ..... gr. vi.
Ext. nucis vomicæ ..... gr. iii.
M. ft. pil. xxiv.
Sig. One t. i. d.

—WILSON.

Pertussis.—

℞ Acidi carbol ..... gr. xv.
Spts. vini ..... ʒss.
Tinct. iodi ..... ♏x.
Tinct. bellad ..... ʒss.
Aq. menth. pip ..... ℥iii.
Syr. opii ..... ℥iiss.
M. Sig. ʒi. q. 2–3 h.

—ROTH.

Squamous Blepharitis.—

℞ Precipitated sulphur ..... gr. xv
Salicylic acid ..... gr. ii.
Resorcin ..... gr. ii.
Vaselin .....
Wool fat ..... āā ʒiss.
M. Sig. Apply at night.

Or,

℞ Precipitated sulphur ..... gr. xv.
Spirit of camphor ..... ♏xxx.
Rose water .....
Distilled water ..... āā ℥iiss.
M. Apply at night.

—SAUCASSANI.

Obstinate Hiccough.—Try tongue traction twelve to fourteen times a minute.

—LABORDE.

Gastric Fermentation.—

℞ Resorcin resubl ..... gr. lxxv.
Bismuthi salicylatis .....
Pulv. rhei rad .....
Sodii sulphatis ..... āā ℥iiss.
Sacch. lactis ..... ℥ss.
M. Sig. One-half teaspoonful twice daily.

—EWALD.

Hæmoptysis.—

℞ Extr. ergotæ ..... ʒss.
Pulv. digit. fol .....
Ext. hyoscyami ..... āā gr. xx.
Quininæ sulph ..... ʒss.
M. ft. pil. No. xx.
Sig. Three to five pills daily.

—A. HECHT.

Gastric Fever.—

℞ Spts. chloroformi ..... ʒi.
Bismuthi subnitr ..... ℥iss.
Morph. sulph ..... gr. i.
Elix. lactopep ..... ℥i.
Aq. menth. pip ..... q. s. ad ℥ii.
M. Sig. ʒss. q. ½ h. if necessary.

—G. T. MCCULLOUGH.

Society Reports.

ROCKY MOUNTAIN INTERSTATE MEDICAL ASSOCIATION.

Third Annual Meeting, Held at Denver, September 3 and 4, 1901.

The meeting was called to order by Dr. C. K. Fleming, the President. An invocation was offered by Dean H. M. Hart of Denver, and a welcome by Mayor Wright of Denver.

Ocular Lesions of Chronic Interstitial Nephritis and Their Significance.—Dr. E. Jackson of Denver read a paper on this subject. He called attention to the value of the ophthalmoscopic appearance of the arteries and veins of the retina in the early diagnosis, as well as in the prognosis, of this disease. He said it was not yet settled whether the local renal condition was a cause or effect of the general vascular state. The notable things in the early stages, as revealed by the ophthalmoscope, were minute hemorrhages, œdema, exudations, and sacculation and irregularities in the caliber of the vessels. Changes in the walls of the vessels appeared as opacities and grayish or whitish lines. Small retinal hemorrhages were common, and he considered their rapid absorption and disappearance favorable in the prognosis. After imperfect absorption, whitish patches radiating from a macula might be seen; this indicated high tension and failure of elimination, and was decidedly unfavorable.

Carcinoma of the Breast.—Dr. D. A. Richardson of Denver read this paper. He believed trauma to be the cause and not inheritance. He reported an instance of two sisters, following similar occupations, who were afflicted, while in the family of fourteen children, a history covering forty-three years showed no other cases.

Epileptic Anamnesia.—Dr. S. D. Hopkins of Denver reported a medico-legal case of epileptic anamnesia, and pointed out the differential diagnostic points between true and feigned anamnesia.

Dr. J. T. Eskridge of Denver, in the discussion of this paper, said that the claim of total anamnesia in a criminal case should arouse suspicion of malingering; while names and remote events may be forgotten, details connected with the personality are apt to be recalled, and events recur to the mind in the inverse order in which they were lost from memory.

Resection of the Superior and Middle Cervical Ganglia of the Sympathetic for Subacute Glaucoma.—Dr. Melville Block of Denver read a paper with this title, and showed the patient on whom the operation was done. The trouble was on the left side; there was pain in the left eye, impaired vision, rainbow hues about objects, increase of tension, and slight prominence of the ball; eserine relieved these symptoms temporarily. The operation done by Dr. Parkhill of Denver relieved these symptoms almost immediately. Six months after operation there are no symptoms of glaucoma; the left lid droops a little, and there is slight recession of the ball. The author thought that the operation might take the place of iridectomy if done in time; the relief given by eserine appeared a favorable indication for the operation.

Dr. Parkhill of Denver reviewed the history and technique of the operation, and advocated incision anterior to the sternocleidoid, instead of posterior; this avoided injury to the spinal accessory nerve; the operation in Dr. Block's case had been by anterior incision.

Pancreatitis.—Dr. Leonard Freeman of Denver reported a case of "acute traumatic pancreatitis"; the patient died after operation.

Dr. Pfeifer of Denver reported a case of sudden death from this cause; for the first six hours after the patient's fall from a wheel the injury did not cause alarm, and the condition was not clear until the autopsy was done.

Operation for Cancer of the Breast.—Dr. C. A. Powers of Denver presented a paper on methods and results in operation for cancer of the breast. He said that the word "complete," as applied to making the operation radical, and also the length of time allowed before claiming a cure, were constantly being extended; the accepted three years of immunity was only relative as a test; he recommended the Warren flaps to cover the wound.

Examination of the Fæces.—Dr. C. D. Spivak of Denver read a paper on diagnostic value of macroscopic examination of the fæces, and showed a bucket which he had devised with a fine wire-mesh top and bottom for this purpose. Foreign substances, undigested particles, mucus, etc., could in this way be easily washed out and collected.

Pneumonia.—Dr. J. N. Hall of Denver reported seventy cases of acute lobar pneumonia. He thought the disease more frequent than formerly, owing to more persons arriving at advanced years. It was very frequent in the homes and hospitals of Colorado; he found crises in twenty-six cases; the complications were tuberculosis in seven, typhoid fever in three, empyema in five, albuminuria in eight.

Dr. R. H. Reed of Rock Springs, Wyoming, had noticed that cases of pneumonia in which there was considerable expectoration of blood did well, and thought this suggested the value of venesection; he thought the altitude of the Rocky Mountain region rendered pneumonia more grave than at sea level.

Aseptic Surgery.—Dr. R. H. Reed then read a paper on the "Chemical Treatment of Trauma," in which he laid much stress on the preparation of catgut for sutures and ligatures.

Dr. J. S. Perkins of New Mexico read a paper on "How to Do Clean Surgery at Small Cost." He said it could be done at the patient's home with instruments and sterilizing appliances, carried in a satchel or improvised on the spot. It was not necessary to move pictures or to take up carpets. It was sufficient to spread an aseptic sheet on the floor and stretch and suspend one over the table.

The Appendix.—Dr. E. P. Hershey created something of a sensation, and raised a storm of protest by a paper on the "Function of the Appendix." He had noticed that patients with appendicitis previously suffered from constipation and did so also after operation, and he thought the organ secreted mucus, the discharge of which aided in keeping liquid the fæces in the cæcum. After operation, patients had discomfort in the iliac region, wrongly attributed to adhesions, which was relieved by a purge. The organ had a valve and sphincter, and was naturally placed and directed to perform the function claimed; it was not a vestigial organ.

Tachypnœa.—Dr. J. T. Eskridge of Denver presented a paper on a case of rapid respiration (143 per minute) in fatal organic disease of the brain. The respiration was much more rapid when the patient was asleep, the maximum of rapidity being reached then. The cause was irritation of the pneumogastric. The case was obscure, and difficult to diagnose from hysteria but for the rapid respiration and absence of adequate relationship between that and the pulse and temperature.

Mountain Fever.—Dr. W. W. Wading of Mt. Pleasant, Utah, read a paper on mountain fever, and claimed that it was a distinct type of fever, and not a mild typhoid, as heretofore supposed; the symptoms were headache, backache, rigor, and then fever of 103°, constipation, brown-coated tongue, no hemorrhage nor delirium. The duration was from twelve to twenty days, and the mortality only five per cent.

Dr. Phillips of Rocky Ford, Colorado, thought this fever was a modified typhoid.

Conservative Gynecology.—Dr. W. W. Grant of Denver

entered a plea for "Conservative Surgery of the Ovaries and Tubes." He related a case of his in which the diseased ovary was removed, and the other, being cystic, was opened and a portion only removed; the menses promptly returned, and were normal for two years, when pregnancy occurred.

Gastrectomy.—Dr. E. S. Wright of Salt Lake City reported a case of removal of the stomach for cancer; the tissues were so diseased that it was impossible to make an anastomosis between the duodenum and œsophagus, and he had to make a duodenal fistula; the patient died the next day.

Address of the President.—The address of Dr. C. K. Fleming, the retiring President, was a masterly plea for the institution of a national medical bureau and high and uniform standards in medical education and requirements for registration. He regarded State legislation in attaining these ends as almost hopeless. A vote of thanks was tendered for the address.

Dr. R. Harvey Reed of Wyoming was elected President, and the meeting closed with a banquet at the Brown Palace Hotel. The next meeting will be at Cheyenne, Wyo.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 21, 1901.

	Cases.	Deaths.
Measles	50	1
Diphtheria and croup	155	29
Scarlet fever	65	2
Smallpox	3	1
Chickenpox	5	..
Tuberculosis	283	159
Typhoid fever	122	21
Cerebro-spinal meningitis	..	3

Schools of Tropical Medicine in Great Britain.—In *Janus* Dr. Davidson of Edinburgh gives a sketch of the schools of tropical medicine in Great Britain. First in the list to pay any attention to this study comes Edinburgh University. Lectures on the subject were commenced there in 1886 by Dr. Felkin, and continued by him up to 1898, when Dr. Davidson took his place. The University of Edinburgh established a Lectureship in Diseases of Tropical Climates in February, 1899, and provided for a concurrent course of practical instruction in the parasitology and bacteriology of tropical diseases, conducted by Dr. Greenfield, the professor of pathology in the university. The London School of Tropical Medicine was founded in 1899. Dr. Manson was the originator and is the presiding genius of the institution. The school was founded "not only to acquaint the student with the diseases of the tropics, not only to teach him how to treat the various ailments he may meet with, but also to put him in the way of investigating tropical diseases." In carrying out these aims, apart from the hospital, which affords abundant material for clinical instruction, laboratories, a museum and a library have been provided. There are no fewer than nine lecturers in connection with the school, each taking up the subjects with which he is most conversant. There are three sessions yearly, and the average number of students has been about twenty-four. The Liverpool School of Tropical Medicine was also started in 1899, in connection with the University College and the Royal Southern Hospital. Young as it is, it has a history of which it may well be proud. It is now arranging for its seventh research expedition. These scientific expeditions of trained men, furnished with the latest instruments and apparatus for the investigation of particular diseases on the spot, is the conception and special feature of this school. The work of the school is directed by Major Ross. He is assisted by Drs. Ould, Balfour, Stewart, and Grünbaum. During the year 1900 over twenty students attended the school. The University of Aberdeen has a lectureship on tropical diseases, founded in 1899, on pretty much the same lines as those which obtain in Edinburgh. So far as the number of students goes, Aberdeen takes the first position among the schools of tropical medicine in Great Britain; no fewer than sixty-seven having attended the course during the past three years.

Influence of Formic Aldehyde upon the Metabolism of Children.—Tunnicliffe and Rosenheim, writing upon the above subject in the *Journal of Hygiene*, draw the following conclusions: 1. In healthy children formic aldehyde, administered with the food in doses up to 1:5,000 in milk, or 1:9,000 in total food and drink, exerted no appreciable effect on the nitrogen or phosphorus metabolism or fat assimilation. The analytical figures suggest, however, that formic aldehyde has a tendency to diminish phosphorus and fat assimilation, and hence it may be inferred that in larger doses, or if continued for a longer period, it would act in this direction. This effect is referable to an influence upon pancreatic digestion. 2. In healthy children formic aldehyde, in the above doses, produces a retention of water in the body. 3. In a delicate child, formic aldehyde in the above maximum dose, had a clinically measurable deleterious effect upon the nitrogen, phosphorus, and fat assimilation, again referable to an action upon the pancreatic digestion, combined with a slight intestinal irritant action. There was a slight tendency to stimulate the katabolism of proteid material. 4. In a delicate child, formic aldehyde increased the volume of urine and the weight of fæces. 5. In all cases, the excretion of lecithin in the fæces was diminished under the influence of formic aldehyde. This effect is probably referable to a stimulating action of formic aldehyde on the lecithin-splitting ferment of the pancreas. 6. In no instance did formic aldehyde exert any appreciable intestinal antiseptic action. 7. In no instance was there an influence on the general health or well-being of the child.

Treatment of Whooping Cough.—Dr. Thomas Ganggier, writes the Swiss correspondent of the *Lancet*, has issued a résumé of upward of one hundred cases, treated principally by preparations of quinine, which in the later cases was combined with hydrotherapeutic measures. The cases referred to were in children under six years of age, the three youngest being two, five, and eight weeks respectively. There was no fatal case observed, though five cases came under treatment with single pneumonia, sometimes of a very severe type. The number of paroxysms of whooping cough never exceeded thirty-two in twenty-four hours, and they decreased rapidly during the second week of treatment. The general state of health on discharge, generally after two, three, or four weeks of treatment, was often so good that a change of air seemed unnecessary. Tannate of quinine proved of little effect. The best results were obtained from hydrochlorate of quinine dissolved in water, and administered in milk in doses of from one to three grains three times a day before meals, according to age of patient. Very good results were also obtained from the use of euchinin, in the form of a powder, which has the advantage of being almost tasteless, and can more readily be given to children. The dose varied from two to six grains two or three times a day before meals. Wet packs, reaching from armpits to ankles, had a very soothing effect, when properly applied and well covered with flannel. They were left on for two or three hours or for the whole night, and in case of concomitant fever could be renewed several times in the twenty-four hours.

The Decline of Beriberi in the Japanese Navy.—A Japanese journal of recent date gives the following

account of the practical extermination of beriberi in the Japanese navy by suitable feeding. Nothing is more remarkable than the record relating to beriberi, which used at one time to be such a scourge in the navy. Thus, in 1883, the last year of the old system of diet, there were 1,236 cases out of a total force of 5,346 men, being a ratio of 231 cases per 1,000 of force, and the deaths were 49. In 1898, the total number of cases was 16 out of a force of 18,426, being a ratio of 0.87 per 1,000 and the number of deaths was 1. In fact, by a judicious system of diet, beriberi may be said to have been driven out of the navy altogether. The daily food of a man in the Japanese navy is now approximately, ½ lb. of bread, ⅔ lb. of meat, ⅜ lb. of rice, 5/16 lb. of vegetables, together with small quantities of preserved meat and fish, fresh fish, cracked wheat, beans, flour, tea, sugar, roasted barley, soy, etc. When members of a mess consist of more than five, the value of one man's rations in money for every five members is given to the mess, and with it the men buy any food they like. Not less remarkable is the steady increase of body weight that has taken place since 1884, when the improved system of diet began to be operative. The average weight in that year was 121 lbs., approximately, and it henceforth increased regularly year by year, until in 1898 the figure was 130 lbs.

The Sale of Secret Medicines not Allowed in Austria.—Carl Bailey Hurst, United States Consul-General in Vienna, reports to the State Department that the sale of secret remedies has always been strictly forbidden in that country. Trade in such medicines and advertisements of the same are under strict surveillance of the law. Further, those medical preparations of which the prescriptions are not open to inspection by physicians, or in the prescription of which the substance of the medicinal ingredients cannot be definitely recognized as to kind and quantity, may not be kept for sale by apothecaries. Only those manufactures may be considered as pharmaceutical specialties that contain drugs acknowledged to be medicinal remedies. Every new medicinal preparation intended for use by the public must be reported to the authorities, and its sale may not be begun until such authorities have found no reason to prohibit the same. Prescriptions of foreign medicines must be accompanied by precise directions for their preparation from the foreign manufacturer, and be provided with his signature and business stamp. The regulations in Austria in regard to the advertisement of patent medicines are also strict. All laudatory notices in local publications of cures and remedies coming from abroad constitute a transgression of the trade laws, and under certain circumstances afford a foundation for complaint of unlicensed medical practice.

A Victory for the Ohio State Board of Medical Registration.—The Ohio State Board of Medical Registration and Examination has obtained from the Supreme Court of Ohio an important decision which establishes its right to determine whether a medical college is in good standing. The board threw out the diplomas of the Hygeia Medical College of Cincinnati, whereupon the college applied for a writ of mandamus compelling such recognition. The court sustained the board, the decision in effect being that a writ of mandamus will not issue, on the relation of a medical college, to compel the State Board of Medical Registration and Examination to recognize the college as a medical institution in good standing, or to compel the board to issue certificates to practise medicine in that State to holders of diplomas from such college. This decision will establish the Ohio board on a firm foundation, and the precedent thus created will strengthen the hands of boards in other States. —*Buffalo Medical Journal.*

Are Röntgen Rays Infallible?—A number of papers have recently been written concerning the fallacies and difficulties in the diagnosis of fractures by means of the Röntgen rays. A case has recently come under our notice which illustrates forcibly the difficulty in localizing foreign bodies in the alimentary canal below the œsophagus. A patient swallowed a dental plate, made of gold, with two teeth attached. When he was admitted to the hospital, the plate had passed the cardiac orifice of the stomach. For three consecutive days, an expert radiographer, manipulating the most up-to-date apparatus, failed with either fluoroscope or sensitive plate to demonstrate the presence of the denture, and this notwithstanding the fact that buttons, coins, and other objects could be distinctly seen through the whole thickness of the body. The peristaltic movements of the intestines would account for the failure, in the case of the photographic plate, but it is difficult to understand how these movements would interfere with the view obtained by means of the screen. —*The Medical Press.*

Hæmophilia Neonatorum.—J. G. Wm. Greef believes that the nature and etiology of hæmophilia are yet unknown, none of the theories so far advanced account for all cases, and all of them are open to some objections, the chief one being that they are incapable of proof. Autopsy shows no characteristic nor constant lesions. He presents three cases in which there was no history of heredity. The only condition apt to be confused with hæmophilia is melena neonatorum, the diagnostic point being the discharge of blood from the gastro-intestinal tract in the latter disease. The author inclines to the belief that hæmophilia is due to abnormal permeability of the vascular walls. The rational treatment in cases surviving the first attack consists of measures to harden the body, improve nutrition, and avoid external injury.—*Pediatrics.*

The Diazo-Reaction in Typhoid Fever.—M. E. Sacquépée has found by experimental research that the diazoreaction, which is nearly constant in typhoid fever, appears, as a rule, a few days before the hyperpyrexia, its curve being almost parallel (except for duration) with the thermal curve. If it disappear gradually and definitely, we may predict the near approach of a fall of temperature, unless complications should arise. It may disappear early and suddenly without clouding the prognosis, but should it persist after a fall in temperature, we should be on the watch for complications or for coexistent disease, such as peritonitis or tuberculosis.—*Archives Générales de Médecine.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended September 21, 1901:

		CASES.	DEATHS.
SMALLPOX—UNITED STATES.			
Illinois, Freeport	Sept. 7-14	1	
Peoria	Aug. 1-31	24	
Maine, Portland	Sept. 7-14	1	
Massachusetts, Boston	Sept. 7-14	2	
Nebraska, Omaha	Sept. 7-14	1	
New Jersey, Newark	Sept. 7-14	4	1
New York, New York	Sept. 7-14		3
Pennsylvania, Erie	Sept. 7-14	1	
Philadelphia	Sept 7-14	25	4
Utah, Salt Lake City	Sept. 7-14	4	
Washington, Tacoma	Sept. 1-8	1	
Wisconsin, Green Bay	Sept. 8-15	1	
SMALLPOX—FOREIGN.			
Austria, Prague	Aug. 24-31	1	
Belgium, Antwerp	Aug 24-31	3	2
Colombia, Panama	Sept. 2-9	12	
France, Paris	Aug 24-31		3
Great Britain, London	Aug 24-31	71	7
India, Bombay	Aug 13-20		1
Calcutta	Aug 10-17		1
Madras	Aug 10-16		9
Italy, Messina	Aug 24-31		
Mexico, City of Mexico	Aug 25-Sept 1		1
Russia, Moscow	Aug 17-24		2
Warsaw	Aug 17-24		
Uruguay, Montevideo	July 18-25	10	
YELLOW FEVER.			
Cuba, Matanzas	Aug 25-31	2	
Haiti, Port au Prince	Aug 19-26	1	
CHOLERA.			
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Original Articles.

THE USE AND LIMITATIONS OF THE ELASTIC LIGATURE IN INTESTINAL SURGERY.*

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IF we study the literature of intestinal anastomosis we shall find that of the numberless methods devised for its production, only two have thus far continued in favor with the profession. A surgeon who has no method of his own devising will almost invariably resort cither to incision and suture or to the Murphy button. Both of these methods of operating, however, have defects which, every now and then, lead to disaster and death. In both, the cuts in the intestine cause more or less hemorrhage when even a slight loss of blood is illy borne by many of the anæmic patients upon whom we have to operate. In both there is danger of infection arising from the escape of intestinal contents from the opened bowels. In both there have at times been failures in union, and deaths from general peritonitis.

Incision and suture, if carefully done, take a great deal of time—a fault which, in very exhausted patients, may make the difference between life and death. The Murphy button can be more speedily applied than the suture, but it has some disadvantages which the suture has not. In the first place, the size of the opening must be limited to that of the button, a very decided disadvantage when a large permanent fistula is indicated. Then its lumen may be occluded by seeds or fecal concretions. When the bowel below a chronic obstruction has become, as I have often seen it, small, thin, and contracted, it is sometimes extremely difficult to get a button in at all without tearing the bowel. In some cases the button has remained permanently in the stomach or duodenum. In all, it is a large foreign body which must find its way through a long, small intestine with a possibility of causing irritation or obstruction.

It is because these methods are not in all respects satisfactory, that I wish to urge again upon the profession the use in certain classes of cases of the elastic ligature. I first introduced this method of making an anastomosis in a paper read before the American Medical Association in May, 1891. I shortly afterward became acquainted with the Murphy button, and abandoned my own method in its favor. The chief reason which actuated me in giving it up then, and which now makes surgeons reluctant to adopt the method by the ligature, is, I am now convinced, founded upon a false pathology.

It seemed to me then that a method which made an immediate communication between the two viscera and permitted without any delay the passage of food must be superior to one in which the opening was delayed for three or four days. I assumed that such patients could immediately get some nutriment into the bowel through the new channel. I left entirely out of my reckoning those pathological conditions which interfere with the motility and function of a bowel for many hours, or even days, after it has been injured. Long years of observation of patients after laparotomies have brought me to the conclusion that in most cases the stomach and intestines are not able to avail themselves of the new channel until after the lapse of two or three days, even when the course of the wound is perfectly aseptic.

The anæsthetic produces in most patients a gastric irritability, which lasts many hours. Besides that, the injury done by the operation itself inhibits for an indefinite time the muscular contractions of the gut and with it the digestion and absorption of food. Even the troublesome vomiting after laparotomies may not be due to any gastric activity, for there is reason to believe that the diaphragm and abdominal muscles are the only ones concerned in its production.

Only in this way can we explain the vomiting which occurs sometimes when a "vicious circle" has formed after a gastroenterostomy; for, if the muscles of the stomach were acting upon the newly formed fistula, they would draw its edges apart and thus empty the contents of the stomach into the intestine, whereas a convulsive movement of the diaphragm and muscles of the abdomen forces them out through the œsophagus. It is a well-known physiological fact, too, that dogs in which the stomach has been removed and a bladder inserted in its stead can nevertheless be made to vomit by stimulating those muscles into activity. It is rarely the case that gas begins to roll in the bowels before the end of the second day, and often the period of absolute quiescence lasts four or five days. We may safely assume that during this period all physiological processes concerned in the digestion of food are partially, if not completely, suspended. For this reason the belief is a delusion that an immediate anastomosis has any advantages over one which ensues three or four days after the operation. Indeed, where the stomach is the subject of operation it is highly probable that more nutriment will be absorbed from high enemata than from any food which can be introduced into the upper bowels.

Besides this theoretical objection which some surgeons have to the use of the elastic ligature, others are deterred by the feeling, expressed to me by a distinguished surgeon, as follows: "I like to see the opening into the bowels myself." There is a fear that the ligature will not certainly accomplish its work. This fear is absolutely without foundation if the operation is properly performed. In a large number of operations on dogs, in which the intestine is much thicker than in man, I have never yet met with a failure. Now, while the supposed disadvantages of the ligature are illusory, its advantages are very positive and definite. It is the quickest of all operations for the production of intestinal anastomosis.

A few Lembert stitches, the passage of the ligature

*Read at the twenty-seventh annual meeting of the Mississippi Valley Medical Association, at Put-in-Bay, O., September 12–14, 1901.

through the adjacent viscera, the tying of a knot, a few more Lembert stitches, and the operation on the intestine is completed. There is no incision of the bowel, no loss of blood, no escape of fæces, and no exposure to peritoneal infection from the bowel contents. The operation is followed by a minimum of shock and pain, and at the end of three or four days there is an anastomosis with a union by first intention. The bowel does not slough under the ligature, but undergoes a process of absorption, and when examined at the end of three or four days the edges of the orifices are found closely united without any raw surface whatever. There is, too, the enormous advantage of this method over the button, that the surgeon can govern exactly the length of the opening and make it large or small as may seem best.

Simple as this operation is, its success will, nevertheless, depend upon the observance of certain positive rules in its application. First of all is the choice of a proper instrument. This must be a firm, hard, round rubber cord, at least two millimeters in diameter. This must be made of the very best quality of rubber. It will not do to substitute for this a rubber thread or a flat band. Nelson Baker & Company of Detroit have recently had molds manufactured for the production of ligatures which taper at the end. This facilitates the insertion of the cord in the needle and enables the surgeon to draw it through a very small aperture without injuring the tissues.

The bowels to be connected must be brought in apposition and fastened together with a row of Lembert stitches. The cord must be then passed through first one and then the other bowel always in the direction of the longitudinal axis, and drawn tightly together in a single knot. This knot is securely fastened by means of a stout silk thread, which is tied firmly around it. As the thread is tied while the rubber is on the stretch, it cannot slip off the ends of the rubber when the latter is relaxed. The ends of the rubber are cut short. An additional row of Lembert sutures buries it from sight, and the intestines are returned into the abdomen.

Now the cases in which this method is adapted are, first, all gastroenterostomies. After meeting with two cases in succession of so-called "vicious circle" after gastroenterostomy, in which the food passing through the artificial opening has persistently found its way into the duodenum instead of into the distal limb of the jejunum, I have come to the conclusion that Roux's method of combining with every gastroenterostomy an enteroenterostomy between the two limbs of the jejunum is the only safe method. If this is done by incision and suture the surgeon has to make four incisions into the bowels and make two difficult sutures. An operation by this method takes a great deal of time and is exceedingly exhausting. If, on the other hand, the surgeon operates with the Murphy button he may accomplish the purpose quicker, but makes, nevertheless, the four incisions and leaves two large foreign bodies in the intestines. This more than doubles the danger which would arise from a single anastomosis, as the wound of the enteroenterostomy has not only to get rid of its own button, but must also suffer the passage through it of the button used in the gastroenterostomy. The superiority of the elastic ligature over all other methods when an enteroenterostomy is added to a gastroenterostomy cannot be doubted by anyone who has used the procedure. The quickness of its application, its freedom from danger, of sepsis, and absence of all complications are in brilliant contrast to the defects of other methods. Wherever a gastroenterostomy is required, the method is the best available provided the surgeon does not wish to open the stomach. Even then it may seem best adapted to existing conditions. Thus Dr. Mixter, in a case of an ulcer of the stomach in which relief had been obtained by means of a gastroenterostomy with a Murphy button, was obliged to operate a second time on account of the recurrence of pain and gastric irritation. On opening the stomach he found that the artificial opening had very nearly closed. He passed the elastic ligature through the same opening, closed the wound, and the patient recovered.

In gastroenterostomy for chronic ulcer the objection which some surgeons feel toward the method on account of the delay in completing the anastomosis would have no weight. The open pylorus would permit the free passage of the ingesta as soon as the stomach had recovered its motility. In chronic ulcer, therefore, the question is not one of nutrition, but of relief from the irritation caused by the long contact of food, by the friction produced by the churning of the food in the stomach and by the corroding effect of the acid, whose secretion is excited by the presence of the ingesta. The object of the operation, therefore, is to secure a quick evacuation of the stomach by making a new and free outlet for everything taken in. In stenosis of the duodenum, intestinal anastomoses, according to Kelling, are contraindicated, for the reason that the presence of food in the duodenum inhibits the contraction of the gastric muscles. If, therefore, there should exist a stenosis of the duodenum at its junction with the jejunum and an anastomosis were to be made between the first division of the duodenum and the jejunum, the operation would fail to give relief. More or less of the food would pass into the duodenum beyond the anastomosis and fill it up. The stomach would no longer empty itself, and the obstruction therefore would continue. If in stenosis of the duodenum, therefore, the surgeon ventures upon the operation for anastomosis at all he should make the junction as near as possible to the strictured portion, in order not to leave a blind end in the duodenum, which, filled with ingesta, would exercise this inhibiting influence on the stomach motility. It is better in these cases to relieve the obstruction by operations directly upon it.

In partial stenosis of the small intestines, other than the duodenum, we have conditions especially adapted to operation by the elastic ligature. In these cases, as a rule, the distress caused by the narrowing of the intestine does not interfere as seriously with the general nutrition as does a pyloric stenosis. When the ingesta are forced through the narrow opening there is usually terrific pain, but the food passes on nevertheless and is absorbed For a day or two before operating on these cases purgatives should be given and all food withheld from the stomach. Nutrition may be kept up by nutritive enemata. If the obstruction is caused by cicatricial contraction, the needle and ligature may be passed into the intestine an inch or more from the point of obstruction and carried through the existing channel and out again through the other limb of the bowel. The ligature then doubles the gut upon itself, and when it cuts through leaves an ample channel. Inoperable tumors of the gut demand the elimination of the diseased portion of the intestine from use by an anastomosis of the healthy bowel above and below the diseased point before obstruction has taken place. The elastic ligature is then the very best instrument for its production. It may also be used when the obstruction is only partial. In complete obstructions, from any cause whatever, which require an incision into the bowel for the evacuation

of gas and fæces, the anastomosis should be made by other methods.

Radical operations for the removal of cancers of the large intestine are exceedingly dangerous. Even when determined on, however, they may be advantageously preceded by the formation of an anastomosis.

In so doing the ligature should be passed through one of the longitudinal bands where the bowel is thickest. All operations of this kind are rendered more uncertain on the colon than on the small intestine by reason of the greater solidity of the fæces. Lines of suture which will hold fast against any amount of liquid or semi-liquid substances may be torn apart if subjected to the pressure and friction of more solid masses. Kelling, in his experiments on sutures of the stomach, found them safe to resist the pressure of large amounts of fluid, but easily ruptured by hard ingesta. For this reason it is well in any operations on the large intestines to strengthen the line of union as much as possible by double or triple lines of Lembert sutures, and by wrapping the omentum around the wounded gut and securing it in place. The serous membrane, too, should be scratched in order to make its adhesion more certain. I have said that complete obstruction of the bowel cannot be treated to advantage by the elastic suture. There is, however, an exception to this rule in those cases of acute obstruction in which the bowel has become gangrenous and in which excision of the mortified segment with subsequent junction of the ends of the gut seems inadvisable.

Extreme exhaustion of the patient is the cause, in most of these cases, which compels the surgeon to postpone the radical operation and to content himself with providing for the sloughing gut by fastening it outside of the abdominal wall. There may be also another reason for deferring excision when there is some uncertainty as to whether the bowel is actually gangrenous, or, if so, as to the possible extent of the gangrene. Cases of this kind occur in strangulated hernia, in occlusion from bands of organized lymph, in volvulus and in intussusception. A good rule would be, in the treatment of these cases, where the strength of the patient is good and when the line of demarcation is sharply defined, at once to amputate the dead portion and to join the severed ends of the intestine with a Murphy button or by suture. When, however, the patient is on the verge of collapse, or when it is uncertain whether the coil of intestine is beyond recovery, or when there is no distinct line of demarcation to guide the surgeon to the proper point where an excision may be safely done, then another mode of procedure which will offer the patient a better hope of life is to be preferred. An anastomosis may be made by the elastic ligature in an evidently healthy part of the intestine. The abdominal cavity may be protected, as far as possible, from contamination by a packing of iodoform gauze, and the dead portion of the gut removed. The ends of the cut intestine, or the suspected coil, if its death is not certain, should be sutured to the abdominal wound. If a patient thus treated should happily recover, the progress of the case would be somewhat as follows: The exposed portion of bowel would recover either without or with sloughing. If it did not die it could be gradually forced back into the abdominal cavity. If a fecal fistula formed, the fæces would for a time pass out of the open end of the upper segment. The orifice of communication made by the ligature would, however, gradually become the main channel for the discharge of intestinal contents.

The cicatrization of the wound would tend to close the cut ends of the bowel and eventually lead to healing. If, however, they should not close, the wound could in time be reopened and the simple operation of inverting and suturing the ends of the discharging bowel would be all that is required to bring the case to a happy conclusion.

THE PROPER METHOD OF TEACHING THE ANATOMY OF THE NERVOUS SYSTEM.

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At one time anatomy and physiology were taught from the same chair. The interdependence of structure and function made this arrangement an eminently practical one, while the paucity of positive physiological data made it an equally convenient one. The knowledge of organic structures became so vast, however, in comparison with the knowledge of their physiological functions that the latter soon sank into a position of relative unimportance. The supremacy of anatomy was further emphasized by having added to it the related sciences of biology, histology, and embryology, and the art of surgery. All of this proved ultimately of the greatest advantage to physiology. The latter was soon divorced from anatomy, and at once began to make rapid strides as a distinct science. The pre-eminence of Albrecht von Haller, the "Father of Physiology," is a suggestive commentary upon the insignificance of physiology prior to his day, and its sudden rise and growth after it. So long as physiological data were merely inferred from anatomical appearances, it was inevitable that the study of the functions of living beings should remain an inferior science. The moment it was recognized that mere histological structure afforded no safe ground whereon to base physiological generalizations, but that the latter were to be formulated only after a large accumulation of facts obtained from direct observation and experimentation, physiology assumed its proper place as a science. Since that moment its advancement has gone on so steadily and rapidly that to-day it is guiding us to a better understanding of anatomical structure. This is true especially in regard to the nervous system. Spinal tracts and cerebral localizations would never have been known probably had it not been for pathologico-physiological observation and experimentation. It looks as though physiology were at last beginning to retaliate upon anatomy for its long, early period of subordination.

It is an unfortunate fact that the structure and arrangement of the central nervous system are still too widely taught as a part of general anatomy, aside from its developmental and functional relationships. I fancy it would be better in some respects if the consideration of the nervous system were omitted entirely from the works upon anatomy, and confined to those upon biology, embryology, and physiology; for not only are the old nomenclatures and arbitrary divisions false and misleading, but the discussion of it, apart from its development and function, tends to produce in the minds of the students a more or less arbitrary and confused picture of its architecture. The whole nervous apparatus is a most complex, compound organ, and much of what the student learns about it from most of the modern anatomies even has to be largely unlearned or rearranged in his mind when he comes to study minutely its functions. Let me illustrate.

The spinal cord, as it is usually taught anatomically, is a more or less independent organ, made up of certain columns of white matter and certain central

masses of gray. To these columns are attributed particular functions and assigned particular names and boundaries. Arbitrary divisions and subdivisions are laid, as, for instance, between the so-called anterior and lateral root-zones; fissures are described where there are no fissures; and mere disconnected, short, associative tracts are dignified with the name of column. As a result of all this, the cord in its entirety assumes, in a hazy way in the mind of the student, the characteristics of an individual, distinct organ attached somehow at one end to the brain, and giving off and receiving along its sides motor and sensory nerve roots. When the student comes to study minutely the physiology of this organ, he is amazed to find that he has to learn its structure from an entirely different standpoint, and that its physiological dissection seems to nullify many of the arbitrary divisions and arrangements made in it by anatomy. He discovers that it is far from being a distinct organ, separate from and subordinate to the brain, but that both it and the brain, together with the peripheral nerves, make up a composite organ whose parts overlap and run into each other in a most marvelous complexity of structure and function. He is surprised to learn that the term column is as applicable to the cellular gray matter as it is to the fibrous white matter, being, in fact, a poor term to be applied to either. He is not a little confused when he observes that the nerves are not given off and received by the cord, but that certain efferent processes are sent forth from its central ganglionic masses to terminate in the muscles, while the sensory processes from certain peripheral cells are merely received into it to arborize around its own cells. A series of ganglia, with their appropriate efferent processes, in and about which terminate certain afferent processes from without, constitute the cerebrospinal organ in the truest sense of the word. The peripheral neurons and the central neurons find merely a meeting place in the ganglionic gray matter surrounding the central canal, including the ventricles of the brain and the central canal of the cord.

For the sake of illustrating still further the difference between the anatomical and the physiological methods of studying the nervous system, and to emphasize especially the advantage of the latter when it is combined with the morphological and developmental methods, let me consider more in detail the structure, growth, and function of the spinal cord of the anatomists.

As everybody knows, the earliest appearance of a nervous system in the animal world is in the cœlenterates, namely, in the medusæ or jelly-fish. Among the polyps, just below the medusæ, and, of course, among the organisms still lower in the scale of life, the Protozoa, science has thus far failed to reveal any differentiated protoplasm which, by any stretch of the imagination, can be likened to a nervous system. It is not impossible, however, that future means of research may disclose still more primitive nervous systems than are to be found in the medusæ, for in the sea-anemones just below them, and even in the infusoria, there is a high degree of sensibility and purposive movement that is most suggestive of the presence of a highly specialized, reflex-acting neuromuscular apparatus. The whole class of Acalephæ, including the medusæ, are creatures so finely organized that they have a circulatory system, a neuromuscular apparatus, and digestive and generative organs. Their relation to the sea-anemones is made manifest by the fact that the young differ so widely from the adults that they assume forms resembling those of the hydroform polyps, and remain attached by their base to rocks, etc. In the jelly-fish certain primitive ganglionic masses, which, of course, are the mere differentiations of the primitive homogeneous protoplasm, one of whose qualities is that of irritability, are found scattered around and near the circumference of the umbrella-like body of the animal. From these ganglionic masses processes extend across the body in various definite directions, and down into the tentacles suspended beneath and encircling the mouth. It may be fanciful, but is not altogether irrational, to suggest that this series of ganglia surrounding the opening of the gastric organ represents the differentiated protoplasm surrounding the primitive mouths of the infusoria, or fixed points at which some of the unicellular protozoa, the astomata, take in their nutriment. As Professor Huxley observed, the Protozoa are unicellular organisms, whose essential characteristics may all be predicated of the ova of any of the animals higher in the scale of life, but even as unicellular organisms, the simplest individuals of them are far more complex than is implied in the use of the adjective unicellular. Nevertheless, unicellular organisms do not seem to possess a special nervous system. As they are complete units in themselves, all their parts functionate harmoniously together in the digestive, generative, and circulatory processes, and in the exhibition of motion and sensation. Like them, the individual units that go to make up the multicellular organisms, as Metazoa, manifest the same completeness and independence of function. Daughter-cells carry off from the parent cell the same general structure and functional potentiality that belong to the latter. In a community of organisms, such as the cestoid worms, each segment, though a highly organized creature and a member of a community, has the same structure and potentiality as every other segment. Now, if the union of such a community of independent organisms were to become so close that a differentiation of function, resulting in a division of labor for the greater advantage of the entire community, could be developed, and the whole community become a highly complex animal, the latter, in its development and structure, would nevertheless reveal the characteristics of the individual units of which it is composed. When we say that this is observable in the life history of the higher animals only during their earliest period of embryological development, we are enunciating the great law first propounded by Fritz Müller, and afterward called by Haeckel "the biogenetic fundamental law," namely, that every animal in its growth, from the egg to the adult, passes through a series of stages which recall the stages through which its ancestors have passed in the historical development of the species from a primitive form. The Metazoa, in a word, are nothing but unicellular communities in which particular members or groups of members have relinquished some functions so as to be able to specialize more keenly in regard to others. Segmentation is the rule, developmentally and potentially, throughout the entire animal world. Wholes are made up of parts, which parts are more or less complete within themselves, because phylogenetically these parts have all been capable at one time of a separate and independent existence. The way in which the Actinozoa grow up into compound masses of associated zooids, by means of gemmation and fission, causes them to stand in the same relation to the Actinia that the compound Hydrozoa do to the Hydra. Of the Hydrozoa the Hydra is the type, just as the Actinia is the type of the Actinozoa. As in the Hydrozoa, the Actinia is composed essentially of two layers, namely, the superficial polygonal-celled layers, and the deep dermal layer in which are found the superficial circular and deep longitudinal

sets of muscular fibers. The whole group of Polyps, and especially the Hydra, manifest marvelous actions, sensations, and functional powers that are not unlike those of more highly ranked animals. And yet, curious and familiar is the fact that these low creatures may be cut into segments and otherwise mutilated, when each severed and mutilated part will begin to grow and assume the rôle of a new and perfect individual.

Multicellular organisms being, therefore, more or less segmental in structure, each segment, so far as it is independent of all the other segments, will exhibit an independence of structure and function. In the higher types of the Metazoa, wherein adaptation to environment has wrought, through natural selection and other forces, a closer union between the component segments and a higher degree of functional differentiation, the structural and functional independence of the segments appear less obvious. Being sharply differentiated in function, they are all the more closely bound to and made dependent upon those segments whose functional activities make up for their deficiencies. The immense variety of form, in all classes of animals below the Articulates, obscures to a certain extent their segmental structure. The star-fish and the sea-anemone are as much segmental creatures as are the worms and insects, though their forms would lead one to think superficially otherwise. The Acalephæ (sea-nettles and jelly-fish) are cœlenterates close to the Actiniadæ, while on the other hand, the Echinodermata, which so closely resemble the cœlenterates, are regarded as mere aberrant groups of Annuloida, which, with the Arthropoda, constitute Huxley's class of Annulosa, or Articulata. In the star-fish, as in the jelly-fish, the segmental ganglionic nervous center encircles the creature's mouth, while the processes extend into the arms or rays. When these rays coil up so as to approach one another, and touch along their edges, the form of the creature is changed into that of the ball-like sea-urchin with the nervous apparatus still relatively unchanged. The central ganglia still surround the opening of the alimentary cavity, and send their processes into the peripheral parts of the globular creature. Many of the radiates, as, for instance, some of the Holothuriidæ and Sipunculidæ approach the molluscs and worms in form and in other respects depart quite considerably from the rest of the Echinodermata. In a word, they become more distinctly articulated animals, which, as some one has said, are composed of a series of rings placed edge to edge. Each ring or segment, like the primitive creatures which we have just been studying, contains a ganglionic mass of nervous matter encircling an alimentary cavity, from which ganglionic mass proceed nerve tracts to the musculo-cutaneous and visceral structures of the corresponding segments.

If a row of these rings or segments, or metameres, are placed end to end, and are intimately united to one another, we will have an Articulate in which each metamere will have its central alimentary apparatus surrounded by a mass of ganglionic gray matter, connected by appropriate afferent and efferent processes to the musculo-cutaneous and visceral portions of the metamere. In this Articulate, a high degree of development will involve the closest sort of a union of all the metameres for the sake of coordination and harmony of action; consequently the alimentary organ will become a tube, extending through the entire length of the creature, with a tubular mass of gray matter more or less inclosing it throughout its length, while the processes to and from this tubular mass of gray matter will assume the appearance of a row of dorsal and ventral nerve-roots along its sides. New columns of short nerve tracts, consisting of neuraxons, extending for purposes of coordination into adjoining metameres, will lie close beside the tubular gray matter. Such a creature would obviously be capable of an exalted degree of coordinate, reflex action, and would be able to lead a fairly satisfactory and independent existence. Like the amphioxus, it would be endowed with only a spinal cord. It would be very low in the scale of life, but it would possess all the essential nervous characteristics of the higher Articulates. The later alterations that have taken place in this primitive picture of an Articulate are all of the non-essentials, and are, in fact, the results of adaptation to environment, working through the law of natural selection. When parts of the body and particular viscera undergo extraordinary development to fit the animal for its changed environment, the central gray masses of nervous matter undergo a parallel increase of development in the corresponding representative metameres. The development of the legs and arms, the increased activity of the circulatory and respiratory apparatus, the elaboration of the visual, auditory and other special sense organs, all provoke corresponding enlargements and complexity in the related parts of the central gray deposit. In this way the great nerves of the head have sprung from huge ganglia in the encephalon and cord. So great have been some of these external head changes that the terminations of some of the cranial nerves have been dragged into parts not represented strictly in the metameres from which the nerves themselves take their origin; hence the complexity and confusion that obtain among the cranial nerves. In spite of all these variations and complexities, however, the primitive articulate type of the central nervous system is distinctly traceable.

If there be any truth in the principle of evolution, the articulate arrangement just described ought to be discoverable in the structure of the vertebrate nervous system. Owen says a vertebrate is but a clothed sum of segments, and is therefore essentially an articulate. The segmental character of the bony spine is obvious enough. The segmental character of the cord is also clearly indicated in the series of pairs of spinal nerve-roots, each pair of roots emerging, as it were, from the sides of a disc, and each disc representing a primitive metamere. The spinal cord of the vertebrate may be regarded as a series of discs superimposed one upon the other, each disc containing a ring of ganglionic gray matter surrounding a central canal, which is patulous from the cerebral ventricles to the caudal extremity of the cerebrospinal axis.

Here a startling question presents itself. Can it be possible that the cerebrospinal central canal represents the primitive alimentary canal of the lower forms of life? Yes. It is not only possible, but more than probable. If the central canal represents the remains of our primitive alimentary tube, we have at hand the best explanation of the presence of the ciliated epithelium, and other structures lining it, and of the histological structure of the cerebral hypophysis. Embryologically, physiologically, and pathologically, it is made clear that the infundibulum and pituitary body are the remains of the opening between the mouth and archenteron. As we observed in the cœlenterates, the most primitive ganglionic mass surrounding the primitive mouth, so here we discover the oldest part of the central nervous system encircling the forward part of the primitive alimentary tract. As this œsophageal brain of the lower forms of life began to enlarge in correspondence with the head changes, with the development of the cranial nerves, and with all the variations made necessary by the higher degree of general

organization, the alimentary tract became encroached upon and so narrowed that in some animals—scorpions, spiders, Pedipalpi—alimentation was reduced to the mere sucking of blood. Cephalization was overcrowding alimentation. Ultimately the primitive alimentary canal became completely occluded by the enlargement of the œsophageal brain, and the present vertebrate alimentary tract had to be evolved. The evolution of this tract forms a remarkable study, and its comprehension clears up much of the mystery and confusion overhanging the peculiar arrangement and course of some of the cranial nerves. This fact, among others, proves conclusively that the developmental and physiological method is the only one by which these nerves, as well as the whole nervous system, should be studied.

The fundamental, vertebrate cerebrospinal axis is thus seen to be a mere readaptation of the articulate organ, and through the latter, of the primitive segmental ganglionic nervous matter which first made its appearance distinctly in the cœlenterates. It is seen to consist essentially of a series of ganglionic rings surrounding the remains of the primitive archenteron, each ring of gray matter being connected by associative tracts (anterolateral and posterolateral root-zones), with the rings above and below it, and sending out and receiving efferent and afferent processes to the musculo-cutaneous and visceral surfaces related to the particular metameres in which the rings are found.

The spinal cord of the anatomists includes, however, more than what I have just described; but developmentally and physiologically it is composed of these elements, and of nothing more. The other columns of the cord, usually described as part of it by the anatomists, are the so-called long tracts that belong to the encephalon and to the posterior root ganglia. They are a part of the cord only by grace of position, and they terminate in it by means of arborizations within its gray matter. If these so-called long tracts are to be discussed with the cord, then the whole cerebrospinal apparatus (encephalon, cord, and posterior root-ganglia) must be considered in toto. In anencephalous monsters the pyramidal tracts are absent; while, on the other hand, the monster observed by Leonowa, in which the spinal cord was wanting, while the posterior spinal ganglia were present, proves the independence of the long sensory tracts. The pyramidal tracts, both crossed and uncrossed, are merely the downward projecting neuraxons of the cortical cells which make up the extreme frontal ganglionic mass of the entire cerebrospinal axis, and by means of whose terminal arborizations in and around the cellular gray matter of the ventral or motor areas of the various segmental ganglia of the cord, the cortex exercises an inhibitory control over the movements of the body. They form the voluntary motor paths, and vary much, both in size and location, with the phylogenetic and ontogenetic variations of the teachable cortex. The long sensory tracts, including the posteromedian and posterolateral, the direct cerebellar, the anterolateral ascending and descending, together with some other unnamed tracts, are all merely the projection inward and upward alongside of the primitive cord, of the processes of the cells found in the ganglia of the posterior roots. Some of these tracts are greatly broken and complicated, as, for instance, the tract of which the direct cerebellar and Clarke-Stilling columns constitute a part. The various afferent paths seem to have a most intimate connection by means of their terminal arborizations with the gray matter of the primitive cord. It is not improbable that this primitive gray matter exercises a high degree of functional activity in coordinating and rearranging all inpouring sensations before transmitting them on to the centers of consciousness, where they may be psychically distinguished and interpreted.

By the older physiologists, the spinal cord was described as an organ, just as they would describe the heart or liver, whose functions were the conduction of impulses between the brain and the nerves, the elaboration of certain reflex, automatic, and coordinating phenomena, and the maintenance of the tone and nutrition of the muscles. As an outcome of the newer conception of the nervous system (a conception due in part to the neuron theory), both the structure and function of the cord have been much simplified. It is recognized that the primitive segmental character belongs essentially to the entire cerebrospinal axis; and that the real, ultimate function of this cerebrospinal axis is that of reflex action, the same sort of reflex action that is observed in the lowest forms of life. The elaboration of this simple reflex function into the highly complex and mysterious phenomena of the mind is too large a question to be discussed at the end of a paper. Suffice it to say that the cord, in the essential nature of its phenomena, is not much inferior, and but little different from that part of it which ultimately becomes the encephalon, the accredited seat of conscious mentalization.

This analysis of the cerebrospinal axis, which, for obvious reasons, I have had to make very brief and superficial, shows not only the limits of the cord's dependence and independence, but by placing the function and development of its constituent parts prior in importance to the mere anatomical location and relationship of those parts, it enables the student to grasp more intelligently, and, therefore, to remember more tenaciously those very relationships. The study of the nervous system, as I have endeavored to illustrate in this brief study of that part of it commonly known as the spinal cord, is best conducted by tracing its evolution rather than by merely describing it as it appears in the higher forms of life. Its architecture is better comprehended when observed in the process of building than when it is already builded.

100 State Street

PRE-MEDICAL EDUCATION.*

By STANLEY COULTER, A.M. Ph.D.

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It is probable that the time will never come when success in the practice of medicine will not depend more upon what our friends down East call "faculty," or what we, in somewhat grosser way, call "commonsense," than upon any course or courses of study open to the medical aspirant. Nothing can take the place of this inborn fitness for practice. Indeed, I very much doubt whether a theoretically perfect course, thoroughly pursued, would make a man a successful physician were he destitute of this. The requirements for a successful practitioner, apart from mere intellectual aptitude and professional skill, are so exacting that were they more fully appreciated the number of matriculants in medical colleges would be greatly reduced. The courage to try the gravest issues, the coolness in emergencies, the skill in separating the causal from the sequential in conflicting symptoms, the tact in calling into play the vital resources of the patient in critical cases—all these are a part of the mental furniture of the successful practitioner and a part of his equipment which shows anticipatory evidence before the pro-

*Read before the Indiana State Medical Society at the South Bend meeting, May 16, 1901.

fessional school is entered. No one lacking in these or manifold other qualities which might be named should be encouraged to enter upon the study of medicine.

Our complex civilization is making the interrelation of men so close that to-day problems overlap which were formerly considered sharply distinct. The problem of education is no longer solely in the hands of professional teachers, but the results of teaching, touching as they do upon efficiency in various lines of effort, make the problem one belonging to all branches of work in which trained intellects are a factor in success. So the engineer demands schools especially adapted for the training of engineers, and from the shops and offices of the various great industries comes the statement of what the courses offered should contain. It is so in agriculture, it is so in theology, it should be so in medicine. Up to the present time the attention of the medical fraternity has been turned to the medical school itself; it should be turned, in some degree at least, to the courses preceding the professional school. Holmes was fairly near the mark when he said that properly to educate a man you must begin with his grandparents. Certainly the course in medicine in the professional school would have much greater significance, much fuller meaning, and an infinitely greater value to the student if it were preceded by a wisely planned, thoroughly executed preparatory course in which careful and prolonged training was given in subjects strictly fundamental to those of the medical college.

There might have been a time when a two or three years' course, one-half of which was devoted to chemistry and other elementary, or better, preparatory studies would meet the demand for medical training, but that time is not the present. The tremendous outreaches in surgery and in general practice have so marvelously broadened the field, that such training, with the present outlook, seems plainly, almost grotesquely, inadequate. The cry that this is an age of specialization has in it something of justification if we look at the world's workers, but when we look at the schools we find a different side of the shield. The old, even the medieval, has been retained and the new, as it has been developed, has been injected until educational courses are distended to the point of bursting, and the pupils are given a smattering of an infinite variety of things, a mastery of nothing. In education, save in a few of the larger colleges and universities, this is far from a time of specialization.

It is to prevent this enormous dissipation of energy, to concentrate effort upon a few lines of work definitely and evidently connected with medicine, that I have urged the establishment of pre-medical courses. That such courses are efficient, experience and the testimony of medical faculties bear witness. In nearly all of the larger institutions such courses are now offered, and reports from widely scattered professional schools give evidence of their high value. In 1895, such courses were established independently at the University of Wisconsin and at Purdue, both gaining an immediate and hearty recognition. Since that time other institutions have established such courses where the number of students seemed to justify the necessary increase in the instructional force. The main problem in such courses at present is to make such a perfect articulation between college and professional school, that useless repetition of work may be avoided.

Considering the "raw material" with which the medical colleges have to deal, they are doing marvelously effective work, but they should receive better raw material. Indeed, the time is not far distant when all the leading medical colleges will demand some part, at least, of a college course as a prerequisite for admission. The opinion is unanimous with medical educators that the great defect among medical students is the lack of a thorough preparation for the study of medicine; such an education as can only be obtained in a well-equipped college or university. To quote from a recent circular issued by a prominent medical college: "The student who enters the profession of medicine without this training is seriously handicapped at the very points where he will find it most difficult to make up this deficiency in later years." Such facts should be brought to the attention of every student who intends to become a physician, and while this may be done by the teachers in the university or college, it can be done far more directly and efficiently by the practising physician to whom the ambitious aspirant goes for advice.

"It is of equal importance," indeed it is axiomatic "that the time spent by the student in his college course should be expended to the best advantage in acquiring a knowledge of those facts and a technical skill in those branches which are directly fundamental to medicine. These subjects are quite as useful as any others for the purpose of mental training, and may constitute a considerable part of the college course, without any sacrifice of that general culture which is its fundamental and essential purpose." I quote from the same circular.

To the thinking mind there is nothing so wonderful in these years of splendid achievements as the marvelous advances in operative surgery and the practice of medicine. No profession has so quickly laid hold upon the discoveries of science and no other has so greatly enriched science. So rapidly have new applications of science and new discoveries followed each other that the mind is bewildered at the vision of the possibilities that open before the earnest workers in medicine and surgery. The causal relations existing between public health and public prosperity, between health of body and intellectual possibilities and even of spiritual aspiration, are too patent for discussion. More and more clearly are those relations being recognized by the public and the closer this recognition the more imperative are the demands made upon the medical profession. The physician and surgeon stand in an entirely different relation to their fellows since empiricism has been replaced by science. In view of this new relation, the world is demanding, and demanding of right that those who are clothed with the dignities of the title "Doctor in Medicine" shall have a training commensurate with the high responsibilities which rest upon them.

The extension of courses of study in all medical colleges of the first class, accompanied by an increase both in extent and content of entrance requirements, is an admission of both the imperativeness and justice of this demand. At first thought this course would seem to meet the necessities of the case, but after all does not this solution leave out of consideration certain very important factors which of right enter into the problem? At the same time that professional schools are raising their entrance requirements, colleges and universities are engaged in the like pleasing occupation and even high schools have in a measure caught the infection. How does it all work out? Twelve years in the secondary schools; four years in the college; four years in the professional school. Twenty years of school life! The boy entering school at six, who is never sick, who never fails in his promotions, is able to enter the medical profession at twenty-six. I recognize the fact that time spent in preparation is never lost time, but I

seriously question if much of the work of these long years is preparatory work in any honest use of the term. Indeed, I am far from certain if the most wholesale robbery of our age is not the robbery of time perpetrated upon the youth of the land under the name of education.

When I consider also that these later years of training in university and professional school are years of constantly increasing expense, I am confronted with the question—are we not shutting the door of opportunity in the face of those who have neither time nor means to spend twenty years in study before beginning their life work? Between school and college, between college and professional school, there are great spaces of lost time resulting from an imperfect co-ordination of educational effort. It is because of this that I advocate so ardently that provision be made in colleges and universities for special pre-medical courses.

As the subject presents itself, six or seven years of preparation following the high school seem essential for a course leading to the Doctorate in Medicine. Three or four of these might advantageously be spent in the college and lead to the baccalaureate degree, and three in the medical college. The latter should be a strictly professional school, not loading its schedule with the great blocks of strictly preparatory work which now so largely fill the first year. I have no sympathy with the view that a college diploma should give advanced standing or even admit to a high-grade medical college. There are diplomas and diplomas, and in these days of group studies the diploma may stand for anything or nothing. The diploma carrying with it the entrance privilege to a medical college, should stand for specific work, done in a specific way, with a specific purpose in view.

In such a course two things should be always kept in mind: First, that it should rest upon a broad and solid foundation of what are sometimes strangely called purely cultural studies. The physician of to-day, if he achieve the highest success, must be a man of broad vision, with a clear perception of relations and with a knowledge of language sufficient to bring him into intelligent touch with the workers and the work of his own and other lands. Second, that in the presentation of the scientific subjects, such as might perhaps be called strictly fundamental to a course in medicine the result of training should be not so much an accumulation of facts as an attitude of mind in the presence of facts.

Certain subjects now taught in medical colleges might be taught fully as well, if not better, in the university, and such subjects should be insisted upon as entrance requirements by the medical school. Such subjects are physics, botany, zoology, chemistry, bacteriology, together with a considerable amount of work in physiology and comparative anatomy and dissection. I am far from saying that any course in these subjects should receive recognition, but if the medical faculties will state definitely just what chemistry or bacteriology or physiology they desire, the college and university will be found gladly acceding to the demands. In addition to the actual knowledge which these courses give, it will be found that the years of practice in various laboratories, the ability to take lectures intelligently, the familiarity with the general principles and terminology of the subjects which in the hands of the medical faculty are given a strictly technical application, fit the student in an exceptional way for his professional course. Such a pre-medical course should require all of the general subjects usually considered requisite for the bachelor's degree, especial stress, perhaps, being placed upon the modern languages. In the courses at Purdue University a minimum of three years' work in German or French is required, with provision by election for additional time. Students in such courses should also be required to take at least one year of work in physics, general chemistry, and biology, the work in each subject involving much laboratory practice. Upon such a foundation alone can be safely laid the courses more directly preparatory to the medical school. After such preparation the chemistry may be made to include almost all of that subject now required in the medical college and the work could be given with an attention to detail and an amount of personal supervision impossible to the professional school. In the subjects related to biology the technique so essential to successful work in histology, embryology, and bacteriology can be given in the smaller sections of the university with a thoroughness manifestly impossible in the large classes of the medical college. These subjects underlie modern surgery and medicine in such a way as to make a thorough training in them absolutely essential to the highest success in the professional school.

I would very much like at this point to explain in detail the character and extent of the work done in a high-grade pre-medical course. I can, however, because of time limitation, but call your attention to the course given at Purdue, as shown by these slips, which may be taken as a type, and without comment ask that you believe it to be honestly and closely administered.*

Purpose of the Pre-Medical Course.—The pre-medical course of Purdue University is arranged to meet a three-fold demand:

1. To furnish a broad and liberal education.

2. To give special and extended training in those subjects which underlie the strictly professional studies of the medical school.

3. By this co-relation of work to shorten the time required to obtain the university and professional degrees.

The graduates of Purdue who have completed this course are admitted to the second year of all first-class medical schools, thus saving a full year. That the other purposes of the course are secured is best shown by the synopsis of the course given in the following paragraphs:

The preliminary work required of students entering this course is that of the freshman and sophomore years of the general course, including mathematics, English literature, history, three years of either German or French, and one year each in general chemistry, biology, and physics. Additional general subjects taken are those required of the junior and senior years of the general course, including psychology, literature and history, geology, and German or French.

Special Pre-Medical Studies.—The special work of this course may be summarized as follows:

Quantitative chemical analysis, lectures (37 hours) and laboratory (222 hours).

Organic chemistry, lectures (52 hours) and organic preparations (108 hours).

Physiological chemistry, lectures (18 hours); physiological chemistry and urine analysis (102 hours).

Microscopical technique, lectures (15 hours); laboratory (105 hours).

Normal and pathological histology, lectures (46 hours); laboratory (140 hours).

Vertebrate anatomy and dissection, recitation (74 hours); laboratory (222 hours).

Embryology, lectures and laboratory (88 hours).

* By vote of the society this outline was made a part of the paper, and is hereby inserted.

Bacteriology, lectures (37 hours); laboratory (222 hours).

Elective.—Technical chemical analysis, eight hours weekly through the year.

Animal physiology, lectures (37 hours); laboratory (150 hours).

The most cursory inspection shows that in such a course none of the professional studies of the medical course is undertaken. There is no attempt to anticipate them, but there is insistence placed upon certain subjects knowledge of which and skill in which are evidently of the highest value in the work of the medical college. It will also be seen that such a course as I have sketched in the broadest lines has two main objects in view: First, to give to the pre-medical student the broad vision and strong mental grasp that can result only from a broad and liberal culture. Second, to give such special training in those subjects which underlie the science of medicine, that he may, when he enters the professional school, be prepared for its real problems and in a much greater degree than at present understand the magnitude of the work he has undertaken when he has chosen to enter the ranks of the medical profession. Incidentally this method saves one of the preparation years, no small matter in these strenuous times.

If the professional school of medicine and the college could make satisfactory allotment of courses more or less common to both, time and money and strength would be saved and much good would be done for medical science and through it for humanity.

THE CHEST PANTOGRAPH AND THE MANOMETER—THEIR CLINICAL USE AND VALUE.*

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Any device which will aid the physician not only in the diagnosis and treatment, but also in the proper recording of certain phases of his cases, has a claim on the interest of the body of medical men such as this. I desire, therefore, to present two instruments of precision, which have a limited range of usefulness, but which admirably meet the necessities of a certain class of cases.

First, as to the instrument, the chest pantograph. It is a device originated, I believe, by Prof. W. S. Hall of the Northwestern Medical School of Chicago

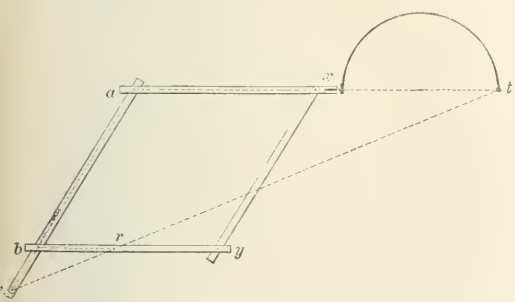

Fig. 1.—The Chest Pantograph. (From Hall's Text-Book of Physiology.)

for purely physiological purposes, namely, the graphic recording of the contour of the chest-wall and the determination of the cross-sectional area of the chest, at the end of both inspiration and expiration. This instrument is but a modification of the ordinary pantograph used by the artist in enlarging or reducing a picture. The position of the pencil is such that the outline of the chest, as recorded on the chart, may be made one-fourth or one-fifth of the actual size. In its use, the patient is placed at the side of a table with the chest level, to be depicted, opposite the top of the table. A sheet of ordinary paper, ruled off in squares a millimeter in size, is fastened to the table by thumb tacks, and the pantograph is then clamped to the table. By drawing the end of the brass semicircle around the chest, starting and stopping at the same point, the chest contour will be perfectly duplicated on the paper. The advantage of the ruled paper is that it enables one accurately to calculate any diameter, or the cross-sectional area, of the chest. In the tracing of the normal chest, you will notice the larger dimensions of the right half of the thorax, due, doubtless, to its better muscular development in right-handed persons.

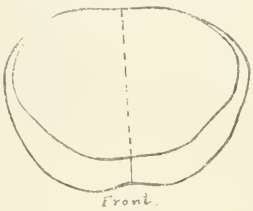

Fig. 2.—Contour of the Normal Chest.

Now, it has occurred to me that, while the instrument was gotten up purely as a physiological device, it is capable of considerable practical clinical utility, in estimating and recording certain diseased conditions. Among these the following suggest themselves as appropriate for its use:

1. By *inspection*, in a case of pulmonary tuberculosis, we make a crude estimate of the chest form and say, "there is *some* depression" in one infraclavicular region; or "there is *deficient* expansion" on one side. With the exception of the cyrtometer

Fig. 3.—Tuberculosis of the Right Apex mainly. Contour of the infraclavicular regions, from one coracoid process to the other.

Fig. 4.—Tuberculosis of the Right Apex. Contour of the infraclavicular regions, from one coracoid process to the other.

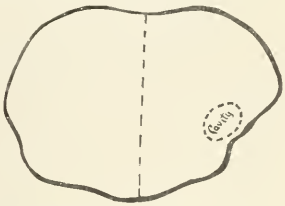

Fig. 5.—Disease on Both Sides, but Chiefly on the Left. There is a cavity with fibroid contraction at the left apex.

of Voillex, which makes a cumbersome, full-sized tracing, there is no accurate method of recording this alteration in the shape of the depressed region or of recording the *amount* of the defect in ex-

* Read before the Colorado State Medical Society, June 20, 1901.

pansion, in inspiration, at a given examination. With the pantograph, or stethogoniometer as it is often called, a reduced tracing can be made and preserved; and subsequently any increase in the condition and its amount can be determined by another

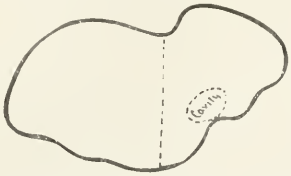

Fig. 6.—Trouble on the Left Side mainly. The chest-wall has fallen in over a cavity as a result of a resection of the overlying ribs.

tracing. In this way we can scientifically note the progress of these features of our cases of pulmonary disease.

2. What has just been said will apply with equal force to *any* deformity of the chest, *progressive* in character, such as that of emphysema, of contraction of the chest, following pleurisy or incident to fibroid disease of the lung, or that occurring in curvatures of the spine (anterior, pos-

Fig. 7.—Emphysema in a Person Sixty-nine Years of Age. The right side is smaller than the left at the end of inspiration, because it is filled with pleuritic effusion.

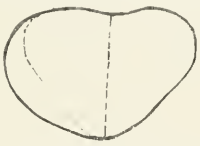

Fig. 8.—From a Girl, Twelve Years of Age. Left side retracted by pleurisy.

terior, or lateral); to intra-thoracic tumors, aneurysmal or otherwise, pressing out the chest-wall at any point; to precordial bulging from pericardial effusion, especially in children, or to distention of one side of the chest by liquid or air in the pleural cavity.

3. As a means of record, purely, in *unprogressive* deformities of the chest, it is also of value. Take, for instance, its tracing of pigeon-breast, funnel-breast, the rachitic chest, the alar chest, the barrel-shaped chest, etc.

4. As a definite means of keeping track of many conditions beside those of the thorax, surgical as

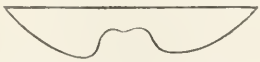

Fig. 9.—Alar Chest. Back tracing, showing the projection of the scapulæ; same patient as in Fig. 4.

well as medical, the pantograph is available. Thus we could record the change in size and shape of the face in acromegaly, of the head in hydrocephalus, of the neck in goiter, of the abdomen in cases of irregular tumors and enlargement, where mensuration would not suffice, in the extremities, in certain

Fig. 10.—Fourteen Years of Age. Pigeon breast

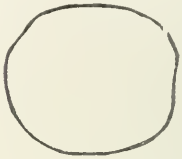

Fig 11.—Six Years Old. Rachitic chest.

malformations, tumors, etc. Illustrative of its work, a number of tracings are herewith presented.

The second appliance, of which I desire to present the claims, is the ordinary manometer filled with mercury or with physiological salt solution. It consists of a U-shaped tube, containing the selected fluid. To this a rubber tube is attached, through which the pressure of fluid or gas can be brought to bear upon the column of liquid. This pressure causes the fluid to rise in the near or far limb of the manometer according as the pressure is negative or positive. Clinically, this instrument has been used for years in estimating expiratory pressure. Of this, however, I do not desire to speak, but rather of a new field of usefulness in the surgery of the chest. To enable me better to present its value in that field, you will pardon a word on the physiology of the pleura. As you are well aware, by virtue of the elasticity of the lung parenchyma, there is a constant tendency for the lung to pull away from the chest-wall, that is, a tendency to a separation of the pulmonary and costal layers of the pleura. Normally this cannot be accomplished; nevertheless, the elastic pull is there, and leads to a constant condition of negative pressure, or "suction" if you prefer, in the pleural cavity, known as the intra-pleural or intra-thoracic pressure. Its amount is six millimeters of mercury at the end of expiration and nine millimeters at the end of inspiration. If after connecting it with a manometer, you insert a small hollow needle carefully through the chest-wall, the moment it enters the pleural cavity the suction there leads to a movement of the mercury in the manometer toward the pleura. If, through disease, the layers of the pleura are adherent, the pleural cavity is thereby obliterated, and its negative pressure is annulled. Under these circumstances there will be no movement of the fluid toward the chest. Thus the manometer affords an easy and safe method of disclosing the presence or absence of pleural adhesions in any case. To Sapiejko belongs much credit for introducing this simple method of procedure. Its value will be apparent when you consider the present status of lung and chest surgery. To-day, abscesses of the lung are being directly opened; gangrenous, tuberculous, and actinomycotic foci in the lung are being excised; cavities, tuberculous and bronchiec-

tatic, are being opened and drained or topically treated. Much success has attended the direct treatment of these tuberculous cavities and lung abscesses. In an article in the *Revue de Chirurgie*, July 10, 1899, Sapiejko concludes from a considerable experience in lung surgery that incision of the pleura and lung may lead to a favorable issue, if pleural adhesions exist; and, fortunately, these are present in the majority of cases in which suppurative processes occur in the lungs. It is, therefore, of the highest importance to determine whether adhesions *do* exist and their exact situation, so that the shortest and least dangerous route through them to the focus of lung disease can be determined. This the manometer readily accomplishes. Moreover, where no adhesions exist, the instrument gives instant warning of the penetration of the costal pleura and prevents unnecessary penetration of the lung.

In cases in which it is desired to use Murphy's artificial pneumothorax method for the treatment of pulmonary tuberculosis, the presence of firm adhesions is prohibitive, and here the manometer gives valuable preliminary information. By many observers it is coming to be believed that in pulmonary hemorrhage the intra-pleural injection of air or of nitrogen to compress the bleeding lung is a very valuable resource. Henry P. Loomis (MEDICAL RECORD, May 19, 1899) says that it has never failed in his experience to stop pulmonary hemorrhage, even in desperate cases. Stubbert and C. P. Thomas give similar testimony (*Journal of the American Medical Association*, October 28, 1899). If there are no adhesions over the bleeding lung, this method is immediately available, and the question of the patency of the pleural cavity is readily determinable by the manometer. In all of these cases its employment seems preferable to that of the more crude method of determining adhesions proposed by Murphy. Finally, it would seem, when the pericardium has to be opened, that adhesion of the two pleural layers overlying it might previously be determined by this method. If adherent, a fairly direct route to the pericardium would be open. If not adherent, a more indirect course would have to be taken to avoid pleural infection.

While the two instruments to which attention has been called have no special relation to each other, they have been presented together because they illustrate the constantly increasing debt which clinical medicine and surgery owe to physiological research.

PISTOL-SHOT WOUNDS.*

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NEW YORK.
CORONER'S PHYSICIAN, BOROUGH OF THE BRONX.

IT is my intention to discuss the subject of pistol-shot wounds from a purely medico-legal standpoint, and to point out briefly the manner of making examinations in these cases. The pistol and gun-shot expert has come into prominence lately in a number of criminal trials, and it may safely be said that such testimony shows less discrepancy than that of nearly all expert witnesses. As the general practitioner or the hospital surgeon is usually the first to see a shooting case, whether it be accidental, suicidal, or homicidal, and as the first observations are the most important—in fact, generally offer the only opportunity for a complete examination—it is important that a proper and thorough examination of the patient and of the surroundings should be made, and the result reduced to writing at that time. By doing this other lives may be saved and the guilty brought to justice.

Death from pistol-shot wounds is caused primarily by shock or hemorrhage, the latter being the more frequent cause. Secondarily, death results from sloughing, septicæmia, pyæmia, gangrene, erysipelas, or it may result from operative measures undertaken with the hope of saving or prolonging life.

At times the question may arise as to whether a pistol-shot wound was produced before or after death. If coagula and effusion of blood are present, it was produced before death. Neither coagula nor effusions of blood are caused by wounds on the cadaver except when a large vein is opened.

In the examination of these cases we should first look for the wound of entrance, and then for the wound of exit, if any. In some cases, and they are invariably suicidal, we find no visible external marks of any kind, except perhaps a little blood around the mouth. I refer to those cases in which the person shoots himself in the mouth, the bullet going upward through the soft palate into the cranial cavity. The size of the wound of exit is from three to four times that of the wound of entrance, and the opening is irregular, resembling a small, lacerated wound.

The *distance the pistol was held* from the person when fired is usually the most important point in the criminal courts, and this can be quite accurately determined in most instances. We must examine carefully the entrance wound as to size, and the presence of powder grains, powder marks, smoke, burned hair, or skin. Generally speaking, when a pistol is held tightly against the skin the entrance wound is large as compared with the caliber of the pistol, the edges of the wound are burned and lacerated, and there is no surrounding area of blackening, burning, or powder staining. The staining is in the subcutaneous tissues, and the powder grains are found along the track of the bullet. If the clothes should intervene, they are scorched and blackened, and at times ignite. If the pistol be held from one to two inches away from the body, the entrance wound is small and the edges are ecchymosed. Surrounding the wound is an area, from one-half to two inches in diameter, in which the skin is blackened and scorched and the hair is burned to the skin. Outside of this is another zone of blackened skin, but there are no burned powder grains imbedded. The farther away the pistol is held up to a certain limit the more distinct are the imbedded powder grains, and outside of the last two zones described we usually find a few isolated powder grains. The burning of the skin and hair is regarded as the most certain diagnostic point concerning the distance of the pistol when fired. As the pistol is brought farther away there is less burning, the grains of powder are more distinct, and very little smoke is present.

Dr. Charles Phelps thus summarizes the results of his experiments: Burning of the skin is present up to a range of six inches; it is variable, however, from three to six inches. The presence of powder grains shows that the range has not exceeded five feet, while smoke stain is constant up to a distance of eight inches. If the pistol has been held at some distance, ten to twenty feet or more, the entrance wound is small and rounded, no blackening surrounds it, and there are no marks of powder, smoke, or powder grains. The diameter of the area of blackening, burning, powder grains, etc., surrounding the wound of entrance is usually the larger the farther away the pistol was held when fired, but this is unreliable as compared with the sign of burning. Of course, the caliber of the pistol, length of barrel, the kind of

*Read before the New York Celtic Medical Society, June 24, 1901

powder, and the age of same are all to be considered, and experiments should be conducted on the cadaver with the same pistol and bullets as used in the case, there being little difference in the wounds produced by pistol shot on the dead or on the live subject.

Continuing our examination of the *entrance wound*, we notice that in head cases there is very little bleeding; oozing of brain matter is present in about 50 per cent. of the cases, but both these are at times absent, and I recall a case of pistol wound of the head in which a diagnosis of apoplexy was made by the attending physician, and the wound was not discovered until three hours later, and then by another physician. One should notice the shape of the entrance wound, whether distinctly rounded, as it is when the pistol is fired directly at the person, or whether it is tunneled or grooved. This is, at times, very important in determining the relative positions of the interested parties when the shot was fired. Entrance wounds are smaller than the caliber of the bullet which has produced them, except when the pistol has been fired in direct contact. This diminution in size is due to the elasticity of the skin.

The *penetrating power* of pistol shots depends on the caliber of the pistol, the kind of bullet, the brand of powder, its age, and the character of the tissues which the bullet traverses. In my own observations of pistol-shot wounds of the head, I have rarely seen an exit wound. A 22-caliber bullet fractures the skull; it may or may not lacerate the meninges, and it but rarely enters the cranial cavity. A 32-caliber bullet penetrates the brain and, if it passes through the squamous portion of the temporal bone, it usually produces a comminuted fracture of the bone opposite. By careful external palpation the fracture can often be detected, and by a short incision the removal of the bullet and of the fragments of bone can be effected. The bullet will be found lying flat on the surface of the brain. This condition was present in four of my cases, and the bullet was removed in the manner described. From the character of the fracture it seems to me that during the passage of the bullet through the cranial cavity it twists on itself and strikes the inner table with its long side, and not by the point as one would expect. A 32-caliber bullet passing through the mastoid portion of the temporal bone penetrates and lacerates the brain, but goes no farther, and, as a rule, is found as it has fallen back into its own track. Bullets of 38 to 42-caliber penetrate, and, in some cases, perforate. Accurate anatomical description of the positions of the wounds of entrance and of exit should be made, and the direction of the wound should be accurately determined. Both these may be of service in locating exactly the position of the person who fired the shot as well as the position of the wounded man, whether he was standing, falling, or lying down when shot. Bullets are sometimes distorted or twisted into a leaden mass, so that their caliber is unrecognizable, by passing through bone.

At times it is very important in giving legal testimony that the *caliber of the bullet* be known. This is determined by accurately weighing the leaden mass and comparing the result with the standard weights of different calibers. The caliber sought for will be that one which corresponds with a weight exceeding by a few grains the weight of the leaden mass. This is because the bullet loses weight in its course. In one of my cases, in which the bullet passed through the mastoid process and into the base of the skull, this loss in weight amounted to nine grains.

Examination of the pistol.—At times a chemical analysis of the bullet may be necessary to prove it to be identical with those in the pistol of the accused. Pistols should always be examined to determine if they have been recently discharged. There is no precise rule for this determination. After a pistol has been fired the barrel is lined with a black deposit which consists of sulphide of potassium and charcoal, and this deposit when diluted with water gives a strongly alkaline reaction and has the odor of sulphuretted hydrogen. On the addition of a few drops of a solution of acetate of lead a deep brown precipitate forms. If the pistol has not been fired for hours or days, according to the degree of exposure, this black precipitate changes from the sulphide to the sulphate of potassium. The latter gives a neutral reaction in a watery solution, and a white precipitate on the addition of the acetate of lead. If the time which has elapsed amounts to weeks or months, traces of the oxide of iron as well as of the sulphate of iron will be found.

Wounds made by blank cartridges.—In conclusion, I think it opportune to direct your attention to wounds produced by blank cartridges. The relation of tetanus to wounds of this character is well known to all of you. As to whether or not the wadding is the agent which carries the germs into the system it is well to remember that it has been known to penetrate to a depth of two inches. Its removal is, of course, imperative, and is essential to the proper treatment of these wounds.

187 Alexander Avenue.

Relapses After Gallstone Operations.—H. Mohr says that the consensus of opinion is that true relapses, owing to re formation of calculi, are rare, but that many other factors may cause recurrence of the symptoms after the operation. Among these are the presence of stones overlooked at the time of operation, inflammatory colic of the gall-bladder, kinking or rough manipulation of the bladder or ducts, and adhesions. The greatest safeguard against the occurrence of these is easy operating, which is possible only when the cases are taken early, before complications have arisen and necessitated difficult and protracted procedures, followed by long-continued drainage. While most surgeons remove the gall-bladder itself only when it is the seat of serious lesions, such as ulcer, contraction, infiltration, or suspected malignant disease, the great number of pseudo-relapses after cystostomy has convinced Kehr of the advisability of performing cystectomy more and more often, and reserving the cystostomy only for acute cholecystitis.—*Volkmann's klinische Vorträge.*

On the Acute Dilatations of the Heart Met with During Childhood and Adolescence.—A. D. Blackader considers the predisposing factor to acute dilatation in early life to be the rapid development of the heart at puberty; a second factor is the anæmic and impoverished condition of the blood frequently present at this time, associated with a depressed condition of the nerve centers. Toxæmia, such as is present in almost all pyrexias, is similar in effect. Acute dilatation of the heart frequently occurs in diphtheria, influenza, typhoid fever, scarlatina, with renal complications, and rheumatic fever in children. He believes that among the directly exciting causes of dilatation in youth severe and prolonged exercise—swimming, running, various games—holds a prominent place, and thinks that the games of school children should be under competent supervision. In treating the condition, rest, with regulated diet, digitalis, and strychnine, with the nitrites in distinct accentuation of the aortic sound, are recommended.—*Montreal Medical Journal.*

High Temperature in Scarlatina and Measles, as Related to Gastrointestinal Toxins and Fermentation.—Arthur DeVoe observes that rectal injections of cool water containing sulphocarbolate of sodium reduce high

temperatures in scarlatina and measles; that the temperature declines even without movement of the bowels; that more notable reduction ensues when the enema is followed by discharge of gas or dejecta, and that in the same cases and conditions the cold bath has not acted so beneficently. He has noted the presence of carious teeth in many cases of high temperature in these diseases, tending to generate toxic influences for the lower digestive tract, and suggests the use of cooling, antiseptic washes and gargles during the periods of high fever. Cooling, antiseptic enemata tend to prevent post-scarlatinal nephritis and high post-eruptive temperatures. The author extends the use of antiseptic flushings to other diseases developing high temperatures, and in which autotoxins accumulate and are active.—*Pediatrics.*

Albuminuria Following Cold Bathing.—Giacomo Rem-Picci concludes from his observations that people react very differently to cold bathing; the less robust and the thinner the individual, the more liable is he to albuminuria. This appears rapidly, sometimes within eleven minutes after the bath, and disappears after a few hours. The habit of cold bathing does not seem to prevent the appearance of the albuminuria, which, however, is slight, rarely going beyond 0.25 gram per thousand. The albumin appears to be serum-albumin. Hyaline casts are sometimes found. Polyuria usually accompanies the albuminuria, but the relation is not constant. The elimination of total solids is increased after cold bathing, whether or not there be albuminuria. Urobilinuria is not produced. Arterial pressure is increased after cold baths or douches of short duration, but after those of longer duration it is diminished for several hours. Prolonged and very cold baths cause rapid and irregular heart action, more or less diffuse cyanosis, and sometimes dilatation of the right heart.—*Il Policlinico.*

A Case of Venous Thrombosis in the Lower Limbs of a Chlorotic Patient.—Aldo Magri reports a case in which there could be no doubt as to the diagnosis of either the chlorosis or the thrombus. The researches of Castellino, as well as those of Andral and Gavarret, have established the fact that there is some condition in the blood of chlorotic patients which favors coagulation when local conditions predispose to it and to an increase in the fibrin. The circulation being somewhat slower in the lower limbs than elsewhere, it is natural that a thrombus should form in this situation; and it is also natural that it should form in the left leg rather than in the right, since the circulation there is apt to be retarded by the fact that the left iliac vein forms an angle with the ascending vena cava, and also because the right iliac artery, in passing over the left iliac vein, probably subjects it to a slight compression.—*Giornale Internazionale delle Scienze Mediche.*

The Origin of Gastric Ulcer.—W. Gordon, after mentioning the various theories which are held in regard to the causation of gastric ulcer, gives his reasons for inclining to the belief that, contrary to the opinion commonly held, the process is an inflammatory one, and that the inflammation may at least sometimes be due to microorganisms. Acknowledging that a single specimen is not enough to found a theory on, he submits one case of typical ulcer in which abundant micrococci were found. The existing theories, he argues, are unsatisfactory, and account for very few of the cases; it is reasonable to suppose that gastric ulceration, like other ulcerations, is primarily an inflammatory process; and it is also reasonable to pass from the supposition that gastric ulcers are inflammatory to the further supposition that they may be caused by microorganisms.—*The Bristol Medico-Chirurgical Journal.*

The Effect of Air Temperature on the Temperature of the Mouth.—A. Bluhm, as the result of an extensive series of observations made on himself, finds that the mouth temperature is dependent on the temperature of the surrounding medium, low temperatures of the latter causing a low temperature in the former. The range of this drop is proportional neither to the absolute degree of external temperature nor to the difference between room and out-of-door temperature, although a slight discrepancy produces a slighter drop than a greater one. The effect of the external temperature in influencing the mouth temperature varies with the individual, but is sufficiently great to have practical bearing and during the winter months the temperatures of tuberculous patients taken out of doors in the open-air treatment should be increased several tenths of a degree centigrade.—*Zeitschrift für Tuberculose und Heilstättenwesen.*

Contribution to the Clinical Study of Erysipelas.—H. Roger, in speaking of the effect of erysipelas upon tuberculous affections, says that a distinction must be made between cutaneous and visceral tuberculosis. Of three erysipelatous patients affected with lupus, two showed no modification of the lesion, while in the third the lupus lesions of the cheek were cicatrized, that of the nose unaffected. Two patients suffering from visceral tuberculosis died of the disease, the erysipelas apparently having played no part at all. In a third case, that of a man with pulmonary tuberculosis, whose general condition was fairly good, erysipelas developed without special characteristics. Five days later, however, the patient died from hæmoptysis, and the author questions whether in that and in another similar case, the erysipelas may not have been an unfavorable influence.—*Archives Générales de Médecine.*

Constitutio Lymphatica.—George Peacocke believes that lymphatism may be the explanation of many sudden deaths in children that have heretofore not been understood. He reports four cases in which it was noted that up to the time of death the children were apparently healthy, that death was sudden, and post mortems revealed no morbid appearances other than the usual lymphoid changes present in subjects of the status lymphaticus. As it is claimed that many deaths from chloroform anæsthesia, administered by competent anæsthetists, are due to this morbid condition, it is important to recognize it during life, but as yet there are no positive data for diagnosis. The discovery of local or general hyperplasia of lymphatic structures is important evidence, and blood examination may also afford valuable data.—*The Dublin Journal of Medical Science.*

The Arterial Pressure of Consumptives.—Max John publishes a series of observations which lead him to conclude that in the earlier stages of pulmonary tuberculosis blood pressure and specific gravity are normal. Diminution in these two factors indicates marked invasion of the tuberculous process, even when this is but slightly shown by the physical signs. After it has dropped below 70 mm. of mercury, a rise in pressure rarely takes place; but, excluding cases with nephritic complications, a rise, when it does occur, always points to improvement, while further decrease means progression of the disease. In emphysema both blood pressure and specific gravity are raised.—*Zeitschrift für diätetische und physikalische Therapie.*

The Physical Basis of Melancholia.—John Turner states that certain cortical nerve cells are altered in appearance in many cases of melancholia. There are also lesions in the cells of the cord, but only in advanced cases is there degeneration of the myelin sheaths, this occurring in the crossed pyramidal tract. Experiments show that the changes can arise by agents having a destructive effect on the axons of the cells involved, or by those which do not primarily affect these axons. Melancholia is placed in the latter class. The writer considers that melancholia depends on dissolutions of the nervous system affecting the sensory section of the reflex nervous mechanism, due to deprivation of the nerve cells of their normal sensory stimulus.—*Medical Press.*

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THE ABOLITION OF THE ARMY CANTEEN.

AT the time when the exertions of well-meaning, but ill-advised, temperance enthusiasts resulted in a decree of Congress doing away with the army canteen, the prediction was made in the MEDICAL RECORD that this course would be found, after trial, to have been a grave error of judgment.

The warning has been fully borne out by the testimony offered by an overwhelming majority of army officers, medical and otherwise, in favor of the canteen, as well as by the opinions in the same direction tendered on the part of the medical profession generally.

Major Louis Seaman, Surgeon U. S. A., has done yeoman service in placing before the public the canteen question in its true aspect, stripped of all the emotional sentimentality in which it was presented by earnest temperance advocates in the first instance. Dr. Seaman's able defence of the system has been well followed up recently by several medical authorities, at the meeting of the American Public Health Association held in Buffalo in the week ending September 21.

Captain Edward L. Munson, Assistant Surgeon U. S. A., read before the meeting a paper containing voluminous statistics, culled from his work on military hygiene, which went to show the undeniable benefits that had accrued to soldiers from the establishment of the canteen. For example, to quote a few of the facts thus collected, it is stated that in the six years subsequent to the introduction of the canteen, admissions to the army hospitals for alcoholism declined 23.6 per cent.; cases of delirium tremens were less by 31 per cent.; cases of insanity by 31.7 per cent. The annual average of convictions by court martial for drunkenness was brought down from 372 to 160; the rate of desertion decreased from 9 to 4.5 per cent., and the number of soldiers depositing money increased 13 per cent.

Dr. Charles R. Greenleaf, Assistant Surgeon-General U. S. A., late Chief Surgeon of the Army in the Philippines, recorded his belief in the efficacy of the canteen in promoting the physical and moral welfare of the soldiers, and Dr. Albert L. Gihon gave similar favorable evidence.

Hard facts such as these cannot be disregarded, and while allowing to the opponents of the system the possession of the most estimable of motives, it cannot but be conceded that the opinions of army officers who have the subject at their fingers' ends, and to whom the well-being of the soldiers must be a matter of the first importance, should weigh more with Congress than the views of irresponsible and enthusiastic reformers who are deplorably ignorant of the true merits of the question. So convinced were the members of the Public Health Association present at the recent meeting at Buffalo of the cogency of the arguments advanced on behalf of the army-canteen system that with singular unanimity they passed the following resolution: "That this body deplores any action in curtailing the operation of army canteens or post exchanges as formerly existing in the United States Army, and in the interest of general and military sanitation and temperance recommends their re-establishment on their former basis."

Our country's legislators cannot fail to be impressed by the remarkable consensus of opinion in favor of the re-establishment of the army canteen prevailing among army medical officers and among all those best qualified to judge of the case in a dispassionate manner, and will doubtless act in accordance with these views.

DIET IN PULMONARY TUBERCULOSIS.

IN the sanatorium treatment of this disease as carried out at the present time—and in German sanatoriums in particular—the practice is followed of stuffing patients with food. The results claimed by physicians in Germany in charge of these institutions have been so satisfactory that it has almost become an article of belief that such is the proper procedure.

From time to time, an American or British medical man has lifted up his voice in protest against carrying this method to the extreme, but his plea has been overborne as a rule by the mass of statistics which have been hurled promptly at his head by the upholders of the system. Once more, however, a physician has had the courage of his convictions, and undeterred by previous failures has boldly stated his opinion. Dr. Noel D. Bardswell of Sheffield, England, read a paper at the British Congress on Tuberculosis recently held in London, in which he declared that overfeeding in cases of pulmonary tuberculosis was a mistake, and further fortified his position by a narration of cases experimented upon, in proof of his contention.

During the autumn of last year, Dr. Goodbody of University College, London, undertook some exhaustive researches to test the effects of ordinary and forced feeding on the metabolism of tuberculous patients. The results briefly epitomized were. (1) Patients, unless closely supervised, did not eat a sufficient amount of food. (2) Patients in special sanatorium wards did excellently in every respect, judged both from a clinical and experimental standpoint. The diet in these wards was meat seven ounces, bacon two ounces, egg one, milk three pints, butter three ounces, bread seven ounces, sugar one ounce, pudding five ounces, vegetables six ounces, daily, divided into three meals. (3) Patients after taking this diet, when given a considerably larger quantity of food, did not give such satisfactory results. They gained weight at a greater rate, but in several cases with deterioration of general health, and laboratory results indicated deranged metabolism. Coincidentally with these experimental results, indicating deranged metabolism, the patients' condition from a clinical stand

point became less satisfactory, and anorexia and dyspeptic symptoms appeared.

The contrast to the bad effects produced by excess of proteid—the inclusion of very large quantities of fat in the diet—led to practically no diminution in the percentage absorption of fat. The observers for purposes of comparison then made similar experiments upon themselves, and noted rapid gain in weight, at the expense of general health. The derangement of health after three or four weeks of forced feeding was such that the experiments had to be stopped, as the observers were unable to go on with their ordinary avocations.

The results thus obtained from experiments are now being put into practice at a Scotch sanatorium. So far the results have shown that the very large diet often given in sanatoria is to a large extent unnecessary, and often harmful.

The fact cannot be denied that a person suffering from tuberculous disease of the lungs requires a sufficiency of good nourishing food, suited to his condition. On the other hand, it is open to doubt whether the practice pursued in the majority of sanatoria of cramming patients indiscriminately with a vast quantity of food is not carried out with frequent injurious effects. It would seem that Drs. Bardswell and Goodbody are right in their assertion that each patient suffering from pulmonary tuberculosis should be experimented with until the nature and quantity of diet best calculated to benefit his particular case have been determined, rather than to overload the stomach with food irrespective of other considerations. Undoubtedly, much has yet to be learned with regard to the most efficacious dietetic treatment of consumption.

"A FULL PATHOLOGICAL REPORT TO BE FORWARDED IMMEDIATELY."

If a patient should come to a physician and request that he be completely freed from a chronic disease, say tuberculosis or syphilis, within twenty-four hours, the physician would think him either densely ignorant or seriously demented. Yet the request for a full and immediate pathological report, which so often accompanies specimens sent to laboratories for examination, is not less rational in very many instances than the demand of that unreasonable patient. Pathologists would probably not have occasion to complain of such impossible demands if the majority of physicians were aware of the fact that in any case a number of days, and in some instances weeks and months, are required to prepare a specimen before sections can be made, to say nothing of the time required for staining and examining the finished sections.

Let us take, for example, the simplest possible case: A piece of ulcerated skin is to be examined for evidences of tuberculosis or syphilis. Supposing that the pathologist has nothing to do for the nonce and that he begins work on the specimen as soon as it arrives, the tissue must be submitted to the following preparation before it is ready for examination: (1) It is cut into suitable pieces and placed in a 5-per-cent. solution of formaldehyde for twenty-four hours. (2) The formalin is washed out with water. (3) The specimen is placed in equal parts of alcohol and ether for from twelve to twenty-four hours, or longer if required for thorough hardening. (4) It is then placed in a thin solution of celloidin for a similar length of time. (5) It is transferred to thick celloidin, where it remains for about twenty-four hours. (6) It is mounted upon a block of wood, glass, or vulcanite, and imbedded in celloidin, which is allowed to dry in the air. (7) The block with the tissue is placed in chloroform or 70-per-cent. alcohol for twenty-four hours, in order to harden the celloidin. (8) The tissue is now ready for cutting with the microtome, and the sections may be immediately stained, cleared in an essential oil, mounted in balsam, and examined. Thus from three to five days will have elapsed before the specimen is ready for the microscope. It may be added, however, that for cases in which an examination is urgent, there are several quick methods, such as freezing, etc., whereby sections may be cut and examined in a few hours, and also that the process described above has been, under the stress of necessity, so shortened that but two hours were allowed to each solution, so that the sections were cut and stained within twenty-four hours. With such shortened methods, however, the results obtained can never be so satisfactory as with that described in detail, for with the rapid methods the tissues cannot be properly hardened, fixed, and imbedded.

The height of absurdity is reached when requests for immediate reports accompany tissues so delicate that they take weeks to harden, or which are so infiltrated with calcium salts that decalcification is necessary—a process which usually means weeks of maceration. Similar examples are met in cases in which specimens of brain or spinal cord are received with the request to examine the lesions and to trace the degenerations through the medulla and cord. This last procedure would require, in the first place, fixing and hardening, which for small pieces of tissue may take from five to ten days (in osmic acid), and for large pieces, such as the whole cord or brain, would require months. For delicate work it is also often necessary to imbed sections of brain or cord before cutting; then follow the operations of cutting sections or serial sections, staining, and mounting. It can readily be imagined that a request for an immediate report in such a case meets with but little response on the part of the pathologist.

The Canteen.—Captain Edward L. Munson, Assistant Surgeon U. S. A., made an eloquent plea for the re-establishment of the post exchange in the army at the meeting of the American Public Health Association in Buffalo a few days ago. According to the convincing statistics collected by him and presented to the association, in the six years following the introduction of the canteen, the admissions to the army hospitals for alcoholism fell off 23.6 per cent.; delirium tremens diminished 31 per cent., insanity 31.7 per cent. The annual average of convictions by court martial for drunkenness fell from 372 to 160; the rate of desertion decreased from 9 to 4.5 per cent., and the number of soldiers depositing money with the paymasters increased 13 per cent. Captain Munson's views are shared by the members of the Board of Managers of the National Soldiers' Homes, who have been making their annual inspection of the homes at Hampton, Va.; Dayton, Ohio; Marion, Ind.; Danville, Ill.; Leavenworth, Kan., and Santa Monica, Cal. They favored the continuance of the canteen in the homes, as the veterans were less likely to drink hard liquor and were more easily governed when they could get mild alcoholic beverages with a resort to "fence jumping."

News of the Week.

Complimentary Dinner to Professor Rudolf Virchow.—It is proposed by pupils, friends, and admirers of Rudolf Virchow, to celebrate his eightieth birthday at a dinner to be held on October 12, under the chairmanship of Dr. William Osler, at a place to be announced to those who will have subscribed. The price of the dinner ticket will be $10. Replies are to be sent to the Chairman of the Committee, Dr. A. Jacobi, 19 East Forty-seventh street.

Rinderpest in South Africa.—The correspondent of the *Sun* telegraphs from Pretoria that rinderpest is virulent there. The outbreak was first noticed about September 4, and the disease has now spread through the Transvaal and the Orange River Colony. Energetic measures have been taken to inoculate all the government and private stock now in the hands of the British, and it is said that the pestilence has already been checked. The stock that is still in the hands of the Boers is expected to suffer heavily.

The Famine in Russia.—The evidences of approaching famine in many of the governments of Russia are accumulating, and the officials are beginning already to take measures to reduce to a minimum the inevitable suffering that will ensue. The sum of 96,000 rubles ($48,000) has been appropriated for the government of Saratoff; 407,000 rubles ($203,000) for Tauris, 100,000 rubles ($50,000) for the non-military peasants in the Don basin, and 190,000 rubles ($95,000), with a supply of autumn seed, for the government of Yekaterinslaff. On August 15 the central government's famine fund amounted to only 530,000 rubles ($265,000). Emperor Nicholas ordered that this be increased to 14,000,000 rubles ($7,000,000). According to the reports of the governors, State assistance is required in nineteen provinces, not counting the country of the Don Cossacks.

School Inspections in Syracuse.—The Board of Health of Syracuse, N. Y., will have a monthly health inspection of all children in attendance at the public schools this winter. The eyesight will be tested, and each child will be examined as to its physical condition, and especially as to the presence or absence of contagious diseases of the eyes and skin. Instruction will also be given by the inspectors regarding the proper method of sitting at the desk, and other points of hygiene.

The Health of Havana.—The report of Major Gonzas of the health conditions of Havana during August is again most satisfactory. The number of deaths was 480, which is a smaller number than has occurred in any August since 1889, when the records began. The least number was 559 in the year 1900; the greatest, 1,978, occurred in 1898; the average was 902. The rate per thousand for August was 22.24, which compares favorably with that of many cities of the civilized world. Not a case of smallpox has occurred since July, 1900, and this even though no quarantine is in force against New Orleans, New York, and many other places in which smallpox exists. The smallest number of deaths from yellow fever occurring in any August since 1889 was 13 in 1899; the greatest was 262 in 1896; the average is 840. This year only two deaths have occurred during the month. The yellow-fever season in Havana has usually begun in April, reaching its height in September. The least number of deaths from this disease in the five months during the period since 1889 was in 1899, when there were 18; the greatest number was 603 in 1897; the average is 226. This year during these five months only 3 deaths have occurred from yellow fever. The authorities are convinced that this freedom from Cuba's former scourge can be due only to the methods of disinfection adopted, that is, through destruction of infected mosquitos in the neighborhood of the focus of infection.

An English Coroner's Jurisdiction on an American Man-of-War.—The London *Mail* tells of a curious conflict of authority occurring not long since at Southampton, England. The warship *Chicago* had been lying off Neitley for some days, and one morning a member of her crew was found unconscious in a boat lying alongside. He was lifted on deck, and died soon afterward. The ship's surgeon made a post-mortem examination, and the cause of death was satisfactorily made out. An officer went ashore, and arranged for a funeral, with full naval honors, in Southampton Cemetery. But the registrar of deaths could not accept the certificate signed by the ship's surgeon, not only because it was not made out by a registered medical practitioner, but also because death was not the result of natural causes. The coroner was then seen, and said that as soon as the body was landed it would be his duty to hold an inquest. To this the officer of the ship demurred, pointing out that the deceased was not a British subject, and that it was not an English vessel. The coroner cited English law, and was answered with quotations from the American naval regulations. The argument was pursued in perfect good temper, but neither side would give way, and so the funeral was abandoned. The ship sailed a few hours later, and when she had steamed beyond the three-mile limit, the body was committed to the deep.

Transactions of the Thirteenth International Medical Congress.—The secretary-general of the Paris Congress announces that the volumes of transactions, both of the general sessions and of the section work, have been printed and distributed. Any member who has not received the volumes he is entitled to is requested to communicate with the publishers, Masson & Co., 120 Boulevard St. Germain, Paris, before December 31. After that date, no complaints of the non-receipt of volumes will receive attention.

Was there Hospital Mismanagement in South Africa?—Dr. A. R. Friel, who says that he was on duty as a surgeon in South Africa from March to October, 1900, writes to the *British Medical Journal* that he heard and saw much of what Mr. Burdett-Coutts described in the papers regarding the alleged unnecessary hardships to which the sick and wounded were submitted in the British Army hospitals. He says that immediately after these letters were published an immense improvement took place in the treatment of the sick by the authorities; and he adds that both the soldiers who fall sick, and those at home who have relations and friends at the war, owe Mr. Burdett-Coutts a debt of gratitude for the better treatment which the latter now experience.

Nicholas Senn Prize Medal.—The committee on the Senn Medal beg leave to call attention to the following conditions governing the competition for this medal for 1902: 1. A gold medal of suitable design is to be conferred upon the member of the American Medical Association who shall present the best essay upon some surgical subject. 2. This medal will be known as the Nicholas Senn Prize Medal. 3. The award will be made under the following conditions: (*a*) The name of the author of each competing essay shall be enclosed in a sealed envelope bearing a suitable motto or device, the

essay itself bearing the same motto or device. The title of the successful essay and the motto or device are to be read at the meeting at which the award is made, and the corresponding envelope is to be then and there opened, and the name of the successful author announced. (*b*) All successful essays become the property of the association. (*c*) The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction, at a general meeting of the association. (*d*) The competition is to be confined to those who, at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the American Medical Association. (*e*) The competition for the medal will be closed three months before the next annual meeting of the American Medical Association, and no essays will be received after March 1, 1902. Communications may be addressed to any member of the committee, consisting of the following: Dr. Herbert L. Burrell, 22 Newbury Street, Boston, Mass.; Dr. Edward Martin, 415 South Fifteenth Street, Philadelphia, Pa.; Dr. Charles H. Mayo, Rochester, Minn.

Philadelphia County Medical Society.—A lantern demonstration was given on September 26, on the occasion of the annual meeting of the Medical Society of the State of Pennsylvania. The subjects discussed were as follows: The Life History of the Ovary, by Dr. John G. Clark; Some Lesions of Diphtheria, by Dr. Richard M. Pearce; Skiagraphy in Supposed Sprains, by Dr. Geo. G. Ross and Mr. M. I. Wilbert; The Various Types of Smallpox, with Remarks upon Differential Diagnosis, by Dr. Jay F. Schamberg; Some Medical Uses of the *x*-Rays, by Dr. M. K. Kassabian; and The Kromskop, by Mr. F. E. Ives.

A Possible Source of the Gangrene in the Case of the Late President.—Dr. W. G. Garrigues of this city writes: "Bacillus emphysematosus is constantly found in the intestine, where it is not only harmless, but useful. In the vagina it becomes the cause of emphysematous vaginitis. If it enters the uterus of a puerpera, it gives rise to the dangerous tympania uteri, and sometimes the ominous septic emphysema. In general surgery it is the cause of one of the most dangerous wound diseases—acute septic gangrene. It is easy to imagine that in a body with lowered vitality, this bacillus wandered from the neighboring intestine to the tissues behind the stomach, where the gangrene was found."

The Fight Against Tuberculosis in Norway.—A sanitary league has been organized by the women of Norway to aid in the war against consumption by instructing the women of the poor. Lectures will be given and tracts will be distributed imparting information regarding the measures necessary to prevent the invasion of the home, and to limit the spread of the disease should any member of the family be already a sufferer.

Naval Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the Navy, week ending September 28, 1901: September 20—Assistant Surgeon F. A. Asserson, Assistant Surgeon J. W. Backus, ordered to the Naval Hospital, Cavité, P. I. Assistant Surgeon A. E. Peck, ordered to the *Manila*. September 24—Assistant Surgeon C. R. Burr, resignation accepted to take effect September 25. Assistant Surgeon D. G. Bebe, detached from the *Marietta*, and ordered home to wait orders, when vessel is put out of commission. Assistant Surgeon E. J. Grow, detached from the *Castine*, when put out of commission, and ordered home to wait orders. September 26—P. A. Surgeon E. M. Shipp, detached from the Naval Hospital, Cavité, and ordered to the *Celtic*. Assistant Surgeon W. L. Bell, detached from the *Celtic* and ordered to the naval hospital, Cavité, P. I. Assistant Surgeon J. W. Backus, detached from the Naval Hospital, Cavité, and ordered to the *Brooklyn*. Assistant Surgeon F. A. Asserson, detached from the Naval Hospital, Cavité, and ordered to the *General Alava*.

Bequests to Hospitals.—Under the will of the late Harriet Wilcox the New York Skin and Cancer Hospital will receive $20,000, and the Home for Consumptives, $10,000; under that of Daniel T. Hoag, St. Luke's Hospital in this city will receive $3,000; under that of Charles H. Hayden of Boston, $100,000 is left for a free bed in the Massachusetts General Hospital, and $50,000 to the Boston Children's Hospital and the Massachusetts Eye and Ear Infirmary; and under that of Susan Miln of this city, to the New York Homœopathic Medical College and Hospital $20,000 is given for four beds, and to the Children's Aid Society a house in West Twenty-third street in memory of her father, George Miln; the residue of the estate, the value of which is not stated, is to be divided among the General Memorial Hospital for the Treatment of Cancer and Allied Diseases, the Homœopathic Medical College and Hospital, the Home for Incurables, the Protestant Episcopal City Mission Society, the Society for the Relief of the Destitute Blind, and the Children's Aid Society.

The Vermont State Medical Society.—The eighty-eighth annual meeting of this society will be held at Montpelier on Thursday and Friday, October 10 and 11, under the presidency of Dr. W. D. Huntington of Rochester. The secretary is Dr. D. C. Hawley of Burlington. A general discussion on "Typhoid Fever," to be opened by Dean Richmond of Windsor will take place on Friday morning; others appointed to take part in the discussion by the presentation of set papers are J. M. Hamilton, O. W. Sherwin, J. Waite Avery, J. D. Brewster, D. L. Burnett, and J. N. Jenne. The annual banquet will take place on Thursday evening at the Pavilion Hotel.

Medical Society of the County of New York.—At the first meeting of this society for the winter of 1901–02, the following were placed in nomination to serve as officers for the ensuing year: *President*, Dr. Frank Van Fleet; *First Vice-President*, Dr. Charles N. Dowd; *Second Vice-President*, Robert Lewis, Jr.; *Treasurer*, Dr. E. W. Peet; *Secretary*, Dr. John Van Doren Young; *Assistant Secretary*, Dr. E. P. Fowler; *Censors*, Drs. George B. Fowler, H. S. Stern, Wendell C. Phillips, Robert F. Morris, and James F. M. Kernon.

The New Brunswick Medical Society.—At the twenty-first annual meeting of this society held at Moncton, July 16 and 17, the following officers were elected: *President*, S. C. Murray of Albert; *Secretary*, W. L. Ellis of St. John; *Treasurer*, G. G. Melvin of St. John; *Trustees*, Drs. R. L. Botsford, J. W. Bridges, and A. J. Thorne. It was decided to hold the next annual meeting in St. John.

Gifts to Colorado College.—Dr. D. K. Pearsons of Chicago has given $100,000 to Colorado College, one-half the amount to be applied toward the erection of a hall of science, to which another anonymous donor had already contributed $100,000.

Precaution Against the Spread of Leprosy in Hawaii.—The Hawaiian Board of Health at Honolulu has adopted a new regulation which prevents relatives and friends of lepers at Molokai from coming into personal contact with the unfortunates. A stockade has been built and visiting relatives can talk to lepers only through two fences, which are

four feet apart. The lepers at first objected to this arrangement and threatened to break down the stockade, but were finally pacified.

Phthisical Patients Removed from St. Luke's Hospital.—At a recent meeting of the trustees of St. Luke's Hospital in this city, it was decided to annul the contract between the hospital and the House of Rest for Consumptives, whereby the latter's patients were cared for at St. Luke's. It had been found that so many consumptive patients were sent to St. Luke's that other patients were excluded, and, moreover, it was felt that the hospital was not a proper place to care for so many persons affected with tuberculosis. The House of Rest has made arrangements to send its patients to the country, where they can be better cared for.

A National McKinley Hospital.—The suggestion has been made that the building and endowment of a large hospital in Washington, to be called the McKinley National Hospital, would be an eminently fitting memorial to the late President.

The Plague.—No fresh cases of bubonic plague have occurred in Naples since the presence of the disease was discovered on Wednesday of last week. Five deaths occurred among the ten or eleven persons attacked. The disease appears to have entrenched itself securely in Brazil, the government of that country having now officially declared the city of Rio de Janeiro to be infected with the bubonic plague.

Regarding Yellow Fever on the "Ethelbryhta."—This vessel reached New York on August 21, one of the crew having died the previous evening. The appearance of the body, the history of the case, and the result of the autopsy justified the Health Officer in officially declaring it to be yellow fever, although the post-mortem evidence was not entirely conclusive. Three of the crew, whose temperatures were above normal, were removed to Swinburne Island for observation. These were afterward discharged well, having had no symptoms of the disease. The vessel was disinfected and proceeded to New York, and left there on August 25, and went to Delaware Breakwater, Norfolk, and Jacksonville, arriving at the last place on September 3. The vessel remained there (Jacksonville) for about two weeks, and then sailed for Santiago, reaching that port on September 19. On arrival, it was found that three of the crew had been sick with fever, and one died; and very soon afterward eight or ten more were affected in the same way. These were at once declared by the authorities to be cases of yellow fever. It was this condition which was reported from Santiago, and which would convey the idea that the disease had been stringing along since the departure of the *Ethelbryhta* from Progreso. Those who have given this matter careful consideration are perfectly satisfied that yellow fever is not transmitted by personal contagion or through the medium of clothing, bedding, etc., and that secondary cases do not occur after five days' removal from the infected area. No one believes that the wife of the captain died of yellow fever, and her death has been satisfactorily accounted for. She was perfectly well when she left Norfolk according to the statement of the Health Officer of that place. On the following day she was taken suddenly ill and died. The reason of this has been accounted for. Vessels which loaded at the same dock with the *Ethelbryhta* in Jacksonville were found to have a number of cases of fever on board at practically the same time that the report came from Santiago regarding the *Ethelbryhta*. The health officials of Jacksonville have examined these cases and have declared them to be malarial fever, clear and well defined, and the examination of the blood has shown the plasmodia. Comment is unnecessary. It is difficult for an experienced sanitarian to believe that the cases reported there are those of yellow fever, particularly as the latter disease does not exist in Jacksonville.

Obituary Notes.—Dr. JOSEPH H. MORRISON of St. John, N. B., died at his home in that city on September 13, at the age of forty-seven years. He was graduated from the Bellevue Hospital Medical College in this city in 1878, and shortly after receiving his degree was appointed Vice-President and Professor of Natural Science at the Pennsylvania State Normal School. In 1881 he went to Manitoba, where for five years, while also practising his profession, he was also Superintendent of Education. In 1886 he went abroad to study his chosen specialties of ophthalmology, otology, and laryngology under various masters, among others Professor Politzer and the late Sir Morell Mackenzie. While in London, he submitted to an operation for caries of the sphenoidal sinus, and during the operation one of the ophthalmic arteries was wounded, the result being an aneurysm that threatened his life. For the cure of this, first one common carotid artery was ligated and then the other, and Dr. Morrison's subsequent recovery added one to the short list of survivors of this procedure. Returning to Canada in 1892, Dr. Morrison established himself in his native city, and soon built up a lucrative special practice. He was in the prime of life, one of the leaders in his chosen profession, a man of culture and refinement, of broad and liberal ideas, an accomplished linguist, an orator with a marvelous command of English, and his untimely death will long be felt in the professional, political, and social circles of the Maritime Provinces.

The Rev. JAMES BRYAN PURCELL, M.D., rector of old Trinity Church, at Sykesville, Md., died on September 24. He was born in Dublin, Ireland, October 11, 1841. He ran away to America when twelve years old, finding a home in the far West, near the Mexican border. A few years later he enlisted in the United States Army. Tiring of army life, he entered a seminary to study for the priesthood, but left the institution, drifted to Baltimore, and studied medicine. He was graduated from the University of Maryland in 1866, and became an assisting surgeon in the army, giving up the position in 1868. After resigning his commission, he studied for the ministry of the Episcopal Church, was ordained by Bishop Atkinson of North Carolina, and then settled down to the quiet life of a country clergyman.

Dr. JEREMIAH S. TREATER died at Kutztown, Pa., on September 24, at the age of sixty-nine years. He was graduated from the Medical Department of the University of Pennsylvania in 1854, and during the Civil War was Surgeon of the 73d Regiment Pennsylvania Volunteers. He was made a prisoner at Chancellorsville, escaped, joined the Army of the Cumberland, and accompanied Sherman in his march to the sea.

Dr. PERCY J. SHUTE died at his home in Jeffersonville, N. Y., on September 29, after a brief illness, at the age of twenty-five years. He was a graduate of the Medical Department of Columbia University in this city, and was for a time on the house staff at Roosevelt Hospital.

Dr. GEORGE SHIVELY died at Philadelphia on September 29 of smallpox, at the age of seventy-one years. He was graduated from Jefferson Medical College in 1851, and served in a military hospital during the Civil War.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

INTEREST IN THE PRESIDENT'S CASE—THE SMALLPOX OUTBREAK—INDIAN MEDICAL SERVICE—SOLDIERS MEDICALLY UNFIT—BRITISH ASSOCIATION FOR SCIENCE—TYPHOID AT BELFAST—DEATHS OF DRS. THUDICHUM, TRACY, HOLLAND, AND GRIFFITH.

LONDON, September 13, 1901.

THE atrocious outrage on your President has driven most other subjects from our conversation. We watch for cables, note the temperature and pulse, discuss the condition of the illustrious patient after each cablegram, and fill up our time with expressions of opinion on abdominal gunshot wounds and their surgical management. But the individual case is the most absorbing subject, and we return to it with the avidity of our non-medical neighbors. I might fill my allotted space with this subject, but you must be overwhelmed with what is said on your side, and I will only add that on this side our sentiments are all as American as those of the Americans themselves. So I turn to some less absorbing topics.

First of all, as touching us rather nearly, the smallpox epidemic which continues in London—and unfortunately a large proportion of the younger inhabitants have grown up unvaccinated—is the result of neglect and faddism combined. It now transpires that the disease has not been as limited as at first believed, but cases have occurred in various districts, each scattered case being therefore a separate focus of infection. Although the outbreak has been kept well in hand, it is by no means over yet. There are now 122 patients under treatment at the hospital ships. Yesterday the new cases were four in number, the day before five. Dr. Bond, Honorable Secretary of the Jenner Society, has appealed for more complete official statistics. He says in previous epidemics it was not known what were the results in the vaccinated and unvaccinated, until the reports of the medical officers of health appeared months after the danger had passed, when the public had lost interest in the statistics. Prompt issue of such particulars would arrest the attention of the public, and convince all of the truth in the matter.

At the meeting of the Asylums Board on Saturday a letter was read from Dr. Blyth suggesting the publication of a series of life-size lithographs to assist in the diagnosis of the disease. Wax casts, he said, would be better, but costly. Moreover, they could only be kept in a museum for those wishing to study them, whereas a book would readily sell. It may be so just now, but when the epidemic has passed the interest in the plates would fade. It is stated on some evidence that the infection was brought from Paris and spread through a laundry.

The Director General of the Indian Medical Service has replied to some of the statements made by Dr. Mullick in his communications to the British Medical Association. In reference to the charge that the professional chairs are filled more according to grade-rank than ability, he shows that it is absolutely without foundation. Seniority does not influence the choice. Such men as Fayrer, King, Cunningham, and others have been appointed when quite young. If Dr. Mullick has some plea to make for further consideration of the natives, it is rather foolish of him to talk of hundreds of men as the peers of any set of scientists. He lays himself open to the reply that if these hundreds exist they can enter the service and prove their capacity.

Lord Kitchener has sent home as "medically unfit" a considerable number of yeomanry, and he very naturally complains that hundreds of men should have been sent to Africa suffering from serious disabilities, such as defective vision or hearing, lameness, varicocele, etc. It has been stated that some cases were the result of substitutes having been employed, but surely the number of such could not be large. It is also said that examining surgeons were requested not to be too particular, but to pass as many as possible. If this were so the military surgeons would know well enough what disabilities would incapacitate a man from service, and even civil surgeons employed for this purpose would hardly pass men so obviously unfit. It really looks as if there must have been some gross carelessness. An official inquiry is to be held, and may shed some light on the matter.

The British Association for the Advancement of Science met at Glasgow on Wednesday. The President this year is Professor Arthur Rücker, Principal of the London University, and Secretary of the Royal Society. His address was a vindication of the atomic theory, which, he declared, imparted a unity to the physical sciences, otherwise unattainable. If no other conception of matter be thinkable than that it consists of distinct physical units, then the foundations of the physical theory must be well and truly laid. The atomic theory unifies so many facts that we may fairly insist that its main structure is true—that atoms are not merely helps to mathematicians, but physical realities.

In the anthropological section Professor Cunningham explained his views of the part which the brain plays in the evolution of man, and the creation of the faculty of speech. All the more intelligent animals have the power of expressing some of the simple states of mind by vocal sounds and bodily gestures. It is to such humble beginnings he would trace the origin of speech.

In the zoological section Dr. Cossar Ewart dilated on the "Experimental Study of Variation," a subject to which he has devoted years of labor. As a result of his experiments he asserted with confidence that differences in age, vigor, and health of the parents, and difference in the ripeness of the germ-cells are patent causes of variation.

Belfast is suffering from outbreaks of diphtheria and typhoid fever. On Wednesday it was officially announced that in the previous ten days ninety-eight cases of typhoid, all of a severe type, had been admitted to hospital, the total number under treatment having thus reached two hundred and ninety-four, while nineteen cases of diphtheria were admitted in two days. One nurse had died of typhoid, and several others were ailing. The number of doctors and nurses was to be increased.

Dr. Thudichum died on the 7th instant of cerebral hemorrhage, aged seventy-two. He was graduated at Giessen in 1851, after having served as a volunteer surgeon in the Schleswig-Holstein Army. At Giessen, no doubt, he imbibed the love of chemistry which he cherished all his life; for Liebig was the ruling genius of the place.

He came and settled in London in 1853, becoming lecturer on chemistry at the Grosvenor School of Medicine. Later he had the chair of pathological chemistry and directorship of the laboratory of St. Thomas's Hospital. He made a series of reports on chemical and pathological subjects for the Privy Council and Local Government Board. In 1878 he was elected a fellow of the College of Physicians. His contributions to physiological and pathological chemistry were very numerous. His treatise on the Chemistry of the Brain appeared in 1886, the same year in which his German work on clinical chemistry was published. His chemistry was very advanced, and many of his contributions demanded much knowledge on the part of the reader, and his style was too German for English taste. He took up the subject of nasal polypi as a practical one, and was quite a specialist on that and other nasal diseases.

Dr. Samuel John Tracy, who died on Tuesday, the 10th inst., aged eighty-eight, entered the profession in 1849 as a member of the College of Surgeons. He took the L.B.C.P. Edin. in 1860.

Another octogenarian, Joseph Holland, F.R.C.S., died on the 3d inst., aged also eighty-eight.

John Griffith, F.R.C.S., is an example of early death. He was only thirty-five, but had made his reputation as a skilful ophthalmologist. He was demonstrator at St. Mary's Hospital, assistant to Mr. Critchett, and on the staff of the Westminster Ophthalmic Hospital. He wrote part of the chapter on "Refraction" in Juler's work on "Ophthalmic Science and Practice." He had long been delicate, and probably he worked too hard. He kept on bravely to the last, seeming ever hopeful and cheerful, though it was plain to every one he would not live to reap the reward of his years of toil.

OUR PARIS LETTER.

(From our Special Correspondent.)

ANÆSTHESIA AND MUSIC—TUFFIER'S STATISTICS IN APPENDICITIS—PREVENTIVE INJECTIONS OF DIPHTHERIA SERUM—RUBBER GLOVES IN OPERATIONS—NEW CURE FOR BLENNORRHAGIA.

PARIS, September 13, 1901.

AT a recent meeting of the Academy of Medicine, Dr. Laborde, professor of physiology, read an essay on the use of the phonograph during anæsthesia as a means of dispelling the disagreeable effects caused by dreams of a painful nature. A dental surgeon described to Dr. Laborde the method he used in giving nitrous oxide, which consists in placing a telephonic receiver, connected with a phonograph, against each ear. When the patient is being put to sleep, the phonograph is started. The dental surgeon had noticed that the greater number of his patients before he tried this had nightmare during anæsthesia, and he thought it due in great part to the fact that the noise from the street impressed them unfavorably. Since he has been employing the phonograph, his patients have no longer complained of this, but have generally

remembered only that they heard some music. Dr. Laborde cited several cases which he was able to witness, and he felt that such a method might be found advantageous in ordinary surgery.

Dr. Tuffier's statistics in the treatment of appendicitis have just been published by one of his pupils, Dr. Dubarry, and the results obtained are of some interest. Out of fifty-two cases operated upon, either at the hospital or in his private practice, during the last eighteen months, six were operated upon when there was already general peritonitis. Death took place in four cases.

There were twenty-two cases of pericœcal abscess; nineteen patients were operated upon immediately and recovered, one died after the operation which had been deferred, one patient recovered without complications, and another had a fistula. There were eight observations of acute appendicitis without either peritonitis or tumefaction. The operation was performed immediately in seven cases with good results. In the eighth case the operation was deferred and the patient died. In sixteen cases the patient had recovered from his attack before being operated on. The result of the operation was good in all cases. These statistics show, the author says, that we should operate immediately upon every case of appendicitis, for fear of complications.

The importance of making preventive injections of diphtheritic serum has proved to be the subject of lengthy discussion at the Society of Pediatrics. Dr. Ausset of Lille cited a case he had seen recently in which there were two other children in the same family differently treated. One, a child eleven months old, was immunized with a dose of 5 c.c. and escaped the infection, while another, a boy eight years old, who had been sent immediately into the country, had diphtheria, which was complicated with a severe case of otitis. Dr. Netter, who is a physician in one of the children's hospitals, has collected 32,484 observations of preventive injections. Leaving out those cases in which diphtheria supervened in twenty-four hours or after thirty days, he found there were 192 cases in which diphtheria came on notwithstanding the injection. This is a proportion of 6 per cent., whereas it is 10 per cent. when preventive injections are not made. Dr. Netter said that he had made ninety injections since the 15th of April, and had had only two cases of diphtheria among these children. Out of twenty-five children who were not subjected to the injections, there were three infections, which makes a proportion of 12 per cent. Dr. Comby and Dr. Sevestre said that they considered it useful to make these injections in families where the children cannot be strictly watched after a case of diphtheria.

Dr. Longuet, who is a former house surgeon of Dr. Guénu, the great advocate in France of the use of rubber gloves in operative surgery, has recently written an article on asepsis of the hands, and in it he described the arguments used by the different surgeons who advocated or rejected the use of rubber gloves. The arguments used for or against this are of different nature. Some surgeons consider that it is impossible to carry on surgery if such rules as Dr. Guénu's and Terrier's are applied; such as that one should wait forty-eight hours after performing a septic operation before performing an aseptic one. It is generally admitted, however, in Paris now, that it is well to use rubber gloves when performing septic operations. Experiments have been carried out by Ahlfeld, Schleich, Bazy, and Delbet, tending to show that thorough sterilization of the hands could be carried out after contact with septic material.

It should be remembered, however, that the duration of a septic operation may be much longer than that of a simple experimental contact. Moreover, Nothl, Green, Kelly, and others have shown that the microbe may still remain in the deeper layers of the skin. Clinical cases show only too well the danger there is in operating after having soiled the hands with pus, even when the most minute precautions are taken. This article favored clearly the use of gloves in a certain number of operations, but not in all, and the general opinion among Paris surgeons is that, provided no septic contact has been experienced, an operation may be well carried out without them.

A new treatment for blennorrhagia has just been advocated: the use of picric acid. Dr. de Brun, who is professor at the French school of medicine at Bayreuth, recommends a 1 or 0.5 per cent. solution; the latter preferably. The injection should be made with a small glass syringe, and left in contact with the mucous membrane for two or three minutes. A complete cure is generally obtained in from four to five days. In chronic cases, Dr. de Brun has obtained results where everything else had failed. One of the first effects of the injection is to modify the nature of the flow, which becomes almost transparent. In posterior urethritis, instillations would undoubtedly be found necessary.

Progress of Medical Science.

Boston Medical and Surgical Journal, September 26, 1901.

Spermin Crystals in Pus.—Edward T. Williams says that he has discovered a body in pus which he thinks is spermin. If his observation is not at fault, he says, this makes the fourth or fifth of the nuclein bases thus far observed in pus: adenin, guanin, or both, by Naunyn; sarcin by Kossel; spermin and xanthin by himself.

Observations on Heart Disease.—Robert T. Edes defines disease of the heart as follows: "When the heart is able readily to adjust itself to widely varying demands without distress, it is functionally healthy. When it cannot furnish all the blood that is called for without suffering, or at any rate without continuing to suffer after the strain is over, or when, after the strain has ceased to exist, it fails to return to its former condition, it is not healthy, whether we suppose that any structural change would be discoverable or not." The observation of the pulse, of the venous circulation, of localized congestion and œdema, is the real guide, he says, as to how efficiently the heart is acting. If the work is not done thoroughly, easily, and without disturbance, or if a little extra call for exertion shows that the margin of adjustability is a very narrow one, it is then the part of the physical examination to distribute the difficulty properly between the two factors—propelling force and resistance. He thinks it is a mistake to attach the greatest importance to valvular disease—a natural error, since it is that which furnishes the most definite and clearly marked signs. He raises the question whether it is possible to diagnose actual degeneration of the cardiac muscle, and answers that it is not possible always to do so with absolute certainty, yet frequently a diagnosis can be made with a degree of probability entirely sufficient for practical purposes. He thinks it doubtful whether a muscle, degeneration of which has proceeded so far that it can be detected under the microscope, could retain its full efficiency under strain, and so could escape the observation of the careful diagnostician.

New York Medical Journal, September 28, 1901.

The Abstraction of Calcium Salts from the Mother by the Fœtus a Cause of Osteomalacia.—Jennie G. Drennan advances the theory suggested by the title of her paper stating that osteomalacia is a disease, the result of a poverty of calcium salts in the blood of the mother, by which her osseous tissues are starved by the fœtus assimilating all the available salts. If her diet had been rich in salts, there would have been a sufficiency for both. The women in whom this disease occurs oftenest are those whose diet is poor in lime. The disease is commonest among the poor peasant classes in Europe, foreigners in America, and the slum classes of British cities. Naturally, in each succeeding pregnancy the supply of calcium in the tissues will be less, as in all probability the osseous tissues will not recover their first state.

Two Cases of Intestinal Obstruction Diagnosed by the x-Rays.—These interesting cases are reported by J. Rudis-Jicinski. Case 1 was that of a boy who had swallowed a tin whistle. The usual symptoms of obstruction followed. By *x*-ray examination the body was located at the junction of the small and the large intestines. Under hypodermic injections of atropine it was passed on the third day. Recovery was uneventful. Case 2 was that of a boy of twelve with usual symptoms of obstruction. A diagnosis was made of invagination of the lower part of the ileum. The *x*-rays showed the actual obstruction to be in the small gut under the umbilicus, nearly at the median line and a little to the left. Laparotomy was done, and the obstructing body proved to be a small wooden whistle. The author has made certain experiments showing that a harmless body may be swallowed and its passage through the bowels traced by the Röntgen rays. He gives the following directions for the preparation of such a body. Take a gelatine capsule No. 3, put a No. 4 shot into the same, close the capsule and cover the whole surface with a smooth layer of dental gutta-percha, which must be applied warm. In this way is made a pill, which may be easily swallowed. The gastric juice cannot act upon it, and the heat of the body will not destroy it. The shot being opaque to the *x*-rays will show plainly, and may give the direction in which the strangulation took place. Such a diagnosis is correct and may solve the problem of immediate operation.

Social Aspects of Dermatology.—In the Third Lane Lecture, Malcolm Morris treats of ringworm, favus, tinea versicolor, and erythrasma. With reference to ringworm,

his personal researches have led him to believe that there are two distinct fungi which may cause the disease, distinguishable by the relative size of their spores. In the smaller variety, the spores are irregularly scattered about like the stones in a mosaic, and interwoven with them is a felting of branching mycelium, the whole forming a sheath around the hair. The parasite eats its way into the hair and grows down toward the root; the hair becomes brittle and after a time breaks off, leaving a short stump. The microsporon attacks the scalp chiefly, in children almost exclusively. The disease produced by this fungus is often very refractory to treatment and indefinite in duration. The large-spored fungus first attacks the root of the hair and grows upward. The spores are arranged in regular chains intermingled with short, regularly jointed mycelium; they lie around the hair, sometimes inside it, sometimes both inside and outside. The ringworm caused by this fungus yields more readily to treatment than that produced by the microsporon. Morris believes that special schools should be established for children with ringworm. Favus is a more serious condition, and is sometimes associated with tuberculosis, and cases of death have been reported from gastrointestinal irritation caused by the presence of the characteristic lesions in the stomach and intestines. Legislation is needed for its repression, and emigration from those countries where the disease is rife should be most rigorously supervised.

Medical News, September 28, 1901.

Intratracheal Injections in Bronchial and Pulmonary Affections.—Willis S. Anderson believes that the method of intratracheal injection is of no advantage in acute bronchitis, at least during the congestive stage. It is of distinct advantage in subacute and chronic bronchitis. It is of positive benefit in bronchiectasis. It is valuable in pulmonary tuberculosis, relieving many of the symptoms, especially those due to secondary infection. It quickly relieves the distressing symptoms of asthma. The amount of relief and the permanency depend largely upon the predisposing and exciting causes. It in no way interferes with other lines of treatment. The writer has never seen harm follow its use, although in a very few instances it excited severe coughing for a short time.

American Medicine, September 28, 1901.

The Hygienic and Mechanical Treatment of Heart Disease.—Boardman Reed states that cardiac disease is often due to autointoxication, especially to poisoning by the alloxuric bases. Cure or amelioration in such cases requires at first, in addition to an appropriate diet, not too nitrogenous, the utmost practicable rest of the crippled organ. This cardiac rest may be further promoted by very gentle exercises which dilate the capillaries without taxing the heart. The Nauheim method of treatment spares the heart by dilating the too contracted arterioles in two ways, namely, (*a*) by stimulating the peripheral circulation through carbonated saline baths; and (*b*) by massage and forms of exercise so mild as not to quicken the pulse.

The Place of Symphysiotomy as Contrasted with Cæsarian Section.—Charles Jewett concludes that symphysiotomy is still a useful operation within a limited range of pelvic contraction. It is suited to conditions in which only very little additional space is required for delivery. It is a valuable resource, therefore, in cases in which forceps unexpectedly prove inadequate. Axis traction forceps, with the aid of posture, should always be tried before resorting to symphysiotomy. Its results would be much improved by restricting it to pelves with a conjugate of not less than 7.5 cm. in simple flattening, or 9 cm. in general contraction. Under equally favorable conditions, its total mortality should be no greater than that of cæsarian section. When the pelvic space permits, it should replace the cæsarian operation in the presence of exhaustion. It may be elected, primarily, as an alternative of cæsarian section, when the operator can be assured that the degree of obstruction is well within its safe limit. Here, the choice of operation is a matter of individual preference. Within its proper field, symphysiotomy is better than cæsarian section for an operator of little experience in abdominal surgery.

Journal of the American Medical Association, Sept. 28, 1901.

Prevention of Tuberculosis in Babes Born of Tuberculous Parents.—Clifton Scott says that the old stereotyped method of visiting the mother a few weeks before confinement, securing a specimen of her urine, and testing it for albumin is not a sufficient precaution for the safety of the child. These preliminary examinations, made at safe intervals during the last two months of pregnancy, should include a general physical examination and careful search for tubercle bacilli. Many cases will thus be found, and our knowledge of the existence of tuberculosis, in otherwise unsuspected cases, will not only enable us to guard better the mother's condition, but will save many babes from infection, through guarding against the use of the mother's milk and infection by contact. If this method be carried out rigidly, and the people are educated to appreciate its importance and value, many children of tuberculous parents can be saved from infection.

Gonorrhœa in Boys.—A. L. Wolbarst gives a general description of the disease as occurring in young boys. The period of incubation and general features are in the main the same as in older patients, but the pain is often out of all proportion to the clinical picture presented. The duration is the same as with adults, but the prognosis is better than with adults. There does not seem to be the tendency of the disease to continue in the chronic form, and strictures are not so liable to result. Barst has never seen rheumatism develop in these cases. Treatment consists in the maintenance of surgical cleanliness by means of boric acid or even weak bichloride solutions. In anterior urethritis, one-half per cent. solution of protargol may be injected three times daily, being retained for about five minutes. In posterior cases, the urethra may be irrigated with a solution of permanganate of potassium (1-6,000), or with the Thiersch solution. For internal administration, the pure oil of wintergreen, in doses of 5 to 10 minims, in milk or water, three times daily, will be found valuable in some cases. In others, an alkaline mixture, containing potassium bicarbonate and tincture of hyoscyamus, will bring relief from the pain and tenesmus.

Congenital Cystic Kidney.—A case of this nature is reported by W. Jepson, whose patient was a child successfully operated on when four months and fourteen days old. Three theories have been assigned for the occurrence of this condition: (1) retention, (2) cystadenomatous, and (3) teratological. The points of interest in the case were the following: 1. It involved only one kidney, and it developed to a very marked degree without leading to serious disturbances until these were occasioned by its encroachment upon the gastrointestinal tract through pressure. 2. The difficulties in the way of arriving at anything but a problematic diagnosis prior to direct inspection of the growth are quite insurmountable; and even inspection of the growth does not lead to a positive diagnosis until all structures from which a more or less similar condition might arise are examined as to their normality, and a diagnosis thus arrived at by exclusion. An organ thus distended no longer possesses any recognizable characteristics of its former self. 3. The case is further illustrative of the capability of children to endure what may be considered capital operations, provided that precautions are exercised in reducing to a minimum the period of anæsthesia and operation, as well as the loss of blood.

Philadelphia Medical Journal, September 28, 1901.

Thrombosis of the Cavernous Sinus; Double Panophthalmitis of Septic Origin.—Edward Jackson states that it is rare in rapidly fatal disease for the ocular symptoms to predominate. He reports two cases of this character. The first patient was a man of twenty-six years, afflicted with pulmonary tuberculosis. The affection of the eyes at first looked like purulent conjunctivitis. The swelling was marked, but the discharge was rather moderate in amount. Later, the orbital tissue became swollen. Post-mortem examination showed a clot extending into the cavernous sinus from the orbital vein, but presenting no prolongations into other cerebral tissues. It probably originated in some orbital vein. The second patient was a woman aged forty-five years, who was admitted to the hospital suffering from purulent retinitis or choroiditis involving both eyes. It was undoubtedly the result of grave septicæmia. Post-mortem examination first revealed the presence of septic pneumonia. The only point of origin that could be discovered for this septicæmia was in the left knee joint, which was filled with pus.

Laceration of the Cervix Uteri.—Henry D. Beyea enumerates the following factors upon which depends the success of treating lacerations of the cervix uteri: 1. Proper selection of cases; 2. Preparation for operation; 3. Attention to certain essential operative details; 4. Selection of the proper operation in the individual case. The chief contraindication to operation is the existence of pelvic inflammatory trouble outside of the uterus—disease of the tubes and ovaries. As a general rule, other lesions coexist with laceration of the cervix, and these also need treatment, in order to effect a cure. In many cases, considerable local treatment should be given prior to operation. In the operation, great care should be taken

to remove all of the cicatricial tissue, including that at the angles of the tear. All Nabothian cysts should be entirely removed from the region of operation. Too much tissue should not be removed from the vaginal part of the cervix. Care should be taken to place the sutures accurately and evenly. On removing the sutures, loops must not be left in the tissue. An early diagnosis should be made between bad laceration of the cervix with sclerosis and eversion of the mucosa, and beginning carcinoma of the cervix.

The Lancet, September 21, 1901.

Six Cases of Excision of the Larynx.—The histories are given by F. G. Harvey, who describes his favorite mode of operating. Of the six cases, five were in men and one in a woman. Two of the patients were living one year after operation, one died within a week after operation, and three within a year, the cause of death in one of the latter, however, being acute pneumonia.

Three Points in Midwifery.—These are mentioned by G. W. Ord. In one case of delayed after-coming head, he passed a male silver catheter into the child's mouth, and later a second one. The child cried down the catheter, the chest became inflated, and respiration was maintained in this way until the head was extracted. Secondly, the author advises the expression of the child after the birth of the head, stating that this procedure will obviate hour-glass contraction. Thirdly, he believes that scoliosis is possibly caused by traction on the child's body during birth, and that we should realize the possible injury that may be done to the spine by pulling in the various directions advised in text books.

Congenital Spontaneous Gangrene.—C. E. Richmond reports a case of this kind in a girl who showed when born two patches of dusky inflammatory redness, one just below the occiput, the other over and around the seventh cervical vertebra. These areas gradually increased in size and took on a distinctly gangrenous condition, and scattered, similar areas appeared on the scalp. The general state was one of dulness tending toward stupor. Internal strabismus supervened, suggesting the query whether it was an indication of central cerebral mischief, of which the gangrene was a "trophic" evidence, or whether it was pseudoptomain infection of nerve-centers due to septic absorption from sloughs. The child died on the fifth day. There was no evidence of syphilis.

Chronic Invalidism in Women, Its Causes and Cure.—W. S. Playfair discusses the condition known as "neurasthenia." It is essentially a disease of the middle and upper classes, and the main problem is to determine how we shall prevent its occurrence in young women. Our supervision must begin at the age of puberty and in the school room, for much of the trouble results from néglect of menstrual disturbances which, in turn, are induced by over-application to study. Out-door life and sports are by all means to be encouraged. Most of these patients suffer from defective nutrition and, what we may term in a general way, "worry." When the condition is once developed, the rest-cure should be prescribed. A nurse should be secured who possesses a combination of sympathy, intelligence, and firmness. As a rule, the patient should be removed from home surroundings. She should have systematic massage, shampooing, etc., her muscles being exercised for her in this way for at least two hours twice daily. Such a régime enables the patient to consume food in abundance, so as to build up wasted tissues and restore bodily strength. All visits from relatives, and even letters, should at first be cut off. The patient keeps to the bed for six weeks, and is then allowed to go about and gradually resume her ordinary method of living. Later, a sea-voyage is often attended with most favorable results. After ordinary tests of this kind, the patient, if she stands them all well, is to be allowed to return to her home and friends.

British Medical Journal, September 21, 1901.

A Case of Acute Puerperal Sepsis Treated with Antistreptococcus Serum; Recovery.—M. F. Hession attributes the recovery of a case of puerperal sepsis to the injection of antistreptococcus serum. The amount of serum was 10 cm., and the number of injections was three. The patient slowly but steadily improved, and the injections were not followed by any unpleasant symptoms.

A Case of Puerperal Eclampsia (Albuminuric) Treated by Morphine.—A. G. C. Irvine administered in all $\frac{5}{8}$ grain morphine (three doses) to a patient suffering from puerperal eclampsia. Perfect quiet, a dark room, and strict milk diet were ordered. The next day, after the last convulsion, compound jalap powder gr. xl. was given in the morning, and a simple enema at night. The writer thinks the morphine treatment is of great value in this affection.

The Value of Neisser's Stain in the Diagnosis of Diphtheria.—R. M. Beaton, F. Foord Caiger, and Walter C. C. Pakes believe that by Neisser's stain a positive diagnosis is made more certain for those who are not experts, since it is often easier to diagnose the Klebs-Loeffler bacillus after staining by Neisser than after staining by ordinary methylene blue. A trustworthy positive result may be obtained from the microscopical examination of a preparation made direct from the swab, and this method with Neisser's stain is more reliable and more obvious. The use of Neisser's stain does not appear to introduce any fallacy not found in the application of other methods.

Case of Primary Chancre of the Tonsil; Probable Infection from a Tonsillotome.—Peter H. Abercrombie reports this case. The patient, aged twenty-eight years, had his tonsils removed. One of the instruments used was not sterilized. About a month after the operation, the throat became sore. The diagnosis was made of primary chancre. The following treatment was prescribed: (1) Liquor hydrargyri perchloridi ʒj., potassii iodidi gr. d. s.; (2) a mouth-wash of lotio nigra, half strength; (3) lozenges each containing $\frac{1}{2}$ gr. of grey powder; (4) a pigment of iodine and carbolic acid, of each gr. iv. to ℥j. Alcohol and tobacco were forbidden. He has continued well ever since, though still under treatment.

Two Successful Cases of Operation for Perforated Gastric Ulcer.—E. Collingwood Andrews reports these cases. The first patient was a woman, aged twenty-three years. The perforated ulcer was found near the cardiac orifice on the lesser curvature. The peritoneum round the perforation was united by two layers of Lembert sutures. The surrounding area was carefully sponged, and the whole peritoneal cavity flushed with saline solution. A gauze drain was inserted into the upper part of the wound, and a large drainage tube in the lower angle. The patient made a good recovery. The second patient was a man of thirty years. The perforation was three-quarters of an inch from the pyloric orifice on the lower border. A single row of Lembert sutures was first inserted with silk, and then over these another series of Halsted sutures. The area was well sponged, and a large rubber drainage tube inserted. The patient recovered.

Note on a Simple and Rapid Method of Producing Romanowsky Staining in Malarial and Other Blood Films.—W. B. Leishman, after describing the process of making the dye which constitutes, or at least contains, the active staining ingredient in Romanowsky's method, speaks of its best solvent. This he has found to be pure methyl alcohol. The dye is dissolved in this alcohol in the proportion of 0.15 per cent., the resulting solution being kept in stoppered bottles until used. Films of blood or smear preparations are made in the usual way and dried in the air. The coverglass, with the film uppermost, is seized by forceps, while three or four drops of the stain are put on the film. The forceps is gently rotated from side to side in order to distribute the fluid. After thirty seconds, six or eight drops of distilled water are added and the rotation continued. The film now stains for five minutes, when the stain is gently washed off with distilled water, and a few drops of water are allowed to remain on the film for one minute. The specimen is now ready for examination, either directly in water under a $\frac{1}{6}$ or $\frac{1}{8}$ objective, or, after drying (without heat) and mounting in xylol balsam, under an oil-immersion lens. The entire process from the withdrawal of the blood takes only seven or eight minutes.

Münchener medicinische Wochenschrift, Sept. 3 *and* 10, 1901.

The Treatment of Traumatic Tetanus.—A Dehler's patient was a middle-aged woman who wounded the dorsum of the left foot with a pitchfork. Twelve days later tetanic symptoms began to appear, and when the patient came under observation on the fourteenth day well-marked trismus and risus sardonicus were present. After the removal of a piece of straw from the already healed wound, its edges were excised and the cavity was cauterized with trichloracetic acid. Tizzoni's antitoxin and chloral were given, the former at first in large doses and then in diminishing amounts as the severity of the symptoms decreased, and recovery was complete on the nineteenth day after the beginning of treatment, during which time 19 gm. of antitoxin were used in thirteen doses.

The Surgical Treatment of Strictures of the Lacrymal Duct.—Passow describes an operation which he admits is difficult, but still adapted for use in certain obstinate cases. At the first session, the anterior extremity of the inferior turbinated bone is removed by means of Cooper's scissors. After the reaction from this procedure has

subsided under general anæsthesia, enough of the turbinated crest of the upper maxilla and lacrymal bone is removed by chiseling to liberate the duct up to the lacrymal sac. A Bowman's probe in the duct serves as a guide, and when its free movement shows that the membranous canal has been fully exposed, the latter is slit up its entire length with a fine probe-pointed knife. The author performed the operation four times on three patients with excellent functional results. The method is not intended for use except in cases that have resisted other forms of treatment, when it is preferable to the alternative measure of excision of the lacrymal sac on account of the absence of subsequent cicatricial deformity.

The Cardiac Condition of Caisson Workers.—Hornung examined the hearts of a number of caisson workers immediately before and immediately after entering the chambers, and again at the end of the day's work, just before and after the reduction in pressure. The results showed that the rise in pressure was in all cases followed by an increase in the heart's height and breadth, the latter change being more marked on the right than on the left side. The pulse changes were less consistent, but the general tendency was for a rise in rate to take place. At the end of the period of work, the size of the heart had usually diminished somewhat.

Membranous Dysmenorrhœa.—Kollmann says that further observation of the case on which it was founded leads him to withdraw his conclusion that this condition can undergo spontaneous cure. No connection exists between this affection and either pregnancy or abortion, neither does it entail sterility. The membranes are not the result of inflammation of the uterine mucosa, but care is necessary to distinguish them from the products of croupous inflammation or blood clots. The pain experienced is not the result of the separation or expulsion of the membrane, which is not a mechanical process due to excessive blood exudation. The membrane does not possess a definite anatomical structure, and may vary at different times in one and the same patient. The disease is much commoner than is usually thought, and is often overlooked by the practitioner.

Surprises in Herniotomies.—E. Meusel describes two cases deserving the title given. In one, the rupture of a man of seventy-two years became first irreducible and five days later incarcerated. On opening the sac, after reposition of most of the gut, a loop was found compressed by a large tumor of the mesentery which subsequent examination showed to be carcinomatous. The affected portions were resected, and the operation was concluded in the usual way with good result. The other patient was a boy of four years whose hernia was of one year's standing. On incision, the sac was found occupied by a mass of intestines matted together and covered with tubercles. It was impossible to disentangle the convolutions of gut, and discouraged by the presence of the general tuberculous peritonitis the operator desisted from further attempts. A fecal fistula developed, however, and several weeks later the closure of this was undertaken. On exposure of the contents of the sac, to every one's surprise all trace of disease was found to have disappeared, so that after resecting the adherent bundle of intestine an end-to-end anastomosis was done, and the wound was closed. Perfect recovery followed and it is intended to perfect the closure of the hernial portal by a secondary operation.

Experimental Observations on the Tuberculous Infections of Childhood.—Dieudonné repeats the observations of Feer, Cornet, and others, who say that the ages of predisposition to tuberculosis during childhood vary greatly. Up to the sixth month, the disease is very rarely observed, but from this time on, the frequency increases rapidly, and reaches a maximum at the end of the first or second year, only to fall again in the third year. These facts are explained by the mode of life of children, which changes very considerably during these periods. In early infancy the child is kept mainly in bed or in its nurse's arms, but later on it spends much of its time on the floor, creeping about, and therefore is exposed to infection through the inhalation of dust, and its direct conveyance through the medium of dirty hands from floor to mouth and nose. In order to test the possibility of such transmission of tubercle bacilli, the author made cultures from the hands and noses of fifteen children, one or both of whose parents were tuberculous. In two instances the organism was found. A simple prophylactic measure that readily suggests itself is always to place a clean sheet on the floor before the child is set down to play.

Blood Cysts.—A. Gebhart describes a case of multiple blood cysts occurring in the intercostal musculature of a man of good previous history, and going on to erosion of the ribs. When the man came under observation, a large, fluctuating, elastic tumor was found occupying the left infra-axillary region, and yielding dark fluid blood on aspiration. A diagnosis of new growth, probably sarcomatous, of the rib was made, and an exploratory incision was done before an attempt was made to remove the tumor. On cutting into the mass, it was found full of dark uncoagulated blood, and further examination revealed the fact that the adjoining rib had been largely eroded, and its irregular ends were projecting into the cavity. These portions were trimmed with bone forceps, and the hollow was packed with iodoform gauze. It promptly closed down and granulated, though occasional hemorrhages from the wound took place, but after some weeks a similar swelling appeared just below the site of the old one. This was found to be of the same nature, and was treated in a similar way; for a time the patient did well, in spite of the severe hemorrhages; but finally, several months later, he succumbed to chronic sepsis. The author calls the condition multiple hæmatoma, but does not attempt to explain its underlying cause.

Section of the Median Nerve; Recovery.—M. O. Wyss reports a case of accidental section of the median nerve with subsequent complete regeneration which, as it occurred in the person of a physician, could be very carefully studied both subjectively and objectively. The conclusions to be drawn from the very detailed account of the case are that sharp severance of a nerve does not cause immediate pain, nor does such develop until after the second day, when it appears in the anæsthetic areas, and is a sharp and lancinating neuralgia. Pain during regeneration is always most severe in those regions in which the points of the advancing axis cylinders are situated, which spots are especially sensitive to pressure and tickling. The regions that are recovering sensibility are at first characterized by the fact that the contact of cold, and to a less degree of warm, objects is painful, *i. e.* there is hyperæsthesia to slight differences of temperature. Proximal axis cylinders can, and no doubt often do, grow out into other distal axis cylinders if the cut sections of the two stumps are not accurately superposed. Regeneration takes place also in those regions not previously anæsthetic, as shown in this case by the presence of hyperæsthesia in regions supplied by the ulnar nerve. In such cases, true trophic lesions require careful differentiation from those that are merely the result of diminished cutaneous sensibility. The severed axis cylinders regenerate at the rate of about two millimeters a day.

Berliner klinische Wochenschrift, September 9, 1901.

The Question of the Formation of Sugar from Fat in Severe Cases of Diabetes Mellitus.—L. Mohr conducted a series of uranalyses in the cases of two patients exhibiting high grades of glycosuria which persisted in spite of strict diet. The amount of aceton, present in the urine, as well as the disproportionately large amounts of sugar, led the author to conclude that the clinical and experimental work of Rumpf, Rosenquist, v. Noorden, v. Bunge, and others has established the fact that sugar-formation from fat is possible.

Bismuth Poisoning.—Dreesmann quotes the observations of numerous authors who have found that the subnitrate of bismuth is capable of producing toxic symptoms after either internal or local use. In the milder cases a stomatitis resembling that due to lead poisoning is produced, with soreness of the gums, black line at the base of the teeth, and discoloration of the tongue and mucous membrane; while in severe cases intestinal inflammation and nephritis are caused. The author's own patient received a severe burn of the whole leg, which was dressed twice daily with 10-per-cent. bismuth-subnitrate ointment. Three weeks later a black sediment appeared in the urine, and three weeks later still stomatitis and dysphagia developed. No impurity was present in the preparation employed, and after discontinuing the use of the ointment prompt recovery followed.

Traumatic Necrosis of the Pancreas.—F. Selberg says that gangrene following pancreatic trauma may be explained in two ways: either the pancreatic secretion escaping from the site of rupture produces necrosis through its action on the tissues of the organ itself and the abdominal fat—a view that is supported by the fact that the lesion is usually most pronounced in the immediate vicinity of the injury; or the damaged tissues themselves may become directly necrotic and then secondarily furnish opportunity for the growth and development of bacteria. In a case observed by the author the patient, a middle-aged man, received a kick in the abdomen from a horse which rendered him immediately unconscious, and was followed in the course of the next few days by symptoms of peritonitis and left-sided pleurisy. At the time of admission to the hospital, the condition was so

far advanced that operative treatment was out of the question, and death took place a day or two later. On autopsy, there were found numerous areas of fat necrosis through the omentum, the head of the pancreas was necrotic and friable, while the rest of the organ was infiltrated with hemorrhagic exudate and discolored.

Deutsche medicinische Wochenschrift, September 12, 1901.

The Proportions of the Excreted Sodium and Potassium Salts in the Cachexia of Carcinoma and Phthisis.—R. Meyer says that normally the potassium salts excreted equal about 0.3 gm. and the sodium salts about 6 to 7.5 gm., while in severe cachectic states this proportion is almost exactly reversed.

A Case of Late Apoplexy Following Trauma.—O. Bruns reports a case which is interesting from the length of time that elapsed between the reception of an injury and the first symptoms of its results. The patient was a man of forty-one years, who, while at work, received a blow on the head which was not severe enough to make him unconscious or give any symptoms beyond slight discomfort. Four days later, early in the morning, he had a severe sneezing fit, after which vertigo, vomiting, and coma developed in rapid succession. Death followed the next day, and on autopsy a severe cerebral hemorrhage, originating in a small aneurysm near the corpus striatum, was found. Only five similar cases have previously been reported. The theory of the late occurrence in these cases is that the original trauma produces enough local softening to deprive the vessels of their support, and following this aneurysmal dilatation takes place which any slight external cause, such as in this case was afforded by the sneezing, may rupture and so produce a hemorrhage.

The Operative Treatment of Punctured Wounds of the Heart.—I. Watten describes a case which makes the thirteenth reported in which the heart has been sutured, and the sixth in which the treatment has been followed by recovery. The patient was a man of twenty-three years, who came under observation two and a half hours after having received a stab wound penetrating the thoracic wall in the fourth right interspace close to the sternum. On removal of the temporary dressing, there was considerable external and internal hemorrhage, and on introducing the forefinger it was found that the pericardium and right ventricle had been wounded. In spite of possible difficulties, it was determined to attempt the suture of the heart from the right side without resection of the sternum, though to gain room it was necessary to elevate a triangular flap by cutting through the cartilages of the fourth, third, and second ribs close to the sternum. The pericardial wound was now in plain sight, and could easily be lengthened, and its edges could be drawn up into the wound. This brought into view the cardiac wound, an incision an inch long and relaxing and contracting with each heart beat. The commotion of the injured organ was so great that it was impossible to place any sutures until it had been gently pressed upward against the sternum by two fingers of the left hand. Three silk sutures were then introduced, and gauze drainage strips were left leading into the pericardium. Five weeks after the operation the patient was discharged cured and immediately resumed his trade of weaving, and two weeks later on examination was found to have a regular pulse of eighty to the minute with complete euphoria, and the ability to perform the hardest manual labor.

French Journals.

Congenital Macrodactylia.—Boinet concludes that congenital macrodactylia does not pertain exclusively to teratology. It is rarely hereditary. It is almost twice as frequent in man as in woman; it is noted more often on the right side than on the left; the finger most apt to be attacked is the middle one, next in order come the index, the thumb, the ring-finger, and the little finger. Two fingers are oftener attacked than one. The size of the affected fingers varies. Often no other anomaly is noticed. The pathogeny is still not clearly understood, though there have been many theories advanced.—*La Presse Médicale*, September 4, 1901.

Affections of the Nasal Fossæ.—Aristide Malherbe notes, among other troubles of the nasal fossæ, epistaxis. It is a symptom common to many affections of the nose and one that also takes place in a great number of maladies. Epistaxis is traumatic or spontaneous. The treatment of traumatic epistaxis varies with the cause. In simple cases, such as erosions, hot nasal injections and direct compression are excellent means of arresting the flow of blood. Spontaneous epistaxis must be treated according to the case. Light attacks generally cease of themselves. The pressure of a finger is often sufficient. Severe cases are well treated by cauterization or direct tamponade.—*Le Bulletin Médical*, September 7, 1901.

Principal Complications of Vulvovaginitis in Little Girls.—According to A. Guillaumont, the old idea that vulvovaginitis of little girls is an affection relatively benign, occasioning only local troubles, cannot be accepted now. Among the complications from contiguity are rectitis, urethritis, bartholinitis, etc. Vulvar hemorrhages are generally superficial. In the child as in the adult, blennorrhagic infection ascends and attacks the uterus, the tubes, the ovaries, and the peritoneum. Complications from inoculation at a distance embrace only the ophthalmias. The chief complication due to general infection is blennorrhagic rheumatism due to the presence of the gonococcus in the articulation. Endocarditis and pleurisy, in the child as in the adult, may appear in the course of a general gonococcic infection. The prognosis of the complications of vulvovaginitis is very generally good.—*Gazette des Hôpitaux Civils et Militaires*, September 3, 1901.

Primitive Cancer of the Liver in a Patient with Cirrhosis.—Vanlaer presents this case. The patient was a man fifty-one years old. At the autopsy it was not possible to find a trace of cancer in any other organ. The man had an alcoholic history, but there was no malignant taint in his family as far as could be discovered. The first symptom was pain in the region of the liver, after which his appetite failed. The limbs began to swell and he lost flesh. Palpation revealed an enormous liver. The skin became jaundiced. He developed a peculiar repugnance to meat, and asked for soups. At autopsy, the liver was discovered to be enormous, the right lobe being entirely involved by the neoplastic growth, while the other parts appeared cirrhotic. On section, the anterior part of the right lobe was red. Here and there were islands of parenchyma, grayish in color and sclerotic. The sclerosis was of long standing and general. The cells of the hepatic lobules had disappeared through progressive autopsy and necrosis, and had been replaced by an abundant epithelial proliferation, having for a starting-point the biliary canaliculi, and presenting the characters of a glandular carcinoma.—*Journal des Sciences Médicales de Lille*, September 7, 1901.

Influence of Certain Alimentary Principles on the Quantity and Quality of the Gastric Juice.—M. Potapon-Pracaitis declares that whatever may be the quantity of gastric juice furnished at one given time, its proportion of pepsin from first to last is uniformly small if the animal has not received pepsinogens by mouth or anus; when the animal has received them, the juice, at first scarcely peptic, becomes finally rich in pepsin. Its amount varies with the amount of pepsinogenic substance that has penetrated into the blood. There is no relation between the digestibility of the food and the amount of pepsin which it calls forth. Dextrin, which has no need of digestion, makes the juice very peptic; meat bouillon also renders the juice peptic, while the coagulated white of egg, and corn-meal gruel, which require long digestion, provoke the secretion of a juice but slightly peptic or almost apeptic. Pilocarpine always causes an abundant flow of juice, the quality of which, however, depends on the condition of the animal. After a sufficient preparatory repast the juice is very poor in pepsin; after a medium repast the juice contains variable quantities of pepsin: after absorption of a septogenic substance, the juice is very rich in pepsin.—*Revue de Thérapeutique Médico-Chirurgicale*, September 1, 1901.

The Journal of Tropical Medicine, September 2, 1901.

Hours of the Day at Which the Rigor of Fevers Begins.—Edward Horder notes that in 388 observations made during the first six months of 1901, 46 per cent. of the fever cases developed rigors between midnight and midday, and 54 per cent. between midday and midnight. The truth is doubtless that the larger percentage of cases begin between 10 A.M. and noon, although a fair number do commence between 1 and 6 P.M. All the observations were made in malaria.

The Percentage Relation of Eosinophiles to Other Leucocytes.—Edward Horder of Pakhoi, South China, says that the percentage of eosinophiles is usually given at 2 to 4. The blood of healthy Chinese assistants, nurses, teachers, coolies, etc., gave a percentage of 15, even 18 and 19. Europeans gave an average of 5 per cent., two only showing 6 and 8.5 per cent., respectively. Patients suffering with ulcers showed an average of 20 per cent.; those with chronic rheumatism, anæmia, eye diseases, and ordinary diseases of metabolism, an average of 22 per

cent.; one case of tuberculosis, 42 per cent.; malarial patients showed an average of 12 per cent., two giving 37.4 and 24.5, respectively. Among lepers 30 is the average, but 42 per cent. is found in many cases.

Malarial and Filarial Diseases in Barbados.—George C. Low states that indigenous malarial fever does not exist in the island. Neither were any *Anopheles* mosquitos found. In marked contrast to the absence of malaria is the prevalence of filarial disease, which is not to be wondered at, when one considers the extraordinary abundance of the common domestic mosquito of those parts, the *Culex fatigans*, which acts as an efficient host for the spread of the disease. Out of more than 600 blood examinations of people from all parts of the island only *Filaria nocturna* was found, and of 100 mosquitos examined, 23 per cent. were found to be infected with *Filaria nocturna* at various stages of development, and in one, mature forms were found near the proboscis. The author urges the adoption of the same measures that are used to exterminate the *Anopheles* in order to rid Barbados of the *Culex*.

The Causation of Beriberi.—Max F. Simon suggests the following points for consideration in the chemical and other investigations conducted with a view of ascertaining the cause of this disease: 1. Proof of infectivity of beriberi blood serum. 2. A careful chemical analysis of beriberi blood, especially of the serum thereof, and comparison with the blood of healthy persons. 3. Comparison of conditions prevailing among bodies of men among whom beriberi breaks out, with those prevailing in communities where (or when) the disease does not break out, in respect of: (*a*) anything in environment pointing in the former case to opportunities for toxic formation which do not exist in the latter; (*b*) any differences in methods of cooking, time of serving out after cooking, materials used in cooking (pots, etc.), which might in the one case favor chemical changes in the food, but not in the other; (*c*) any other differences which may strike an observer as capable of producing effects in the direction indicated.

Clinical Department.

A CASE OF ACUTE MORPHINE-INTOXICATION PROMPTLY RELIEVED BY HYPODERMICS OF PERMANGANATE OF POTASSIUM.

By LEONARD WEBER, M.D.,
NEW YORK.

Barker, Smith (1877), and Wm. Moor (1894), by their experiments and clinical experience, have made us acquainted with the antidotal properties of permanganate of potassium in opium poisoning. It is by the strong oxidizing power of this salt that morphine is reduced to oxydimorphine, which is comparatively harmless. A number of cases have been published during the last six years, in which the salt has been administered by the mouth or hypodermically, with positive results and without subsequent harm. The following, I believe, deserves to be placed on record:

A gentleman, aged thirty-eight, very stout, weighing about 250 pounds, with irritable heart, probably due to fatty overgrowth, had been subject to typical and atypical attacks of gout during the last ten years. On the night of January 20, 1899, he had a gouty seizure in the big toe, and a most acute lumbago at the same time. The following morning between 6 and 7 A.M., the patient took either one or two morphine powders of gr. $\frac{1}{6}$ each—probably two. At 9.30 A.M. I found him still in great agony, clamoring for relief. There being no symptoms whatever of morphine action, I gave him, without further inquiry, morphine gr. $\frac{1}{6}$ hypodermically, remembering that I had administered as much as that to the patient without harm on previous occasions. At 10 A.M., he fell asleep and I left for home, but was sent for in haste at 11.15, the messenger saying that Mr. R. was either dead or dying. Reaching the house at 11.40, I found the patient lying in bed, head down, cyanotic, respiration having apparently ceased, with a very fast and small pulse, and the sweat pouring from him. After pulling him out of bed quickly and raising his head and lower jaw and slapping the body with cold, wet towels, the respiration began in Cheyne-Stokes fashion for about a minute, when it again ceased. At noon I injected permanganate of potassium gr. $\frac{1}{4}$, hypodermically, repeating this every ten minutes until gr. ii. had been given. The injections were made in the outer sides of thigh and loin; at one o'clock respiration and pulse were better, the patient was conscious and able to swallow a cup or two of black coffee. At 1.30 all danger seemed to have passed; at 2 I put him to bed; at 2.20 gave a hypodermic of strychnine gr. $\frac{1}{30}$, repeating it at 4.30. When I saw the patient again, at 7 P.M., he appeared to be quite comfortable. Neither local nor general sequelæ were observed. It is self-evident that in any severe case of opium poisoning the well-known mechanical and hydriatic means to keep respiration going, and stimulants to excite the central nervous system, must also be employed; it is also commendable to inject the permanganate salt hypodermically, though it may also be given by the mouth gr. i. to ii., in aqueous solution at a single dose every fifteen minutes until all immediate danger is passed.

25 West Forty-sixth Street.

A CASE OF DUCHENNE'S DISEASE; TEMPORARY TRACHEOTOMY; DEATH.

By H. O. SOMMER M.D.,
WASHINGTON, D. C.
LATE ASSISTANT PATHOLOGIST METROPOLITAN HOSPITAL, NEW YORK.

The following case I wish to publish more for the marked pathological conditions found than for its surgical interest. The patient was a German woman, aged fifty, and had been three months in the hospital. It was an old advanced case of progressive (spinal) muscular atrophy. I had seen the woman about a year before the admission. She had a positive syphilitic history, with perforation of the hard palate, etc. The case was diagnosed by Dr. O'Connor as one of bulbar paralysis. The patient had for some time been suffering from a difficulty in articulation, and even phonation and respiration. The difficulty in respiration became so great that my colleague, Dr. Leopold, assisted by myself, did a tracheotomy. After some days the tube was removed, as respiration had sufficiently improved. The wound healed well, and although phonation returned to a considerable degree, the power of articulation did not. The woman went through the usual course of the disease, becoming veritably a "living skeleton," but the details I will spare the reader, further than that her mind became so much impaired that she became a lunatic requiring confinement and restraint, during which time I had the privilege of observing her. This lasted for several weeks after tracheotomy till she came to me for "section cadaveris." The necropsy was done on July 9, 1898, and disclosed the following condition: The dura was very adherent, especially in the occipital region. The pia was much congested, especially occipitally. In spite of the utmost care it was not possible, as is usually the case in removing the brain, to remove it in toto by severing the cord just below the medulla, and closer inspection revealed decided softening, involving the pons, etc., at which point the brain had fallen apart. There was a large dark clot in the right lateral sinus; also a small dark clot in the left lateral sinus, extending considerably into the jugular vein, and a clot in the superior longitudinal sinus. In the heart I found a white clot in the aortic valve, and dark clots in the pulmonary artery and ventricles. The tracheotomy wound in the neck was firmly closed by strong adhesions.

1227 O Street, N. W.

Society Reports.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-seventh Annual Meeting, Held at Put-in-Bay Island, O., September 12, 13, and 14, 1901.

THE association convened in the assembly hall of the Hotel Victory, and was called to order at 10 A.M. by the Chairman of the Committee of Arrangements, Dr. J. C. CULBERTSON of Cincinnati, Ohio.

Prayer was offered by the Rev. C. H. Tucker of the Reformed Episcopal Church of Put-in-Bay Island, after which Dr. Culbertson made a brief report as Chairman of the Committee of Arrangements. Dr. W. C. Chapman of Ohio delivered an address of welcome.

At this juncture the President, Dr. A. H. CORDIER of Kansas City, Mo., was introduced and took the chair. The reports of the Secretary, Treasurer, Committee on Credentials, and Committee on Publication were read and adopted.

Dr. H. O. Walker offered the following resolution, which was unanimously adopted: *Resolved*, That this association tenders to Matthew D. Mann and his competent confrères its congratulations on the prompt and masterly manner in which they have cared for the President, William McKinley.

President's Address.—This was delivered by Dr. A. H. CORDIER. He selected for his subject "Some Phases of Nephrolithiasis." He drew the following deductions: 1. Hemorrhage from parenchymatous organs is, in most instances, easily controlled. 2. Nephrolithiasis is more prevalent than is generally supposed. 3. A stone having formed in the pelvis of the kidney, if too large to pass through the ureter, will sooner or later, produce symptoms demanding its removal. 4. Suppuration in stone cases is, as a rule, a late process and should be prevented by early surgery. 5. A wound in a healthy kidney heals rapidly. 6. Obscure, persistent pains in the region of the kidneys, in a patient who has had a renal colic years ago, should lead to an exploration of the kidney. 7. The operation of nephrolithotomy has a very low mortality. 8. The kidney should not be removed unless practically destroyed by the disease. 9. There exists a special cause for the development of stones in the right kidney. 10. With a carefully obtained clinical history, the diagnosis of stone in the kidney is usually easy. 11. At the time of operating the ureter should be explored, that its patency can be assured. 12. Post-operative patience and faithful effort on the part of the surgeon will result in the saving of many organs; otherwise removal will be necessary.

Fractures.—Dr. E. B. SMITH of Detroit read a paper on this subject. He gave a résumé of the old and the new methods in diagnosing fractures. He said that fractures in each stage presented certain definite pathological surgical conditions. The diagnosis, treatment, prognosis, and complications with their medico-legal status were dwelt upon at length, and lesions examined, treated, and met by surgical experience. The recompense should be in keeping with the experience and surgical requirements.

Dr. CHARLES H. HUGHES of St. Louis emphasized the importance of head symptoms in cases of fracture.

Dr. A. M. HAYDEN of Evansville said a joint that has a fracture into it should be kept quiet or immobilized for at least four or five weeks, so that the fragments may become thoroughly united and healed before resorting to passive motion. The latter procedure was used too early.

Dr. W. T. STEWART of Chicago spoke of suturing the fragments in fractures, saying he had been disappointed in using the various methods recommended in textbooks and journal literature, and expressed the hope that some member would speak of immobilization of parts in delayed union of fractures, and in fractures of recent occurrence.

Dr. S. S. THORN of Toledo said one cause of delayed union in fractures was malnutrition, the result of enforced anæmia, and this anæmia was the result of applying bandages too tightly and the use of short splints, thereby causing constriction, which resulted in anæmia, starvation, and hence delayed union.

Dr. A. J. OCHSNER of Chicago mentioned another cause of non-union of bone, namely, the interposition of muscle or fascia between the fragments, and cited cases in point.

Dr. A. M PHELPS of New York spoke of a third reason why union did not take place after a fracture of the thigh —the nutrient artery became ruptured, and thus nutrition was cut off. Treating fracture with coaptation splints was wrong. He favored extension (Buck) and fixation in fractures of the femur. A patient with a fractured femur is put to bed with Buck's extension applied for a week or ten days, until laceration of the soft parts has subsided, after which a brace is applied, the patient gets out of bed, is driven about in a carriage, and fed well.

Dr. Smith, in closing, stated that joints should not be immobilized for the length of time surgeons had been in the habit of immobilizing them; and that injuries of the head ought to be operated on more frequently than they are.

Floating Liver, with Report of a Case.—Dr. J. HENRY CARSTENS of Detroit followed with a paper on this subject. Very few such cases, he said, had been reported. The condition was often associated with general ptosis of the abdominal viscera. The patient was a woman, aged forty, quite stout. A gradually developing tumor had been noticed, starting on the right side and growing downward. It was firm and non-fluctuating. On account of the distressing nervous symptoms, an exploratory cœliotomy was done, and the right lobe of the liver found enlarged and hanging down to the pelvis. It could be replaced in the normal position, and was stitched there. Recovery took place with disappearance of all the distressing symptoms.

Dr. HAYDEN reported a similar case.

Dr. WILLIS G. MACDONALD of Albany had seen a considerable number of such cases. Some years ago he showed the lobe of a floating liver with a gall-bladder and some gallstones. He had seen two cases in which there was general ptosis of the liver, one in which, by change of position of the patient, it was quite possible to have had the liver float down beyond the border-line of the umbilicus, and, changing the position of the patient back again, have it disappear beyond the border of the ribs.

Sterilization of Rubber Gloves by Formaldehyde Gas, and the Use of Mild Antiseptics Inside the Gloves.—Dr. A. GOLDSPOHN of Chicago made a preliminary report on this subject. In 1889, J. Geppert pointed out the mistake of exposing germs in their culture medium to any antiseptic; because the medium absorbing the antiseptic is spoiled for its purpose long before the germs are really dead, and a non-growth is then no proof of sterility. Since a number of health officers (not bacteriologists) have made tests involving this error, and have based on them rules for disinfection that are fallacious, the speaker said he had been induced to carry on a series of bacteriological tests to determine the minimum requirements for sterilizing rubber gloves by formaldehyde. He used small pieces of surgeon's silk as germ-carriers, because the gas would evaporate from them. With his experiments he determined that (1) a small connection with a chimney flue to afford a circulation of the gas in the sterilizer appears to be necessary, when the gas is generated by a lamp; (2) three hours was the minimum time needed for certain sterilization in his apparatus. A cross test was made by pouring culture material into the gloves afterward, and then heating it. Sterilized boric-acid powder was used as dusting powder inside the gloves to make them slip on dry and very easily, and about one-half ounce of 55 per cent. alcohol was then poured into each glove. The fluid in the gloves after operating one or more hours was tested

by culture in many experiments, and found sterile with one exception.

Infection from the Bacillus Ærogenes Capsulatus.—Dr. JULIUS H. JACOBSON of Toledo read a paper with this title, in which, after detailing some experiments and narrating observations, he deduced the following conclusions: 1. That infection from the bacillus ærogenes capsulatus occurs much more frequently than is recognized. 2. It dominates the whole field of pneumopathology. 3. Such terms as emphysematous gangrene, air embolism, emphysematous cellulitis, are misleading and vague, and should become obsolete. 4. Infection from this germ produces a rapid toxæmia; the formation of gas in infected areas, resulting in gangrene and death. 5. Its principal habitat is the soil and intestinal tract. 6. Owing to its wide distribution in the soil, the danger of infection in all traumatic cases should not be forgotten. 7. A probable diagnosis can often be made by the history, clinical course, and objective signs of the case. 8. A positive diagnosis can only be made by bacteriological examinations, cultural and animal inoculations. Simple stained specimens taken from the site of infection will often make the diagnosis.

Features Determining Permanency of Cure in Radical Operations for Hernia.—Dr. A. J. OCHSNER of Chicago followed with a paper with this title. Permanent success following herniotomy depended, he said, upon a comparatively small number of practical points which must be observed in order to secure satisfactory results regularly. These were: 1. The wound must heal primarily because suppuration resulted in an abundance of cicatricial tissue, and this was most unstable. 2. The stitches must not be drawn tightly in order to avoid pressure necrosis. 3. The edges of the wound to be united must be free from fat and other unstable tissues. 4. The wound should be supported by broad rubber adhesive plaster strips until healed. 5. The patient should be kept in bed two to three weeks. 6. After the operation abnormal intra-abdominal pressure should be eliminated by avoiding constipation, etc.

In *inguinal* hernia, (1) the entire sac should be removed; (2) it was especially important to remove all the loose tissue between the transversalis and internal oblique muscles on one side and Poupert's ligament on the other; (3) the upper portion of this canal should be closed with especial care; (4) a long, thin omentum, if present, should be resected.

In *femoral* hernia, the canal through which the sac protruded was a perfect ring, and consequently if the entire sac was removed this ring would invariably close, and there could be no recurrence. All meddlesome operations contemplating the closure of this ring caused a certain percentage of recurrences.

In *ventral* hernia, following laparotomy, the original layers should be laid bare, and then the corresponding layers should be carefully united. The author preferred deep silkworm gut sutures to be tied after each layer had been united separately with chromicized catgut sutures.

In *umbilical* hernia, the ingenious operation first described by Dr. W. J. Mayo of Rochester, Minn., consisting of an overlapping of the edges of the hernial ring from above downward, or from side to side, for a distance of one and one-half inches, had given complete satisfaction.

Severing of the Vas Deferens and Its Relation to the Neuropsychopathic Constitution.—Dr. H. C. SHARP of Jeffersonville, Ind., read a paper on this subject. He discussed the subject under three heads: 1. The law of heredity, influencing the formation of the character of intellect and will, and the controlling of the appetites and passions, and all the moral impulses, and the pathological conditions to which the mental and physical life are subject. The chief manifestations of this diathesis are chorea, hysteria, hypochondriasis, inebriety, imbecility, criminality, and insanity; and it includes in its subjects sometimes the most gifted, as Burns, Coleridge, De Quincey, and others. 2. The rapid proportional increase of this diathesis, in the face of the efforts of noted sociologists and penologists. 3. The severing of the vas deferens as the means of stamping out this diathesis. The author outlined the field of the operation, the preparation for, and method of operating.

Dr. A. J. OCHSNER had removed the vas deferens in a number of tuberculous cases since his first operative work on defectives and criminals, and in no case has there been any disturbance of the ability of the patient to enjoy sexual intercourse.

Morbid Conditions of the Upper Respiratory Tract Resulting from the Infectious Diseases.—Dr. CAROLUS M. COBB of Boston gave a résumé of the autopsies reported by Wolff, Pearce, and Zuckerkandl. These autopsies showed that the involvement of the nasal accessory sinuses during the course of the fatal cases of diphtheria, scarlet fever, measles, and influenza was the rule rather than the exception. He then showed from an analysis of 102 cases of nasal or postnasal catarrh without nasal obstruction, that 69 per cent. of these cases could be traced directly to one or more attacks of the infectious diseases. He called attention to the danger to the ears of treatment, during the height of the primary disease, by means of douches and sprays, and drew the following conclusions: 1. The importance of the so-called catarrhal inflammation of the upper air tract, not only in relation to local disease, as catarrhal inflammation of the middle ears, the eyes, the larynx, and the bronchial mucous membrane, but to general systemic infection as well. 2. Nasal obstruction does not cause a catarrhal discharge, *per se*. 3. The frequency with which the accessory sinuses are involved in the infectious diseases. 4. The neglect of the diagnosis of this involvement of the sinuses, either during the course of the primary disease, or during convalescence. 5. The hypertrophy of the glandular tissue in the throat and nose following the infectious diseases. 6. The persistence of the Klebs-Loeffler bacilli in the secretions of the nose, which may be a serious menace to the public. 7. A large percentage of the cases of catarrhal disease, *i. e.* when the complaint is of a nasal or postnasal discharge, which can be traced to the infectious diseases. A table accompanying the paper showed that 69 per cent. of the catarrhal cases could be directly traced to some one of these diseases.

Dr. L. H. WARNER of New York dwelt on the importance of paying more attention to the digestive organs in looking for the causes of diseases of the respiratory tract.

Dr. WM. F. BARCLAY of Pittsburg thought a great deal of harm was done by the neglect of conditions of the air passages following diphtheria, scarlet fever, and other diseases, and much good would be effected if the contents of Dr. Cobb's paper could be widely made known among general practitioners. While agreeing generally with all the author had said, he attached more importance to local in conjunction with general treatment.

Dr. J. HOMER COULTER of Chicago said the important point to be kept in mind was that constitutional treatment should never be neglected.

Dr. EMIL AMBERG of Detroit remarked that in affections of the ears it was better to let the pus escape to the outside than run the risk of its getting into the food, as frequently happened in the case of children.

Dr. JOHN NORTH of Toledo thought it a mistake to speak of catarrhal troubles as inflammatory. In fact, the ideas of the profession had undergone such a change in regard to inflammation that it would be well if all the textbooks on the subject could be destroyed and someone were to write an entirely new work on the subject.

Dr. A. E. STERNE of Indianapolis considered that Dr. Cobb as a nose and throat specialist was to be commended for the broad view he had taken of the subject.

Dr. Cobb, in his reply, said there was no finality in the conclusions which he had suggested. His principal object was to encourage observation with the view of establish

ing the effects on the air passages produced by different diseases.

Acute Intestinal Autointoxication.—Dr. JOHN M. BATTEN of Downingstown, Pa., read a paper on this subject, reporting an illustrative case. He was called to see professionally W. F. B., aged fifty-six years, on February 21, 1898. The patient had been suffering with exhaustion for several days, although neither his pulse nor his temperature was disturbed. He ordered him to bed, thinking that rest there might be beneficial to him. Within forty-eight hours, on his own account, the patient took a dose of calomel, which still further prostrated him, so he had to be assisted to bed from the chamber. Dr. Batten noticed that the patient had had a gray, leaden complexion for several weeks preceding his first call. That gray or cachectic complexion is usually pathognomonic of intestinal autoinfection, although it may indicate malignant disease of the liver. In fact, for several days after his first visit, it was his opinion that the case was one of malignant disease of the liver, as there was a congestion or thickening of the lower end of the stomach and upper end of the duodenum. The patient was corpulent, weighing 220 pounds, and lost forty pounds during the two months he was confined to bed. Previous to his ailment, the man had been careless in securing a regularity in the movement of his bowels for some months. The usual symptoms presented themselves, constipation, flatulency, borborygmus, urates, and the constituents of the bile in the urine, fever, headache, unpleasant dreams, and melancholia. The treatment consisted of large daily doses of calomel until the bile flowed freely, then antiseptics internally, together with small doses of mercury, until an amelioration of the symptoms was effected, then the natural mineral waters, followed by vegetable tonics in connection with hot baths. For a weak heart, with which he suffered, strychnine was prescribed. Nitrate of silver and small doses of mercury were given for relief of the congestion of the lower end of the stomach and upper end of the duodenum, which was thought to exist. The diet was beef essence, but the patient did not exhibit a disposition to eat. His legs swelled during convalescence, and he suffered acute pain in the knees. In due time the patient fully recovered his health, after a protracted stay at Mount Clemens, Michigan, whence he had gone as soon as he had convalesced sufficiently to enable him to do so.

Dr. J. A. STUCKY of Lexington, Ky., said the idea was becoming more and more prevalent that autointoxication of the intestines was due to a disturbance of metabolism, whatever that might mean, within the intestinal tract. Whatever the cause, the treatment seemed narrowed down to the one word, "elimination."

Dr. I. N. LOVE of New York said that, while elimination was all-important when the autoinfection had been produced, it was at least equally necessary to guard against its production. Overeating was the principal evil to avoid in this connection.

Dr. GEORGE D. KAHLO of Indianapolis insisted on the importance of giving the digestive organs absolute rest when autoinfection was found to exist. It was wonderful how long a person could live simply on air and water, and in cases of the kind so-called starvation was of the greatest efficacy.

Dr. WILLIAM BAILEY of Louisville thought a mistake made in modern times was to relieve the digestive organs too much of the functions which they were intended by nature to discharge.

Dr. NORTH remarked that the regulation of the diet would be sufficient for all purposes if they could start far enough back. This, however, they could not do, for the mischief was already done before the patient presented himself. It was to be feared that even doctors did not regulate their diet to the extent that was desirable.

Dr. BARCLAY condemned the practice now too common of using a syringe daily to prevent constipation. While the cleaning out of the system by this means was of great use in an emergency, the habitual use of the syringe did as much harm as the habitual use of purgatives.

The discussion was continued by Dr. G. W. McCaskey of Fort Wayne, Ind., Dr. C. S. Chamberlain of Cincinnati, Dr. C. H. Hughes of St. Louis, Dr. Sterne, and others, the relation of the nervous system to the digestive and other organs being the branch of the subject dealt with by Dr. Hughes, and Dr. Sterne remarking that it was difficult to say which set of speakers had the best of the argument, because of the vicious circle which the condition in question had established, making it impossible to distinguish between cause and effect.

Asthma.—Dr. JOHN NORTH of Toledo, Ohio, in a paper with this title, said that a great many theories had been advanced as to the etiology and pathology of asthma; among them, reflex neuroses, contraction of the bronchial tubes, nervous spasm, blood disease, irritation of the air tubes, irritating tumors, extension of bronchitis, vasomotor bronchitis, diathetic neuroses, neuroses of the pulmonary plexus, uric-acid diathesis, oxalic-acid dyscrasia, an excess of venous blood in the medulla, etc. Most of these theories contained a small grain of truth, but no one of them could account for the asthmatic paroxysm. Three factors were required for the production of asthma. These, the so-called "asthmatic tripod," were as follows: (1) A vulnerable area of mucous membrane, (2) an abnormally sensitive nerve center, and (3) an external irritant or exciting cause. If all these three factors were present at any one time, an attack of asthma would occur. No two of them could produce an attack; all three were required, and if one of them were removed, the attack of asthma would not return.

The first factor for the production of asthma may be situated in the nose, nasopharynx, pharynx, larynx, or bronchial tubes. The various names given to the different varieties of asthma are derived from the locality of the vulnerable area of mucous membrane. The second factor may be either inherited or acquired. The neurotic element in asthma has been observed by all writers. Uric acid, oxalic acid, and the oxalates may produce abnormality in the nerve centers. The third factor is difficult to determine in some cases, as we may have a number of irritants and exciting causes.

In the treatment of asthma, attention must be given to the three factors necessary to produce asthma. The treatment is divided into that of relieving the paroxysm of dyspnœa, and treatment during the interval to prevent their recurrence. The relief of the paroxysm may be accomplished by remedies that relieve either of the three factors mentioned. The treatment during the interval must be applied permanently to relieve one or more of these factors. The treatment varies according to the conditions in each case. Asthma can be cured if treatment is scientifically instituted and carried out.

Dr. WARNER spoke of the necessity of having an examination of the blood as well as of the urine.

Dr. PORTON R. BENNETT of Daytona, Florida, said he cured all cases of asthma that came to him by means of iodide of potassium and tincture of belladonna. Other speakers advocated the use of alkalies, but the majority adhered to the opinion that no one treatment was suitable for all cases, the causes of asthma being numerous, and each calling for a different remedy. Among those who spoke were Dr. Wm. A. Dickey of Toledo, Ohio; Dr. C. T. Stewart of Chicago, Dr. Batten, and Dr. Chamberlain.

Address in Medicine.—This was delivered by Dr. FRANK BILLINGS of Chicago. He selected for his subject, "What Are the Qualifications Necessary for the Success of the Practice of Medicine?" He said that the qualifications of success, in any walk in life, depended upon the meaning of the word success. Not uncommonly success meant to the majority of mankind the acquisition of wealth. Without a living income, life was too full of anxieties to allow one to do good work. The average physician, said the

speaker, probably received less compensation for his services than any other member of society, when one considered the time and money spent in preparation, the responsibilities assumed, and the character of the service rendered to the patient. To-day the problems in medicine were so profound that a good preliminary education was necessary to enable the student to pursue the study of medicine rationally and successfully. While a college or university education might not be essential to prepare one fully for the study and comprehension of medicine, still it gave one broad culture, a discipline of mind, which added to the pleasures of life of the practitioner, if it did not bring him material advantage.

The successful doctor must be industrious, thorough, painstaking, and methodical in all he does. One of the best evidences of a successful practitioner was the constant effort to make a diagnosis.

Spinal Deformities.—Dr. A. M. Phelps of New York discussed the subject of tuberculous disease of the spine, lateral curvature of the spine, and the proper treatment of each.

Congenital Valvular Obstipation.—Dr. Thomas Charles Martin of Cleveland read a paper on this condition, which, he said, was the result (1) of embryological hyperplasia or overgrowth of the rectal valves, which was characterized by an abnormal depth of the valve, or (2) to such anatomical propinquity of two valves that they overlap and establish under the pressure of the descending force a temporary diaphragm. The symptoms were more or less straining for defecation of solid or semi-solid fæces, which developed at an early period and continued.

Varicose Veins and Their Treatment.—Dr. J. Lively Johnson of Louisville, Ky., read this paper. Varicose veins of the first degree were of little importance, aside from the mental anxiety of the patient, but as the varicosity advanced, the veins assumed a more grave character and were often a source of annoyance to both patient and surgeon. A varicosity might exist in any part of the body. This condition of the veins was found most frequently in certain localities, as the pampiniform plexus and in the veins of the foot, leg, and thigh. One of the greatest dangers to the patient suffering from varicose veins was the danger of a sudden rupture, with perhaps a fatal loss of blood. Inflammation and thrombosis might frequently occur. This pathological condition incapacitated one for a position in the army or navy, thus debarring him from participating in the advantages offered by government positions. The sufferer was also debarred from participation in all athletic sports. In this enlightened age, it seemed strange that physicians still allowed patients suffering from varicose veins to pursue the even tenor of their way, with only a smear of oxide of zinc ointment, and a roller bandage applied to hold it in place. The rubber stocking was also a failure; aside from its inability to support the blood column, it became soiled and rancid from perspiration, producing an annoying dermatitis. This line of treatment did not cure, consequently the treatment had to be persisted in as long as the patient lived. The only rational line of treatment to be pursued in the management of varicose veins was to remove completely by extirpation the entire diseased vessels. Temporizing with varicose veins not only did the patient great harm, but brought reproach upon the surgeon. The surgeon had the choice of a number of operations for the radical cure of varicose veins of the lower extremity. He must be able to adapt the surgical procedure to the case in point. He only mentioned the operations that might be employed. Ligation might be used, or Schede's technique might be resorted to. Phelps' excision of limited portions of the diseased veins was a good operation and might be frequently used with success. The most radical form of treatment consisted in complete extirpation of all diseased veins. Under no circumstances should any operation be performed upon veins without the most stringent aseptic precautions, thus preventing serious after-consequences.

The Use and Limitations of the Elastic Ligature in Intestinal Surgery.—Dr. Theo. A. McGraw of Detroit presented a paper with this title (see p. 521).

Dr. H. O. Walker of Detroit reported cases of intestinal resection and approximation by the Connell suture, and contrasted it with other methods of approximation. He spoke highly of this suture, and recommended its use.

The Surgical Features of Typhoid Fever and Dysentery were considered by Dr. Hal C. Wyman of Detroit. He held that early operations for perforation in typhoid fever gave the best results. Physicians should anticipate perforation and intestinal hemorrhage in typhoid fever of a severe type by surgical operation, which promised to heal the ulcerated bowel before it perforated or bled. In severe cases of a threatening type, the author said, why not open the cæcum near the ileocæcal valve, establish a fistula through which a tube might be passed cautiously into the ileum and the ulcerated region daily washed with normal salt solution until it healed, and also the colon to rid it of infecting bacteria? When the patient was convalescent, the fistula would close spontaneously.

Some Indications for Gastroenterostomy.—Dr. William J. Mayo of Rochester, Minnesota, read a paper with this title, his conclusions being based on a personal experience derived from sixty-four operations. In malignant disease, gastroenterostomy was indicated only if symptoms of obstruction were present. The mortality was high, 25 to 30 per cent. The writer lost four out of sixteen cases. The reason for this mortality lay in the bad condition of the patient. The early cases in good condition needed radical treatment, and the latter operation (pylorectomy, etc.) on this account had an even lower mortality than gastroenterostomy, which had no such limitations.

For open ulcer, gastroenterostomy was of the greatest benefit if the ulcer was situated near the pylorus, and it usually was. Under such circumstances, the stomach was of normal or increased size, the latter condition being due either to obstruction or pyloric spasm. If the ulcer be distant from the pylorus and the stomach contracted, gastroenterostomy had less value and the anastomotic opening might close, although the ulcer was usually healed before this took place. The writer had had thirteen gastroenterostomies for open, intractable ulcer, with one death.

For benign obstruction without regard to origin, gastroenterostomy was the operation of choice, the cure being immediate and lasting. Pyloroplasty enlarged the outlet, but if the stomach was very large and pouched, the degenerated muscle fiber might fail to elevate the food to the pylorus and relief was not always afforded. Gastroenterostomy drained from the lowest point, and was superior in every way to the plastic operation. In thirty-five gastroenterostomies of this class only one patient died.

Appendicitis.—Dr. Wm. J. Gillette of Toledo read a paper in which he reported one hundred cases operated on for appendicitis.

Suture of the Abdominal Wall.—Dr. Charles Davison of Chicago said that the main point in this procedure was closure of any laparotomy wound by suturing each layer with continuous silkworm gut suture, the ends of which are left out at the angle of the wound, to be removed when healing has occurred. The suture in the strong fascia is tied in position at each end in the fascia with a knot that can be unlocked by traction on the exposed ends when the stitch is to be removed. The advantages of the method were: 1. Certainty that all suture or ligature material placed in the wound has been made sterile by boiling in water. 2. Accurate layer approximation of tissue. 3. Removal of the buried sutures when healing is complete. 4. Capillary drainage from each layer. 5. Safety of intestines from injury during the application of the sutures. 6. Rapidity of application.

7. Minimum line of irritation on the peritoneal surface and consequent adhesion to viscera. 8. Slight scar in the skin, there being no perforation of the skin by sutures. 9. All of the advantages of a permanent buried suture without the danger of future irritation and extrusion. 10. The advantages of an absorbable suture without the danger of sepsis from the suture and without producing a nidus for septic germs from the blood current during absorption.

Dr. TRUMAN W. BROPHY of Chicago demonstrated some cases of surgery of the palate by the aid of stereopticon views.

Dr. M. L. HEIDINGSFELD of Cincinnati discussed some causes of ignored syphilis and their remedies, and gave clinical examples.

Hæmatology.—Dr. L. H. WARNER of New York City spoke of the imperfect methods of obtaining blood from patients for microscopical examination, and said that the subsequent incorrect methods of fixing and staining specimens had frequently caused errors, the results being of no value as an aid to diagnosis. The incorrect understanding as to the physiological action of the electro-saline halogen derivatives (iodine, bromine, chlorine), especially as to the amount resorbed (chemical uranalysis), had caused leucocytosis to be wrongfully attributed to other causes. The blood in infectious diseases, if properly obtained and examined on the hot stage, showed certain histological changes in the red cells, also certain staining affinities which enabled the hæmatologist to arrive at an early diagnosis in cases of syphilis, carcinoma, etc.

Hay Fever.—In a paper on this subject, Dr. A. D. MURPHY of Cincinnati said three conditions were necessary to produce the complaint, namely, depleted nerve centers abnormally sensitive to uric acid; abnormal condition of the nasal cavities, and atmospheric and climatic conditions. Consequently, to effect a cure it was necessary to eliminate the uric acid, restore the depleted nerve cells to their normal condition, and relieve the effects. Hot baths and exercise and the careful selection of food were all of importance. As regards medication, he relied principally on a combination of arsenic and solution of gold, supplementing it with local applications of the suprarenal extract or its active principle, adrenalin.

The paper was discussed by Drs. North, Cobb, McCaskey, and others.

Scientific Aids to Diagnosis.—Dr. HENRY D. HOLTON of Brattleboro, Vt., read a paper with this title. Passing over percussion and auscultation as a means of examining the heart and lungs, and simply mentioning the importance of making chemical and microscopical examinations of the urine in cases where the symptoms indicated an abnormal condition of the kidneys, and also those in which the symptoms were vague and uncertain, he proceeded to refer at length to an aid that had not found general favor with the profession, to wit, the use of the ophthalmoscope in many affections of the brain and spinal cord, in which he contended it had been proved to be of great value. He also spoke of the help to be derived from the examination of the blood.

Dentist's Neck.—Dr. ALBERT E. STERNE of Indianapolis described a hitherto undescribed neurosis to which he gave the name of dentist's neck. When it first attracted his attention he thought the affection was unique, but he had since come to the conclusion that it was by no means rare, and that it sometimes attained the dignity of seriousness to the afflicted individual. As to the pathology of the affection, he admitted that he had to rely largely on conjecture. He believed that it was in many respects analogous to other occupation neuroses, not only in its etiology of regionary overstrain, but also in its cerebral functional character. In all these complaints he considered the peripheral manifestations as secondary to the localized brain-cell fatigue.

Necessity of and Indications for the Bed-Treatment of the Insane.—Dr. F. P. NORBURY of Jacksonville, Ill., read this paper. In its incipient stage, he said, insanity responded readily to treatment, hence the importance of early recognition and appropriate treatment.

Puerperal Insanity.—Dr. HAROLD N. MOYER of Chicago read a paper on this subject.

Suprarenal Extract.—Dr. JOKICHI TAKAMINE contributed an account of his discovery of the active principle of the suprarenal gland, to which the name of adrenalin has been given. He also explained the mode of preparing the drug. Dr. Cobb, Dr. North, Dr. McCaskey, and Dr. Charles F. McGahan bore testimony to the value of the preparation.

Indian Contributions to Therapeutics was the subject of a paper by Dr. B. T. WHITMORE of New York. He showed that the modern so-called Indian remedies have no connection with any system of medication practised by the aboriginal Americans.

The Dyspeptic's Diet.—In a paper thus entitled, Dr. GEORGE D. KAHLO of Indianapolis contended that diet was a more important therapeutic agent than medicine. Perfect nutrition was of primal import, and could only be maintained by a mixed diet, in which there must be a proper proportioning of the elementary food substances.

Personal Element of Error in Therapeutics.—Dr. GEORGE F. BUTLER of Alma, Mich., read a paper on this subject. Personal elements of error are accepted, he said, in all the exact sciences, not excluding astronomy. In medicine this element does not receive allowance, except to some slight degree in histology, pathology, and neurology. It is practically neglected in therapeutics. This is due to the crude, empirical methods employed, and the lack of judicial training. The personal element leads to the eulogy of worthless remedies and the ignoring of unusual effects of beneficial ones. The early but ignored recognition of the uselessness of sarsaparilla by Weir Mitchell illustrates this. Only the recognition of this personal element can render therapeutics scientific. The elements involved are proper diagnosis, not merely of the disease, but of its type, recognition of individual peculiarities of the patient, recognition of the proper preparation of the remedy, recognition of its untoward effects, and, finally, recognition of the fact that pathologic states indicate a new force introduced into the organism which disturbs its balance.

The Acquirement of Nervous Health.—Dr. F. SAVARY PEARCE of Philadelphia discussed the pathogenesis of nervous and mental diseases, and from the standpoint of salient signs and symptoms of the so-styled "nervous breakdown" in the earlier periods of development. Insistence was made upon the urgent necessity of more serious recognition by the profession of the points elucidated in the paper, if the wear and tear of modern exacting American life is to be forestalled in its baneful influence upon the acquired nervous temperament of many, and of business men in particular, in the temperate zone of the United States. Cases cited, and good results given.

Tuberculosis.—A short symposium on this subject was introduced by Dr. CHARLES F. MCGAHAN of Aiken, S. C., who dealt with the treatment of the disease in the patients' homes. He was followed by Dr. HOWARD of Champaign, Ill., who reported favorably on the treatment of tuberculosis with formaldehyde and its salts. Dr. WILLIAM A. DICKEY of Toledo, Ohio, who read the third paper in the series, spoke on the attitude of the profession toward the public and the individual suffering from tuberculosis.

The Evil Effects of Alcohol were discussed in papers by Drs. T. D. Crothers of Hartford, Conn., and T. B. Greenley of Meadow Lawn, Ky.

Autointoxication and Its Treatment.—Dr. CHARLES H. SHEPARD of Brooklyn, in a contribution on this subject, entered a plea for the more general use of Turkish baths.

The Female Pelvis.—Dr. Ernest Gallant of New York made some observations based upon a study of the female pelvis.

The Appendix Vermiformis.—Dr. N. Stone Scott of Cleveland showed stereopticon slides from original photographs, illustrating the anatomy, embryology, histology, comparative anatomy, and pathology of the appendix.

Address in Surgery.—Dr. Reginald H. Sayre of New York delivered this address. He reviewed the status of surgery during the past, and noted the changes that have taken place in men, methods, and modes of thought, and speculated on the position which surgery would attain during the next one hundred years.

Election of Officers.—The following officers were elected for the ensuing year: *President*, Dr. S. P. Collins of Hot Springs, Ark.; *First Vice-President*, Dr. J. C. Culbertson of Cincinnati, Ohio; *Second Vice-President*, Dr. Paul Paquin of Asheville, N. C.; *Secretary*, Dr. Henry E. Tuley of Louisville, Ky.; *Treasurer*, Dr. Thomas H. Stucky of Louisville, Ky.

The Death of the President.—The following resolutions were adopted: "Our President is dead. Our President, who accomplished the unification of our country; the abolition of sectional lines; the expansion which made us a world-power, his last public utterance being in favor of peace, international reciprocity and sympathy, has been removed by the enemies of society.

"We are overwhelmed with sorrow and personal grief for the death of the greatest of the world's rulers; for one who, from the standpoint of statesmanship, political foresight, sympathy with all the people, morality, the sweetest features of personal character and home life, appealed to the appreciation of and affections of every citizen.

"A professional sorrow and disappointment has taken the place of a hope that had inspired us from the first day the nation's calamity overwhelmed us.

"Joining in the personal grief and bereavement from which every true and loyal American citizen is this day suffering, we, the members of the Mississippi Valley Medical Association, in our twenty-seventh annual meeting assembled, do postpone the further presentation and consideration of special papers, in token of the love and respect with which we shall ever cherish the memory of our martyred President, William McKinley.

"(Signed) Andrus Timberman, M.D.,
"H. O. Walker, M.D.,
"I. N. Love, M.D.,
"Committee."

On account of the death of President McKinley, a motion was made and unanimously adopted by a rising vote, that the papers listed for the third day be read by title, referred to the Committee on Publication, and that the association adjourn out of respect to the distinguished dead.

The association then adjourned, to meet in Kansas City, Mo., 1902.

A Study of the Insanities of Adolescence.—William Pickett after an exhaustive study of 344 cases of insanity occurring between fifteen and thirty years of age, carefully tabulated with reference to alcoholism, heredity, and kind of insanity, concludes that to classify insanity cases, probably the best plan is that followed by Dr. Dercum, to divide the insanities into the conventional forms of mania, melancholia, etc., then to discuss the cases in their relation to periods of life, childhood, puberty, adolescence, the menopause and senility.—*The Journal of Nervous and Mental Disease.*

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Fourteenth Annual Meeting, Held at Cleveland, Oh: September 17, 18, and 19, 1901.

First Day—Tuesday, September 17.

The association met in the banquet hall of the Hotel Hollenden, under the presidency of Dr. W. E. B. Davis of Birmingham, Alabama.

An address of welcome was delivered by Dr. C. H. Hoover of Cleveland, to which a fitting response was made by President Davis.

Tubo-Abdominal Pregnancy.—Dr. William H. Humiston of Cleveland reported this case. The principal points of interest were. (1) Extreme loss of blood and shock, pulse, 180, barely perceptible over radials; temperature, 95°. (2) The prompt result of submammary injections of sterile decinormal saline solution at the time of beginning anæsthesia. These injections were recommended in desperate cases. (3) No attempt was made to remove the large amount of blood filling the abdomen close to the pelvic brim. The large amount of blood gave no trouble, and was taken care of and absorbed by the peritoneum rapidly.

Cornual Pregnancy; Rupture in the Fourth Month; Operation; Recovery.—Dr. Miles F. Porter of Fort Wayne, Indiana, followed with a paper with this title. The author saw Mrs. H., sixteen hours after she had been taken sick with severe abdominal pain accompanied by the usual signs of severe hemorrhage. She had had one living child and one miscarriage, and was near the middle of her third pregnancy. Hasty examination revealed nothing abnormal in the vagina save a slight bloody discharge. Cœliotomy was immediately done, and a ruptured cornual pregnancy of about four and a half months, with bicornate uterus, was found. The belly was filled with blood. The ruptured cornu was amputated, and the stump sutured, leaving the ovary and tube attached to the stump. There was profound depression, which was treated by saline rectal injections, and hypodermic administration of digitalin and strychnine. Recovery was uneventful. A large quantity of warm sterile water was left in the abdomen. The intact cornu was much enlarged and attached to the ruptured cornu with a rather long pedicle. The gestation sac was thick, save at the point of rupture, and was composed of uterine tissue. There was no communication between either the sac and the vagina or the tube and the sac. These communications became occluded subsequent to the impregnation. A decidual membrane was present. The presence of this membrane marks the case as one of ruptured pregnancy in an illy developed cornu of a bicornate uterus. In tubal and interstitial pregnancy there is no decidual membrane in the sac. An abnormally low implantation of the tube and round ligament accounts for the fact that in this case they were attached to the outer side of the stump left after removal of the sac, and not to the sac itself, as is the rule. As a rule, pregnancy in a bicornate uterus terminates normally. In three of the cases, including his own, referred to in the author's paper, normal pregnancies preceded the rupture four times. In the others, no reference as to the other pregnancies was made. He had been able to find reports of but eighteen cases of ruptured cornual pregnancy, which, with his own, makes nineteen cases reported to date. The symptoms are those of ectopic pregnancy, save that the rupture occurs later in cornual pregnancy, and the hemorrhage is usually more profuse. A previous history of sterility or of tubal infection points to tubal rather than cornual pregnancy.

These two papers were discussed jointly. The discussion was opened by Dr. Edward J. Ill of Newark, N. J., who endorsed the treatment employed by Dr. Humiston in his case, and said the quicker an operation is done in such cases, and the sooner the abdominal cavity

was walled off the better the chances for recovery of the patient. He agreed with Dr Humiston as to the quantity of normal salt solution that these patients will receive and absorb. Massage assisted materially in the absorption of the fluid.

Dr. EDWIN WALKER of Evansville, Ind., referred to the indications for the use of normal salt solution in the abdominal cavity. He could not see what benefit was derived from the use of normal salt solution in the case of Dr. Humiston, for the reason that there were well-organized clots, and these could not have been affected by it. Such clots, when organized, became drier and were absorbed, and the salt solution only aided in the absorption of any septic material that might be present. He believed it was a mistake in all cases to wash out the abdominal cavity with salt solution. By wiping out the cavity with dry gauze, it could be made clean, if it was not infected.

Dr M. ROSENWASSER of Cleveland commended the use of subcutaneous saline solution in the case of Dr. Humiston, but expressed doubt as to the value of salt solution in the abdominal cavity He had not seen any special beneficial change either in the pulse or condition of the patient by leaving saline solution in the abdominal cavity. In packing the extraperitoneal cavity that was left, he used sterile gauze instead of iodoform gauze.

Dr. HERMAN E. HAYD of Buffalo disagreed with Dr. Rosenwasser that the saline fluid was not absorbed. He had filled the peritoneal cavity with normal salt solution, leaving two stitches open, and in an hour and a half the fluid was absorbed, as subsequently verified by post-mortem examination.

Dr. Rosenwasser did not wish to be understood as saying that the fluid was not absorbed, but that it was not readily absorbed when the peritoneum was in a pathological state.

Dr. J. HENRY CARSTENS of Detroit stated that the use of normal saline solution in the abdominal cavity prevented, to a large extent, agglutination of the intestines and omentum. This cavity could be cleaned out just as effectively by sponges as by washing it out with salt solution. The drier the cavity was kept, the better the chances for agglutination. He preferred the use of sterile rather than iodoform gauze

Dr. JAMES F. BALDWIN of Columbus, Ohio, said he had been disappointed in the use of normal salt solution, whether injected into the subcutaneous tissue or poured into the abdominal cavity and left there to be absorbed. He had used salt solution again and again, and it seemed to him absolutely inert. He had never seen it produce a particle of benefit.

Dr. CHARLES GREENE CUMSTON of Boston stated that, given a condition a patient was in when an operation was undertaken for ruptured tubal pregnancy, he did not think the peritoneal cavity nor the subcutaneous cellular tissue had a sufficient degree of vitality to be able to absorb the salt solution in the majority of cases. Furthermore, in cases where the surgeon injected salt solution into a cavity whose walls were the result of a pathological change he did not believe that the walls of that cavity would absorb the liquid. The only value that he could see in the normal salt solution was after a prolonged intra-abdominal operation, in which the intestines had been exposed, and the loss of heat had been great and the surgeon desired to introduce a certain amount of heat into the abdominal cavity. On the other hand, the use of gauze sponges in wiping out the débris should be extremely limited, because gauze would remove the epithelial covering of the peritoneum of the intestine and of the parietal peritoneum, and this he believed was a fertile cause for adhesions after operation.

Dr. EDWIN RICKETTS expressed great disappointment in the use of decinormal salt solution. He believed the results of its subcutaneous use had been overestimated. As to wiping out the abdominal cavity vigorously with a sponge, this was disastrous to the patient. Gauze should be pressed in and out without any marked friction of the peritoneum. No remedy had as yet been found equal to the judicious use of strychnine to overcome shock.

Dr. Humiston, in closing on his part, said the abdominal cavity in his case was almost completely filled up with blood to the under border of the liver, and if he had attempted to handle the intestines and delay operation for the length of time it would take to cleanse the abdominal cavity of blood, he believed he would have lost his patient. He did not believe in irritating the peritoneal surface with dry gauze, as it injured it, and would often prove disastrous to the patient. He used iodoform gauze wrung out of hot sterile saline solution, thus washing the excess of iodoform out of it.

Transverse Incisions in Abdominal Cœliotomy.—Dr CHARLES GREENE CUMSTON of Boston read a paper with this title. For the last eighteen months he had been opening the abdomen in many of his gynæcological cases by a transverse incision, with a view to securing a more solid cicatrix than he believed could be obtained by a through-and-through incision. The first incision, which he had now made forty-five times, is made at the upper limit of the pubic hair transversely, following a line parallel to the upper limits of the pubic hair, making it about a centimeter below the base of the hairy triangle. The skin and cellular tissue are cut through until the fascia is reached; the upper border of the wound is then rapidly dissected off the fascia by a few snips of the scissors, and is then held up by a retractor The lower border of the wound is also dissected off and drawn down by a retractor so that the incision becomes elongated, and if proper traction is made on the retractors by the assistant, a rectangular wound can be made sufficiently large to incise the fascia vertically to the extent of five or six centimeters. When incising the fascia, he thought it better to do so over the inner border of one or the other recti. When the belly of the muscle has been freely exposed, its inner border is found, and the whole muscular mass pushed aside, thus exposing the thin fascia underneath, without wounding the fibers of the muscle in the slightest. After the peritoneum has been opened, the retractors holding the skin-flaps back can be removed and ordinary abdominal retractors can then be employed. Through this transverse incision he had performed total hysterectomy with ease, and had done most of the ordinary work on the tubes and ovaries through an incision in the fascia not exceeding six cm. in length. He had enucleated an intraligamentous fibroid the size of a fist through this incision without experiencing any difficulty whatever. He also described another incision which he had employed nine times during the past two months with great satisfaction.

Dr. EDWIN RICKETTS could not agree with the essayist that the incision recommended by him was more advantageous than a median incision, or, in a case of single pus tube, even an opening on one side In fact, some operators now did not select a median incision, but made an incision either to the right or left.

Dr J. HENRY CARSTENS saw a general surgeon make a transverse incision in performing a gastroenterostomy for the removal of the gall-bladder, but he had great difficulty in bringing the muscles and fascia together on account of the tendency to retraction. He thought the incision described by the essayist might prove advantageous for the removal of small tumors where an extensive operation was not needed.

Sarcoma of the Breast.—Dr. EDWIN RICKETTS of Cincinnati, after referring to the literature of the subject, reported two cases. The first patient was Mrs McS., aged sixty-four, married, mother of three children. Thirty years before, and at the age of thirty-four years, she first noticed a hard, round, small lump in her right breast. Eight years after this she called the attention of her family physician to it, exacting a promise from him

that he would tell no one. This was twenty-two years before its removal. He advised non-interference. The essayist was called to see the patient in May, 1897; in January before, she had an attack of influenza, and was greatly prostrated from its effects, and from this time the tumor grew rapidly, being nearly the size of a child's head. On his visit he found her with a tumor of the right breast that was about as ugly and vicious looking a growth as he had ever beheld. The cancer was as large as a navel orange, from which a dark sanious fluid was discharging. It was so large that the right arm was forced to project well out from the body. Temperature and pulse were normal. After drying out the cavity, it was packed full with 5 per cent. carbolic gauze. The surrounding skin was washed with soap and water, after which pure alcohol was freely applied. No enlarged axillary glands could be felt, especially after the growth was removed. The growth weighed twelve pounds. Although a large woman, he experienced some difficulty in bringing together the edges of the flaps. Axilla was not disturbed. He had two points of suppuration, but barring this, her recovery was entirely satisfactory. It was now four and a half years since the operation, and there was no evidence *in loco* or by metastasis. The growth proved to be a spindle-celled sarcoma. The essayist then reported his second case.

Dr. Cumston stated that every neoplasm of the breast should be removed as soon as it was palpable. The limit of three years for malignant disease of the breast as a sign that it would not recur was erroneous. He cited a case in point. He called attention to chronic interstitial mastitis, saying that this affection was more frequent in unmarried than in married women. Its pathology was not clear.

Dr. Carstens urged the early removal of any kind of tumor of the mammary gland. He narrated cases in which apparently benign tumors had undergone pathological changes and had developed into sarcomata.

Dr. Humiston held that a great many myomata of the uterus took on sarcomatous degeneration when it was least expected, and detailed an illustrative case.

Dr. Thomas B. Eastman of Indianapolis discussed two points, saying that surgeons were disposed to search for enlarged axillary glands. Recent investigations had shown that a small gland might be full of carcinoma cells, while the larger glands might be free from them. Both small and large glands should be examined.

Dr. Joseph Price of Philadelphia stated that for many, many years he had removed the axillary gland in cases of cancer of the breast. He saw Knowsley Thornton of London, England, do the complete operation for carcinoma of the breast long before it was done at the Johns Hopkins Hospital, and that Thornton stated at that time it was invariably his rule in removing tumors of the breast to clean out the axilla, no matter what the suspicion might be.

Dr. John C. Sexton of Rushville, Ind., was constrained to believe that sarcoma of the breast was not very rare. He had seen two cases, in one of which there was a rapid recurrence, with metastasis of the ovary of the same side. This was a round-celled sarcoma, which was confirmed by an eminent pathologist. The other case was one of ordinary spindle-celled sarcoma in which recurrence took place promptly.

Dr. Miles F. Porter desired to place himself on record as saying that every tumor of the breast was suspicious, and required operation, and in his judgment any operation which stopped short of complete removal of the breast and cleaning out the axillary gland was not good surgery, and that time would prove it.

Dr. Humiston said the statement made by the last speaker was too radical. Small benign tumors of the breast in young women could be readily removed by cocainization. Sections could be submitted to a microscopist, and if the tumor was found to be malignant, a complete operation should be made.

Dr. Cumston believed that chronic interstitial mastitis in the majority of cases was the starting point of malignant neoplasms of the breast. He urged early radical and complete operation.

Dr. E. Gustav Zinke of Cincinnati said it was very difficult to say before a tumor was in one's hands or under the microscope what was the actual nature of it. The physician, therefore, was placed in a very embarrassing position. He illustrated this point by narrating an interesting case.

Dr. Baldwin asked whether it was proper to speak of cases as recurrences in which secondary growths occurred many years afterward; also, whether it was proper to speak of growths occurring elsewhere in the body as metastases. He mentioned a case in which he removed a sarcoma of the ovary with a long pedicle, but there were no adhesions. A few years afterward the woman developed a sarcoma of the kidney. He did not consider this a metastasis, nor a recurrence, but a brand-new sarcoma of the kidney. He narrated other cases.

Dr. Carstens made an eloquent plea against the removal of the breast in cases of small benign tumors in young girls of eighteen or twenty. He vigorously contended that it was bad practice to do it, as it blighted their prospects for matrimony, and it was absolutely unnecessary.

Dr. Ricketts, in closing, endorsed the position taken by Dr. Carstens. In his case, if he had the operation to do over again, he should have removed only the tumor, and not a part of the breast with it.

Galvanism as a Remedy for Uterine Hemorrhage.—Dr. Edwin Walker of Evansville, Ind., read this paper. He stated that galvanism as a remedy in gynecology had been both unduly lauded and condemned. Apostoli's method commanded the respect of surgeons, but the results had not been commensurate with claims, and had not been without danger. The minor uses of electricity partook of the character of tinkering, and were objectionable. There still remained a limited field in therapeutics for it, but it did not replace surgery. Its use in uterine hemorrhage was quite satisfactory. It should not be used where the cause of the hemorrhage could be removed by a clean surgical operation. In mild cases, in which the hemorrhage was practically the only symptom, and where no radical operation would be entertained, galvanism was the remedy. In another large class of cases, where grave disease in other organs contraindicated operation, relief and often a systematic cure could be effected. Accurate diagnosis of all lesions in each patient was of the highest importance, so that life was not hazarded by an operation in the presence of a serious lesion elsewhere which was overlooked, or the patient, even if she recovered, was not benefited for the same reason. The method of application was quite simple. The positive pole is attached to a platinum electrode and introduced into the uterus; the negative pole, attached to a copper plate covered with moist absorbent gauze, is placed over the abdomen. The current is gradually turned on until a distinct burning is felt under the negative pole, and continued ten to thirty minutes. Strict asepsis is necessary. The application is not painful. Two to eight applications are required.

Dr. C. C. Frederick of Buffalo stated that electricity had to a certain extent been replaced largely by surgical procedures. In the experimental stages the results that had been promised by the use of electricity by a great many who were enthusiasts were not borne out. Practitioners met with poor success with it, and in consequence became disgusted, and abandoned it, and were now depending upon massage and surgical procedures to control uterine hemorrhages.

Dr. Hayd had used electricity for many years, in fact, for five months he had worked with Apostoli, conse-

quently he spoke advisedly. When he considered the amount of good that had been done with it in treating pelvic troubles, and compared it with the amount of harm wrought, he felt that it would have been the best thing if practitioners of medicine knew nothing about intra-uterine galvanization.

Dr. PRICE expressed the belief that the application of electricity had a great deal to do in favoring the growth and development of fibroids rather than preventing or arresting them. He detailed two or three such cases.

Dr. CARSTENS referred to the various causes of uterine hemorrhage. In all cases of excessive hemorrhage there was some cause for it. Sometimes the cause was constitutional and required simply constitutional treatment, but no operation. In other cases, the hemorrhage was indicative of malignant disease of the uterus. If the use of electricity was advocated in these cases, and the information was circulated among general practitioners that this agent was good for uterine hemorrhage, the result would be that a great many cases of beginning cancer of the uterus would be treated for weeks and months, and the golden opportunity to remove the disease by early and timely surgical measures would have passed, and a diagnosis would finally be made too late. He argued against the indiscriminate use of electricity for uterine hemorrhages.

Retrodisplacements of the Uterus in Young Girls and Unmarried Women; Their Frequency and Best Methods of Treatment.—Dr. HERMAN E. HAYD of Buffalo read a paper with this title, in which the author drew the following deductions: 1. A plea for the more careful examination of young women by competent and skilled men who can undertake any operative measures that are necessary. 2 Every case of retrodisplaced uterus in the young or unmarried or married woman may not require any treatment. 3. If they produce a definite symptomatology, the Alexander operation should be employed, if the case be an operable one, that is, if the uterus is freely movable and the tubes and ovaries are healthy. 4. Retroversions and retroflexions in the young and unmarried should never be treated by pessaries, but by the Alexander operation. Tampons and pessaries have their place in retrodisplacements in married women, or women who have been pregnant, but they accomplish practically nothing in the displacements of young women. 5. The Alexander operation is safe and without mortality incident to the operation, and no harm can come from its proper performance; even if the uterus subsequently falls, the patient is no worse off than she was previous to the operation. 6. It does not in any way interfere with pregnancy and future child-bearing, but, on the contrary, materially helps the possibility of pregnancy. 7. No pain or distress follows the operation if the case operated upon be properly selected, and if pain and suffering result, there existed at the time of the operation latent tubal and ovarian trouble, which sooner or later perhaps would have required a radical operation. If it becomes necessary to do a celiotomy on a person who previously had an Alexander operation, the uterus will be found in its normal anteflected position, which is necessary in every case, whether the tubes and ovaries are removed or not, to insure good health and freedom from future suffering.

A Method for Suspension of the Uterus.—Dr. ROBERT T. MORRIS of New York described this method. The abdomen is opened in the middle line. An incision two inches long will suffice for most cases. The peritoneum over one round ligament is split, and the round ligament is drawn out with a hook for a distance of three inches, more or less. Drawing out the round ligament with a hook makes, naturally, a long loop. The arms of the loop are sutured together with silk or chromic catgut. This throws the sutured part of the round ligament out of commission, and leaves the ligament three inches shorter, more or less. The sutured loop is tucked back into the slit in the peritoneum of the broad ligament, and the opening is closed. The operation shortens the round ligaments, and allows the uterus to ride easily and elastically in a normal position. Its advantage over other ligament-shortening operations lies in the securing of union of muscular structures. The surgeon does not have to depend upon peritoneal adhesion, which must be a failure in many cases.

Diseases and Injuries of the Cervix Uteri, and Their Treatment.—Dr. J. W. HYDE of Brooklyn, N. Y., presented this paper. The salient points in this paper are epitomized in the following conclusions: 1. In cases in which the injury is recent, and the constitution of the patient is so good that no extensive degenerations have occurred—in short, where there is a reasonable probability of being able to restore the cervix to a normal condition, this should be done by Emmet's operation. 2. In old cases, where extensive alterations have taken place, as proved by direct examination, and not less certainly by the unmistakable and intractable reflexes that attend such alterations, the unbearable headaches usually referred to the vertex and the nuchal region, the gastric disturbances, and the endless procession of psychic, neurotic, motor, cardiac, and respiratory aberrations, so familiar to every experienced physician, in such cases trachelorrhaphy is out of the question. To remove all the diseased tissue, and that alone, would call for an unattainable amount of nicety of dissection; and supposing the dissection accomplished, the sewing up of what was left might result in a most interesting thing "of shreds and patches," but it would not be a cervix uteri, which is the only legitimate object of trachelorrhaphy. In such cases, amputation is as effective clinically as it is logical in theory. 3. The operation is not more dangerous than trachelorrhaphy. 4. It is not likely to be followed by stenosis of the canal. 5. There is nothing in the operation that seriously militates against conception, or a normal gestation and delivery.

The Mechanical or Combined Plastic and Mechanical Treatment of Retrodeviations of the Womb. Dr. M. ROSENWASSER of Cleveland, Ohio, stated that retrodeviations of the womb were either simple or complicated. The complicated were subdivided into those with movable and those with fixed womb. Of 116 patients treated for retroversion, sixty-three of the second and third degrees were selected as proper subjects for mechanical treatment. They were treated by means of the pessary alone, or the plastic operation was supplemented by a pessary. From a table furnishing the details the following summary is obtained: Cured, eleven; symptomatically cured, fifteen; improved, twenty-six; not improved, eleven. In the body of the paper the writer considered each of the divisions, as above classified, and illustrated each by a brief history of typical cases. He maintained that cases of complicated retroversion with movable uterus could be converted into simple ones by plastic operations, and were then subject to treatment by mechanical support. After refuting the objections generally raised against the pessary, he submitted the following conclusions, based upon the present imperfect status of suspension operations: 1. A retroverted womb uncomplicated by disease should be replaced and supported by a pessary. 2. Retroversion complicated by diseased womb, or by impaired pelvic floor, the womb being movable, requires preliminary plastic operation to restore the normal condition before using a mechanical support. 3. Suspension operations should not be done simultaneously with the plastic in face of a probability that a pessary can sustain the uterus in position. 4 Retroversion complicated by aggravated prolapsus requires simultaneous plastic and suspension operations to effect a cure. 5. The treatment of retroversion with fixed womb is that for pelvic inflammation. Whenever the latter requires laparotomy, or colpotomy, the retroversion becomes subject to such surgical treatment as may appear best suited to the particular case.

6. Retroversion, simple or complicated, in which mechanical support and plastic operation have failed to cure or to relieve, and in which the symptoms demand relief, constitutes a proper indication for a suspension operation.

Second Day—Wednesday, September 18.

Some Observations on the Surgery of the Spleen.—Dr. Lewis S. McMurtry of Louisville presented this paper. Knowledge of the physiology and pathology of the spleen is so imperfect that the surgery of this organ has not advanced proportionately with that of the other organs of the abdominal cavity. In view of this fact, every case which may possibly contribute to our knowledge should be studied and recorded. He then reported a case of large cyst of the spleen. The patient was a vigorous woman of thirty, well nourished, with a fluctuating abdominal tumor, appearing upon the left side of the abdomen, and readily movable from pelvis to diaphragm. The diagnosis was ovarian cyst with elongated pedicle, or floating cystic kidney. On abdominal section, the tumor was found to be a cystic spleen. This was removed without difficulty and without hemorrhage, followed by prompt recovery. A careful microscopic examination showed the cyst to be simple and sterile. Three similar cases were reported.

The essayist then considered the technique of splenectomy for cystic tumors of the spleen, commending the median incision and enucleation from below. He stated that it was not the purpose of the paper to consider all varieties of diseases of the spleen, nor to tabulate the statistics of splenectomy for hypertrophy and miscellaneous diseases, but rather to show that cystic degeneration of the spleen is sufficiently common to make a class of tumors deserving recognition as a factor in the diagnosis of cystic tumors of the abdomen. The results of operation in these cases show that the spleen is not essential to life and health.

Is Cæsarian Section Justifiable in Placenta Prævia?—Dr. E Gustav Zinke of Cincinnati went rather exhaustively into the history and literature of this subject, and considered the cases reported. He referred to the justifiability of the operation, and the class of cases to which it is applicable. He likewise dwelt on the contraindications to the operation, and compared the management of placenta prævia with and without cæsarian section. He believed that the cæsarian and the Porro operations were perfectly legitimate and elective procedures in all cases of placenta prævia, central and complete, and especially so when the patient was a primipara, when the os was closed and the cervix unabridged; when hemorrhage was profuse and could not be controlled by tampons and separation of the placenta around the internal os. That there were cases of partial prævia that might be successfully treated in the old way, he did not doubt. Perhaps a small majority of all the placenta-prævia cases could be treated successfully, so far as the mothers were concerned, after the manner of Fry and De Lee. But what of the large minority of mothers that succumb, and the great majority of children that are sacrificed at once? The question presented was a very serious one, and should be earnestly considered, and when confronted with a case of central or complete placenta prævia, or any other variety, where dilatation of the cervix was impossible or difficult, the patient and her immediate friends should be made acquainted with all the facts concerning both methods of treatment. If properly presented, he thought it was doubtful whether the majority of women would select forcible dilatation, version, extraction, etc. Personally, he would retire from a case were cæsarian section refused, if recommended as the safest procedure, and this in spite of adverse criticism.

President's Address.—This was delivered by Dr. W. E. B. Davis of Birmingham, Ala. After congratulating the association upon the great work it had accomplished, he urged the Fellows to use their influence in the better organization of the sections of the American Medical Association, which he said, ought to be the greatest and most influential medical organization in the United States. He then took up a consideration of the principal operative procedures for cholelithiasis. He favored cholecystostomy, as a rule, in cases of gall-bladder and cystic-duct calculi. He said that much has been claimed within the past five years for cholecystendysis, with or without drainage of the abdominal cavity. While this operation has something to commend it, being simple and obviating the disagreeable discharge of bile, for a period of from three to four weeks, from a fistula, yet its field is limited when the etiology and pathology of cholelithiasis are given due consideration. Stagnation of bile with altered epithelium and infection from the typhoid or colon bacillus, as found in many cases, where there is no evidence of infection from the character of the fluid in the bladder, would contraindicate its closure. If stones should be found, where an examination of the gall-bladder is conducted through the abdominal incision made for the relief of pelvic disease or other abdominal trouble, cholecystendysis might be performed with advantage. He advised strongly against the operation as performed by Kelly. The primary incision in the abdomen should be closed, and the opening made as in the classical cystotomy. Cases in which calculi would be found by this method are not associated with inflammatory changes, and are the ones who go through life without symptoms referable to the gall-bladder being found at the autopsy or in the dissecting room. The operation of cholecystostomy, he said, should be reserved for stricture of the cystic duct, inflammatory changes which greatly endanger the walls of the bladder, and malignant disease.

In discussing stone in the common duct, he said that choledochostomy without suture is called for in the large majority of common-duct stones. Suture of the duct may be practised if the patient's condition has not been rendered serious by much suffering and protracted jaundice, and if the duct is enlarged and not markedly inflamed. Gauze drainage should be resorted to in all cases, it matters not how carefully the stitching of the duct has been carried out. The time required for suturing the duct adds very greatly to the gravity of the operation in cholemia of long duration. It would also be contrary to surgical practice elsewhere to suture when offensive infected bile escapes from the duct. Morrison's pouch, which will hold nearly a pint of fluid, makes drainage in this location entirely satisfactory. The lumbar stab is preferred by some surgeons, but the entire safety of transperitoneal drainage has been abundantly demonstrated. Kehr, who has done more gallstone operations than any other surgeon, claims that he first advised the open treatment of the duct; but it is known that he is in error, as the operation has been urged for the reasons he gives, in this country, since the early part of 1892, at which time experiments were conducted by me on lower animals and reported to the American Medical Association. At that time, and for some years afterward, it was admitted by surgeons that the operation would succeed on normal organs with normal bile, but not otherwise. I afterward induced pathological changes in the biliary passages, and demonstrated that the operation was successful in infected and enlarged ducts. Experimental and clinical experience demonstrates conclusively the safety of the operation.

At the Indianapolis meeting, two years ago, Dr. Davis reported two cases in which hepatotomy had been done in obstruction to the biliary passages. The operation is indicated in cases of obstruction with enlarged liver where the gall bladder or duct cannot be isolated, if the patient's condition from exhaustion and cholemia will not permit of a protracted search for the bladder or ducts. After the patient's condition is better, a rapid operation may be done. It will only exceptionally be called for, and the cases will be fewer as the surgeon's experience in-

creases in choledochous operations; for he will then be enabled better to locate the bladder and ducts so much changed by inflammatory processes. In addition to the above-mentioned indications, he thought the operation should be resorted to in hepatitis before it has reached the stage of pus-formation, if the liver does not rapidly become smaller after drainage of the biliary reservoir of the duct. His attention was first attracted to the value of the procedure in a case in which the amount of pus removed was not more than half an ounce, but in which the division of the biliary canals resulted in the escape of large quantities of bile for many weeks. In December, 1898, he had done hepatotomy on one case in which there was a movable stone in the common duct, and, in the same month, in a case of obstruction of the hepatic ducts by malignant disease.

In July and August of this year he had conducted a number of experiments on dogs to determine the value of incisions in the liver in relieving biliary obstruction. Five dogs were killed and the liver injected with fluid, either through the gall-bladder, the common duct having been tied, or through the common duct. Incisions were then made in all parts of the liver, with the result that streams of the fluid would issue from the bile canals and general oozing of the fluid from the wounded surfaces of the organ if much force was used. Six were anæsthetized and the liver injected as above, and this fluid with blood would flow, as a rule, freely when much force was used in injecting the fluid. Four had the common duct tied, and after twenty-four hours the same experiment was conducted under anæsthesia, with similar results. In nine, the common duct was ligated and gauze packed around the field of the gall-bladder and ducts. After from twenty-four hours to a week the liver would be incised in one or more places, and, as a rule, the bile escaped satisfactorily through the gauze. It would be very dark after prolonged obstruction. Two of the dogs died, and the others were killed in from five days to two weeks. Before killing them, and while under the anæsthetic, fluid was injected through bladder or duct, and would flow from the wounds which had been previously made in the liver and also from incisions made at that time. Five had the gall-bladder removed and the cystic and common ducts ligated, but as gauze was not used at the time of operation to wall off the general cavity, they died in from twenty-four to forty-eight hours from the escape of bile, with shock.

With the advance in surgery of the choledochus, the field for cholecystenterostomy grows smaller. Dr. Davis said that he was assisted in his experimental work by Dr. R. E. Hogan of Birmingham.

Second Day—Afternoon Session.

Gallstone in the Common Duct; Its Frequency, Symptoms, Diagnosis, and Treatment.—Dr. L. H. Dunning of Indianapolis quoted from the recent paper of Mosher, whose compilation of the Johns Hopkins Hospital Records shows that gallstones are present in 6.94 per cent. of our population, and that in 13 per cent. of all cases of gall stones the calculus is arrested in the common duct. For convenience of description, the author adopted the generally accepted classification of gallstone in the common duct, namely: (1) the acute form in which there is acute obstruction, transient jaundice, and the typical gallstone colic; (2) chronic obstruction of the common duct from lodgment of a stone somewhere in the course of the duct. The first division represents the old classical form of bilious colic, and the symptoms are so well known that he did not enumerate them in detail. In chronic obstruction from gallstones the jaundice is more or less intermittent and there is pain in the hypochondrium, epigastrium, and back. The pain is not so severe as in acute obstruction, and is very irregular. It may be located in the epigastric or lumbar region. As a rule, there is absence of a tumor in the gall-bladder region, but marked soreness. There is marked loss of weight, and frequently chills and intermittent fever.

The Carlsbad cure, a sojourn at the French Lick Springs large draughts of oil, the application of hot fomentations to the hypochondrium, and opiates to relieve pain, are all of benefit in the acute cases. The chronic cases are amenable to surgical treatment alone. The author cited and remarked upon the various methods of surgical procedure. Choledochotomy was shown to be the most approved method when applicable. The middle third of the duct is the point of choice for the incision. When the stone is in the duodenal end of the duct, it can usually be crowded back into the middle portion and removed through an incision in that part. An incision through the cystic duct may be carried onward into and through the common duct, if the upper portion be chosen for the line of incision. Duodeno-choledochotomy is applicable to cases of a large fixed stone in the duodenal extremity of the duct. This method yields a higher rate of mortality than simple incision of the choledochus. Only soft stones should be crushed, and needling is unsatisfactory. The writer would reserve cholecystenterostomy in common duct obstruction for those cases in which the patients could not endure the longer operation of choledochotomy. Four cases were reported in detail.

Dr. George S. Peck of Youngstown, Ohio, reported some cases of extra-uterine pregnancy, and presented specimens.

Dr. M. Rosenwasser detailed a case of tubal pregnancy upon which he operated in the eighth week, immediately before the occurrence of rupture.

Acute Pancreatitis and Fat Necrosis.—Dr. Edward J. Ill of Newark, N. J., reported this case, because of the rarity of the disease and the interest attached to the operations for this ailment. The patient was a woman, forty-three years of age, with the usual history of gallstone colic. She was taken sick suddenly with excruciating pain in the epigastrium, excessive vomiting, and obstruction of the bowel. In twelve days after the onset of the disease a tumor was made out. The patient was operated on the twentieth day after the onset of the disease. The diagnosis was perforative inflammation of the gall-bladder, although a pancreatitis with fat necrosis was suggested. The patient's urine contained bile, albumin, and granular casts, with a specific gravity of 1.028. It contained no sugar. The operation consisted of a right lateral abdominal section, and an opening between the stomach and the transverse colon through an immensely thickened omentum. Fluid was reached at the head of the pancreas, which was drained through a rubber tube and iodoform gauze. The whole pancreas seemed to be involved in the disease. The omentum, upon section, showed whitish gray nodules, containing brown roundish spots. A second operation was done for her relief. For a time the patient seemed to do well, but in about seven weeks she had a relapse, from which she died in three weeks. At the post mortem it was shown that there were four gallstones in the gall-bladder and only a small mass of gristly substance of the pancreas was left.

Dr. Ill likewise reported and showed specimens of an interesting case of papilloma of the vulva.

Early Operations in Appendicitis and Method was the title of a paper by Dr. Joseph Price of Philadelphia. In the last three months he had operated on about one hundred cases of this disease. Seventy-five per cent. had been managed by open treatment. All of them had been explosive cases, and none of the operations was done the first or second day. In two, ball players, the operations were done on the third day. In both cases he found gangrenous appendicitis with perforations, and general peritonitis. Both were recognized and could have been operated on twenty-four hours earlier. He was satisfied that there was but one treatment for this disease—early clean removal of the appendix. The choice of method should not worry operators. A pair of scissors with

needles and fine thread was all that was necessary. The appendix should be cut off smooth with the cæcum, and the opening closed with fine silk. This summer the operations had been done by him chiefly on children between the ages of eight and twenty. About 75 per cent. were boys—fine, athletic chaps, and about 25 per cent. girls. A large number of the latter were menstruating at the time of the operation. In some instances it complicated the diagnosis. The disease had been quite common and fatal at summer resorts. A large number of operations had been done at Atlantic City, and a few patients were sent home for operations. The interval operation had done much to mislead the general practitioner, and much to complicate operation, in which there should be no complications.

Third Day—Thursday, September 19.

Vaginal Hysterectomy with Four and a Half Months' Pregnancy and Closed Cervix.—Dr. J. Henry Carstens of Detroit reported this case. The patient was a woman, Mrs. D., only twenty-six years of age, mother of three children. She was afflicted with some inflammation and ulceration of the womb. Finally a diagnosis of cauliflower growth was made by a practitioner. The cervix was removed in February, 1900. She recovered and improved very much in health; menstruation continued regularly, but during the summer, about six months later, she again had trouble. On examination a recurrent growth was found. This was treated by curetting and strong cauterization, the latter being continuously and vigorously applied. Examination revealed a large uterus, such as is found in cases of pregnancy at four and a half months, well-marked placental bruit, enlargement of the breasts, etc. The upper end of the vagina was absolutely closed by a cicatrix, as is found after vaginal hysterectomy. There were two nodules, the size of a hazelnut and a bean. By allowing the pregnancy to continue, the malignant growth would probably have closed up the vagina and a cæsarian section would have been necessary, and the cancer would have so far advanced that there would have been little chance for permanent recovery. Hence a prompt operation seemed necessary, but how? If there had been an opening he would have had the physicians insert a catheter and bring on premature labor a week before, and then remove the uterus. Having the patient under chloroform, he plunged a pair of scissors into the place where he thought the os ought to be. By separating them and stretching the opening with his finger, he tore the sac. By enlarging the opening he had no further trouble in delivering the fœtus. By pressing the womb the placenta was soon delivered, although the hemorrhage was profuse for a few minutes, but the uterus contracted firmly, and there was no further trouble. In tearing the opening he fortunately ruptured into the cul de sac. This served as a guide for him to work, and although the uterus was very large, he finished the operation and did a vaginal hysterectomy. Patient recovered and is well to-day.

Indications, Technique, and Remote Results of Salpingostomy and of Resection and Ignipuncture of the Ovaries.—Dr. A. Goldspohn of Chicago read a paper on this subject and presented tables of 104 cases. The conclusions of the author were as follows: 1. In patients who are not near the menopause, and who are not tainted by tubercular or malignant disease, one or a part of one or both ovaries can frequently be preserved, with or without the retention of the corresponding tube, in the following conditions: (*a*) In follicular cystic degeneration or partially cirrhotic induration due to inflammatory processes or other circulatory disorders; (*b*) in extirpating parovarian cysts, dermoid and fibroid tumors with or without the uterus; (*c*) with great caution, in the extirpation of nonpapillary glandular cystomata, that are devoid of surface papillomata and other evidences of malignancy. 2. Necessary for success in the resection of the uterine adnexa is the exercise of asepsis of the highest degree, and the use of a minimum amount of fine and readily absorbable suture material, exclusively and judiciously, as to tension. 3. A generous median ventral incision provides the best access for the conservative treatment of the adnexa in cases where septic accumulations in the parts are not absent, and when extreme fixations of the parts abound. When these more extreme complications are not present, and a retroversion of the uterus exists, the resection of the adnexa is most easily effected by way of the dilated internal inguinal rings in conjunction with a thorough Alexander operation. 4. Vaginal cœliotomy does not provide a favorable access for conservative surgical treatment of ovaries and tubes. It does frequently admit of ignipuncture, but is not auspicious for resection of ovaries. 5. Resection, with the care and technique alluded to, is the more ideal and most conservative measure, and should be preferred when the parts are sufficiently accessible without undue traction upon their lateral supports, and when asepsis in the surrounding wound and in the general execution is reasonably assured, otherwise thermocauterization is probably better.

Dr. C. C. Frederick of Buffalo, N. Y., read a paper in which he narrated some very rare and old cases and experiences in pelvic and abdominal surgery, and the lessons they taught him.

Dr. Charles Greene Cumston of Boston reported two cases of hour-glass stomach, and discussed the pathology and treatment.

Personal Experience with Uterine Fibromyomata.—Dr. Henry D. Ingraham of Buffalo mentioned a large number of cases of uterine fibroids which he had treated by various methods during the past sixteen years. Although he had used ergot freely in many cases, it was only in a very few that it had any effect on the hemorrhage, and possibly hydrastis had in some cases. Stypticin had, in his experience, appeared to check the excessive flow better than any other drug. He had not obtained any special benefit from the use of the thyroid extract or desiccated mammary gland, and considered their use dangerous on account of their effects upon the general health of patients. He had formerly used electricity with benefit, but did not use it now, as the results were not satisfactory. He had had seven cases of quite large fibroids complicated with pregnancy. In five miscarriage occurred spontaneously. In one it was induced, and in the other the growth almost completely filled the pelvic cavity, the four and one-half months' fœtus being above it, so that a hysterectomy was necessary. The patient recovered. One case was mentioned of an unmarried woman who was sixty-four years of age before the fibroid began to show signs of its existence. For some time it was dense and hard, and grew slowly, but for the past few months it had become cystic, and increased in size rapidly. This patient manifested several cerebral symptoms on three different occasions, which the author believed were due to some particles of the disintegrating tumor becoming detached, and were carried to the brain, producing these symptoms. On one occasion patient lost sense of motion and sensibility of the right side for over two weeks, and did not know the members of her own family for the same length of time. During the height of this attack the temperature was 101° F., and pulse 96. A year later she had a similar attack, and a few months ago another one, but milder, with no rise of pulse or temperature. He believed that fibromyomata, although considered benign in contradistinction to malignant growths, were by no means harmless, but exposed the patient to great and increasing risk. All cases of fibroids should be carefully watched. If they were not giving any trouble or increasing in size, they should be let alone, but the patient should be kept under observation. When they gave rise to trouble, or if the growth increased in size, then the proper thing to do was to remove it before dangerous complications occurred. If there were adhesions or necrosis of the tumor or pyosalpinx, then the danger of the operation was

greatly increased. If cardiac disease or hydronephrosis resulted as a complication, the removal of the tumor would not relieve those conditions. Waiting for the menopause to relieve the diseased condition was often like holding out false hopes to the patient, as the trouble might become worse then than before, or it might all develop after that period, as was shown by the recital of the last case reported by the author. If any treatment was necessary and the patient was in a suitable condition, a radical operation should be done. There was no excuse in his opinion whatever for palliative or temporizing treatment at the present day.

Officers.—The following officers were elected for the ensuing year: *President*, Dr. Edwin Ricketts of Cincinnati; *Vice-Presidents*, Drs. Charles Greene Cumston of Boston and Miles F. Porter of Fort Wayne, Ind.; *Secretary*, Dr. William Warren Potter of Buffalo; *Treasurer*, Dr. X. O. Werder of Pittsburg, Pa. Washington, D. C., was selected as the place for holding the next annual meeting, in 1902.

Medical Items.

Reduction of the Body Temperature by Mechanical Means.—Erni has found that by tapping the chests of consumptives with a silver paper-cutter, it is possible to cause a reduction of temperature of from 0.2 to 0.5° C. This effect makes itself manifest immediately after the treatment, and persists for some time; under daily repetition of the measure, the fever is said to be brought down to the normal. The amount of expectoration is at the same time greatly increased, which perhaps accounts for the lessened temperature observed in the long run. Sahli criticises the author's conclusions as being based on insufficient material, and says that such variations as are recorded are too trifling to be of practical value.—*Correspondenz-Blatt für Schweizer Aerzte.*

A Practical Method for Demonstrating Tubercle Bacilli when Associated with Influenza Bacilli.—A. J. Comstock thinly spreads the suspected sputum or other containing medium on a cover glass or slide; allows it to become air dried and then flames it. Next he applies Ziehl's solution with the aid of heat, as for staining tubercle bacilli. He passes the preparation through 15 per cent. aqueous solution of nitric acid, washes in 60 per cent. alcohol, and rinses in fresh water; dries the preparation, and then applies Loeffler's alkaline-methylene-blue, aided by heat, as Ziehl's solution was previously applied. Then he washes thoroughly under a stream of fresh water. This removes most of the stain from other elements in the sputum without danger of washing the fuchsin from the tubercle bacilli, or the methylene blue from the influenza bacilli. Lastly, he dries the preparation and mounts it in balsam. The tubercle bacilli retain a brilliant red color and the influenza bacilli are stained blue.—*Southern California Practitioner.*

The Effect of the New Civil Code in Japan, as Regards Marriage and Divorce.—The following statistics on this subject are interesting from the fact of the apparent influence exerted by the new laws, recently promulgated in Japan, upon society. Tables recently compiled by the authorities show that whereas formerly there used to be eight marriages annually per 1,000 inhabitants, the number has fallen to 6.78 since the promulgation of the new Civil Code. This change for the worse is attributed to the fact that the formalities connected with marriage having become much more complicated under the new law, there is a disposition to dispense with the ceremony, especially since, in the event of the birth of a child, it can be legitimatized by subsequent marriage. On the other hand, the new law of divorce has produced a wholesome effect. Under its operation the number of divorces has fallen from 33 per 100 couples to 22.35. In other words, whereas formerly out of every three marriages one resulted in divorce, the ratio has changed to nearly one out of five.

Report of a Cyst Implanted on the Fallopian Tube, and Containing the Ova of Oxyuris Vermicularis.—Giovanni Marro, during the course of an autopsy upon an insane patient of thirty-four years, who had died of marasmus, found a cyst the size of an orange adhering to the right ovary and tube, with two smaller cysts on the left. The smaller of the two latter, about the size of a pea, situated on the fimbriated extremity of the tube, was found to contain the ova of the oxyuris vermicularis. The migratory tendency of the female oxyuris are well known, in this case it probably invaded the vagina and uterus and traveled through the Fallopian tube, becoming incapsulated, and depositing its eggs before detaching itself from the place. The ova having extremely resistant walls, would be able to live even in the midst of the exudate, and the cholesteric crystals which form the cyst contents.—*Archivio per le Scienze Mediche.*

Intestinal Hemorrhage in Pneumonia, says the *Practitioner*, is a rare event, although ulcers in the colon are sometimes seen in patients dying from pneumonia. Vialard records two cases of pneumonia presenting this complication; both the patients recovered, so no opportunity of examining the condition of the alimentary canal was forthcoming. In both cases the lower lobe of the right lung was involved. The hemorrhage was probably due to pneumococcic enteritis, set up by the action either of the toxin or of pneumococci. Cases of pneumococcic hemorrhagic ulceration of the stomach and duodenum, described by Dieulafoy and by Griffon, were referred to in the *Practitioner* for February, 1900. Vialard found that the treatment of this form of intestinal hemorrhage by perchloride of iron given by the mouth was satisfactory.

Electro-fanitis.—The great heat to which we have been subjected this summer reminds us of the assertion which appeared in an Indian medical journal last year, that a new hot-weather ailment had come into existence, called "electro-fanitis." It emanated from the United States, which is the land of the electric fan. The disease in question is a sneezing, coughing, cold in the head, caused by the germ-laden breezes of the ventilating fan. It is almost epidemic, and, unless treated, results in tonsillitis and bronchitis. Being caused by artificial atmospheric conditions, it is more difficult to cure than the ordinary cold. Furthermore, these currents of air are not the fresh waves of ozone which are in circulation out of doors, but are merely impure air forced into motion.—*Medical Times and Hospital Gazette.*

Emergency Purification of Water by the Method of Lapeyrère.—In a paper read in the subsection for Military Hygiene of the Congress of Medicine, held in Paris last year, Lapeyrère suggested a new method for the purification of water for the use of troops on active service. A powder consisting of permanganate of potassium, 3 grams; aluminate of sodium, 10 grams; carbonate of sodium, 9 grams; carbonate of calcium, 3 grams, is added to 100 liters of water. After standing for a few minutes the water is passed through a filter constructed of a drum of unoxidizable metal, packed with purified peat fiber, mixed with black oxide of manganese. This process is said to combine sterilization of the water with precipitation and clarification.—*Public Health.*

The Toxin of Tinea.—G. Messineo and D. Calamida report a series of experiments conducted with the view of ascertaining whether the injurious action of tinea is due to toxic substances elaborated by it, rather than to mechanical causes. Their conclusion is that such a toxin is produced, but whether it is a product of secretion of the tinea, or an ultimate product of nutritive interchange due to the influence of the parasite, is not yet certain.—*La Riforma Medica.*

Book Reviews.

MERCK'S 1901 ANNUAL. New York and Chicago: Merck & Co.

THIS little handbook of 280 pages, but of a size convenient for the pocket, contains the names and chief synonyms, physical appearance, solubilities, physiological effects, therapeutic uses, modes of administration and application, dosage, incompatibles, antidotes, etc., of the chemicals and drugs used in modern medical practice; a comprehensive collection of prescriptions, embracing also the newer remedies of established merit; a classification of medicaments; a brief yet comprehensive treatise on toxicology, diagnostic tables, obstetric charts, notes on pulse frequency, tables for the interconversion of the metric and English systems of weights and measures, etc.

LE DIAGNOSTIC PRÉCOCE DE LA TUBERCULOSE PULMONAIRE. Par MM. les Drs. CH. JOURDIN et G. FISCHER, Médecins Aides-Majors. Paris: A. Maloine, 1901.

THIS little work is full of valuable suggestions regarding the early diagnosis of tuberculosis. It is divided into three parts. The first includes a consideration of the symptoms which are related to the external examination of the patient, and of the lungs; the second, of those concerned with the blood and circulation and the organs of that system; the third deals with the effects on the organism of the administration of tuberculin, and with serum-reaction.

AN INTERNATIONAL SYSTEM OF ELECTRO-THERAPEUTICS. For students, general practitioners, and specialists. By numerous associated authors. Edited by HORATIO R. BIGELOW, M.D., Permanent Member of the American Medical Association; Fellow of the British Gynecological Society and of the American Electro-Therapeutic Association; Member of the Philadelphia Obstetrical Society, of the Société Française d'Electro-Thérapie, and of the Anthropological and Biological Societies of Washington, D. C.; author of "Gynecological Electro-Therapeutics" and "Familiar Talks on Electricity and Batteries." Second edition. Revised and brought up to date, with several new departments embodying the most recent developments of the science. Edited by G. BETTON MASSEY, M.D., ex-President and Fellow of the American Electro-Therapeutic Association; Member of the American Medical Association; author of "Conservative Gynecology and Electro-Therapeutics," etc. Philadelphia: F. A. Davis Company, 1901.

IN the seven years since the first edition of this valuable work was published many advances have been made in the application of electricity to the cure of disease, and in some directions favorable opinions have had to be revised, certain alleged effects of this subtle force having been shown not to exist—at least, not in the degree at one time believed. Four entirely new articles appear in this edition, namely, on the Röntgen rays, the galvanic current, the treatment of cancer by the cataphoresis of mercury, and the electrical treatment of aneurysm, written by Max J. Stern, G. Betton Massey (the author of two articles), and D. D. Stewart, respectively. The list of contributors of the thirty-eight articles contains the names of very many men in this country, England, and France who have themselves done much to raise this branch of therapeutics from the disrepute in which it was once held to a position level with that of the other departments of the art of curing disease. Those who have known the first edition of this work will welcome the appearance of a new and revised edition, edited by such a man as Dr. Massey, and those who hear of it now for the first time may be assured that, if they are interested at all in electro-therapeutics, and desire to know more of it, they cannot do better than turn to this encyclopedic treatise. As a work of reference its usefulness is enhanced by a copious index. The illustrations are many and helpful.

HANDBUCH DER PHYSIKALISCHEN THERAPIE. Unter mitwirkung von Prof. Bernhard (Berlin), R. du Bois-Raymond (Berlin), Dr. Binn (Wien), und andere, herausgegeben von Dr. A. GOLDSCHEIDER (Berlin) und Dr. PAUL JACOB (Berlin). Teil I, Band I. Mit 69 Abbildungen. Leipzig: Georg Thieme, 1901.

THIS is the first section of what promises to be an extensive work upon its chosen subject. Climatic and atmospheric conditions naturally occupy considerable space, and the effect of varying air pressure on diseased conditions is elucidated in several chapters by different authors. Baths and hydrotherapy occupy another important section. Several valuable measures receive attention here, such as the hot pack and various forms of partial and complete bathing, with and without medicamentous additions. There is an interesting chapter on sea voyages and their effect in general, and on particular diseases which are detailed; and as an addendum, a general description of seaside resorts and their uses is given. When completed, this work will, without doubt, prove a valuable work of reference, and will perhaps be translated into English. There is a long list of collaborators, most of whom are well known in their own departments.

GOLDEN RULES OF HYGIENE. By F. J. WALDO, M.A., M.D., D.H.P., Barrister-at-Law, Medical Officer of Health, Inner and Middle Temples; Late Medical Officer of Health, St. George the Martyr, Southwark; Late Tutor in Public Health, St. Bartholomew's Hospital Medical School, etc. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., 1901.

THIS is a "vest-pocket" book of seventy pages, in which the author has endeavored "to present the reader with a few salient points that may prove of service to him in acquiring a practical knowledge" of hygiene. The subjects treated of are air, water, disposal of refuse, food, and infectious diseases.

SURGICAL DISEASES OF THE KIDNEY AND URETER, Including Injuries, Malformations, and Misplacements. By HENRY MORRIS, M.A., M.B. (Lond.), F.R.C.S., Vice-President and Chairman of the Court of Examiners, Royal College of Surgeons, Senior Surgeon, Middlesex Hospital, etc., etc. With two colored plates and upward of 200 engravings. In two volumes. Vol. I and II. London, Paris, New York, and Melbourne: Cassell & Company, Ltd., 1901.

IN the two handsome volumes before us, we have the work of a writer who is one of the best-known authorities in the world on the diseases of which he treats, and we can, therefore, look upon the present work as of great value and importance. The author previously published several books upon cognate subjects, and the present volumes may be considered an amplification and continuation of these. The volumes may be considered together, and here we might insert a word of satisfaction that there are two volumes, and not one, so cumbersome as to be a burden to hold. The anatomy and relations of the kidneys and ureters occupy the first chapter, which is short and concise. Chapter II is taken up with abnormalities of the kidney, which have always been of interest to the anatomist and surgeon. A number of interesting illustrations are given, and the chapter contains some useful statistical information on the occurrence of deformities and displacements. The author has had a large experience with movable or floating kidney, and he does not place much reliance upon belts or other mechanical appliances, on account of several drawbacks and dangers connected with their use, but he does believe in operative intervention, the methods of which he details. Injuries to the kidneys occupy several chapters containing much of interest. The author has made free use of clinical descriptions and references, many of the latter of historical interest. Many of the clinical references are from American sources, the American Rebellion contributing a great number of cases, especially of gunshot injuries. The extravasation of blood and the collection of pus around a kidney are important conditions, and the latter common enough under the name of perinephric abscess. Morris gives us an excellent clinical picture of the disease, and its differential diagnosis. The treatment is so obvious as hardly to need comment. Hydronephrosis is illustrated with a number of very characteristic instances of the disease. New growths of the kidney are interesting even if not very common, and in these volumes they receive perhaps less than their proportionate share of attention; renal tuberculosis, however, is fully presented. Nephrectomy is the only real treatment. A large part of the second volume is devoted to calculous disease, on which the author's opinions are known to be of value. Many different forms of calculi are described and the symptomatology of the disease searchingly gone into; after this every form of treatment is taken up and analyzed, with the result that we may consider this portion of the work definitive on the subject. A considerable mass of clinical and statistical detail is introduced. The surgery of the ureter has only in the last few years been extensively developed, but much has been written in that period, especially on methods of repair after accidental or intentional wounds. Calculous obstruction naturally receives the greatest amount of space. The author states that nephrectomy is the last resort in cases of ureteral fistula. Detailed instructions are given as to the performance of the different ureteral operations, and illustrations are frequent enough to make matters clear. The volumes are carefully indexed and handsomely made, and form a valuable addition to modern surgical literature.

Therapeutic Hints.

Gonorrhœa.—

℞ Bismuthi subgallati .....
Pulv. acaciæ ..... āā ʒii.
Aq. destill. ..... ʒiii.
M. Sig. Use as injection q. 2 h.

—Dokerchaieff.

℞ Plumbi acetatis .....
Acidi tannici .....
Zinci sulphatis .....
Cupri sulphatis ..... āā gr. ii.
M. ft. tabella No. 1. Sig. One tablet in four ounces of water and use as injection.

—Cabot.

Emetic for Children.—

℞ Pulv. ipecacuanhæ ..... gr. viiss.
Antimonii et potassii tartratis ..... gr. $\frac{1}{6}$.
Aquæ destill ..... q. s. ad. ʒi.
M. S. ʒi. q. 15 minutes.

—*Pediatrics.*

Fermentative Diarrhœa.—

℞ Bismuth subgallate .....
Salol .....
Cerium oxalate ..... āā gr. i.
Dover's powder ..... gr. ii.
Oil of anise ..... ♏ $\frac{1}{16}$.
For one tablet or capsule.

—J. W. Hyde.

Catarrh of the Bile Ducts with Jaundice.—

℞ Ammon. iodid ..... ʒi.
Liq. potass. arsenit. ..... ♏ xxx.
Tinct. calumbæ ..... ʒiv.
Aquæ destil. ..... ʒiss.
S. Teaspoonful before each meal.

—Farquharson.

Lienteric Diarrhœa.—

℞ Sodii salicylat ..... ʒii.
Tr. opii camph ..... ʒii.
Ext. cannab. ind. fld. ..... ʒi.
Syr. rhei aromat ..... ʒii.
Ol. Myristicæ ..... ʒi.
Listerine ..... q. s. ad. ʒv.
S. Teaspoonful in water frequently repeated.

—*Medical Summary.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended September 28:

		Cases.	Deaths.
Smallpox—United States.			
California, San Francisco	Sept. 1-15	4	
District of Columbia, Washington	Sept. 14-21	9	
Massachusetts, Boston	Sept. 14-21	9	
Michigan, Detroit	Sept. 14-21	1	
New Jersey, Newark	Sept. 14-21	18	
New York, Elmira	Sept. 14-21	2	
New York	Sept. 14-21	3	1
Pennsylvania, Lebanon	Sept. 8-15	5	
Philadelphia	Sept. 14-21	38	4
Wisconsin, Green Bay	Sept. 15-22	1	
Smallpox—Foreign.			
Belgium, Antwerp	Aug. 31-Sept. 7	4	
Ghent	Aug. 31-Sept. 7		1
Brazil, Rio de Janeiro	Aug. 4-18		114
Colombia, Panama	Sept. 9-16	12	
Egypt, Cairo	Aug. 26-Sept. 7		1
France, Paris	Aug. 24-Sept. 7		10
Great Britain, Edinburgh	Aug. 31-Sept. 7	1	
London	Aug. 31-Sept. 7	92	8
India, Bombay	Aug. 20-27		1
Calcutta	Aug. 18-24		2
Madras	Aug. 10-23		19
Italy, Naples	Aug. 24-Sept. 7	182	26
Nova Scotia, Halifax	Sept. 14-21	9	1
Russia, Moscow	Aug. 24-31	4	2
St. Petersburg	Aug. 24-31	4	
Spain, Madrid	June 17-July 15		6
Malaga	Aug. 31-Sept 7		5
Valencia	Sept. 3-10		7
Yellow Fever.			
Brazil, Rio de Janeiro	Aug. 4-18		2
Costa Rica, Port Limon	Aug 1-Sept. 14	12	6
Cuba, Havana	Sept. 7-14	1	
Mexico, Merida	Aug. 24-31	Several cases.	
Progreso	Aug. 24-31	1 case	
Cholera.			
India, Bombay	Aug. 1-27		4
Calcutta	Aug. 18-24		10
Madras	Aug. 10-23		201
Japan, Yokohama	Aug. 18-24	1	
Straits Settlements, Singapore	July 27-Aug. 3		2
Plague—United States.			
California, San Francisco	Aug. 29-Sept. 20	4	2
Plague—Foreign.			
China, Hongkong	Aug. 3-10	10	12
India, Bombay	Aug. 20-27		203
Calcutta	Aug. 18-24		32
Karachi	Aug. 11-25	8	5

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Nervous and Mental Diseases. By Archibald Church. Royal octavo, 869 pages, illustrated. W. B. Saunders & Co., Philadelphia, Pa.

A Text Book of the Practice of Medicine. By James M. Anders, M.D. Royal octavo, illustrated, fifth edition. W. B. Saunders & Co., Philadelphia, Pa.

La Léprose. By Dom Sauton. 8vo., 496 pages, illustrated. C. Naud, Paris, France.

Surgical Diseases of Kidney and Ureter. By Henry Morris. 8vo., 670 pages. illustrated. Vols. I. & II. Cassell and Company, Ltd., London.

Traité de Médecine et de Thérapeutique. By P. Brouardel and A. Gilbert. 8vo., 848 pages, illustrated. J. B. Baillière et Fils, Paris.

Transactions of the Medical Association of Georgia. Fifth-second annual session, 1901. 8vo., 436 pages. Published by the Association, Atlanta, Ga.

La Photothérapie. By H. Lebon. 8vo., 34 pages, illustrated. Paris.

Food Value of Meat. By W. R. C. Latson, M D. 12mo., 72 pages, illustrated. The Health-Culture Co., New York.

Matière Médicale Zoölogique. By H. Beauregard. 8vo., 396 pages, illustrated. C. Naud, Paris.

Practical First Principles. By A. H. P. Leuf, M D. 8vo., 105 pages, illustrated. The Medical Council. Philadelphia.

Anatomie Générale. 8vo. Part I. and II. By Xavier Bichat. Pages 525 and 604. G. Steinheil, Paris, France.

The Microscope and Its Revelations. By W. B. Carpenter, M.D. 8vo., 1,181 pages, illustrated. Eighth edition. F. Blakiston's Son & Co., Philadelphia, Pa.

Surgical Technic. By Fr. von Esmarch, M.D., and F. Kowalzig. 8vo., 866 pages, illustrated. The Macmillan Co., New York.

A Manual of Determinative Bacteriology. 8vo. By F. D. Chester. 401 pages, illustrated. The Macmillan Co., New York.

Proceedings of the New York Pathological Society, 1899 and 1900. 8vo., 347 pages. Printed by the Society.

A Handbook of Pathological Anatomy and Histology. By F. Delafield and T. M. Prudden. 8vo. Sixth edition, 819 pages, illustrated. William Wood & Company, New York.

Transactions of the Vermont State Medical Society, 1900. 8vo., 195 pages. Published by the Society.

Merck's 1901 Manual of the Materia Medica.

Foods for the Fat. By N. E. Yorke-Davies. 12mo. Twelfth edition, 132 pages. Brentano's, New York.

Transactions of the Medical Society of the State of New York for 1901. 8vo., 524 pages, illustrated. Published by the Society.

Libertinism and Marriage. By R. B. Douglas. 12mo., 169 pages. F. A. Davis Co., Philadelphia, Pa.

Manual of the Diseases of the Eye. By Charles H. May, M.D. 8vo. 408 pages. Illustrated. 2d Edition. William Wood & Co., New York.

Holden's Anatomy. By John Langton. Vol I and Vol. II. 8vo. 843 pages. P. Blakiston's Son & Co., Philadelphia, Pa.

The Principles and Practice of Medicine. 8vo By William Osler, M.D. 4th Edition, 1,182 pages. D. Appleton & Company, New York.

Electricity in Medicine and Surgery. By Wm. H King, M.D. 8vo. Part I and Part II, 206 pages, illustrated. Boericke & Runyon Co., New York, N. Y.

The Doctor's Wife. By Wm. E. Quine. 12mo 20 pages.

Progressive Medicine. By H. A. Hare, M.D. Vol. III. 8vo. 428 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa. Price $10.00 for 4 volumes.

A Text-Book of Bacteriology. By George M Sternberg, M.D. 8vo. 2d Edition. 708 pages. Illustrated. William Wood & Company, New York, N. Y Price, muslin $5.00 net; leather $5.75 net.

Manual of Chemistry. By W. Simon. 7th Edition. 8vo. 613 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa. Price, $3.00 net.

The Mental Functions of the Brain. By Bernard Hollander, M.D. 8vo., 507 pages, illustrated. G P Putnam's Sons, New York.

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Original Articles.

PANHYSTEROKOLPECTOMY: A NEW PROLAPSUS OPERATION.*

BY GEORGE M. EDEBOHLS, A.M., M.D.,
NEW YORK.

THE essentials of the new prolapsus operation which I have the honor to present for your criticism and discussion consist, as indicated by the title, in complete extirpation of the uterus and vagina, followed by operative obliteration or columnization of the bed of the genital tract, all performed at one sitting. The effect of the operative obliteration or columnization of the bed of the removed uterus and vagina, performed in the manner presently to be described, is to build a solid pelvic floor ten to fifteen centimeters in depth from peritoneum to perineum, and to establish broad apposition of the base of the bladder and the anterior surface of the rectum, conditions similar to those obtaining in the male pelvis. A relapse or recurrence of the prolapse, after a successfully performed operation of this character, becomes a physical impossibility.

In selecting a name for the operation I have decided in favor of panhysterokolpectomy, as indicating the essentials of complete removal of the uterus and vagina. Pankolpohysterectomy, or kolpohysterectomy, would answer equally well, but the latter term has come into such common acceptation to designate removal of the uterus by the vaginal route, that its use in connection with the operation proposed in this paper would tend to unnecessary confusion. Aidoiectomy (αἰδοια, the genitals) presented itself, but was rejected because the vulva, a part of the genitals, is never removed, and ablation of the tubes and ovaries may be practised or omitted, according to circumstances, in the performance of the operation. Of the four patients I have operated upon, two retain both uterine adnexa and one the right ovary; in the fourth both adnexa were removed in one piece with uterus and vagina.

The statement is probably within bounds that no operator of larger and longer experience is entirely and absolutely satisfied with the results of all of his operations for complete prolapsus of the uterus and vagina. The very multiplicity of prolapsus operations, and the various combinations thereof, would indicate the truth of this assertion, and it may without reservation be admitted that there are cases of complete prolapsus in which the tissues upon which we must depend for support after operation are so relaxed that none of the operative procedures heretofore in vogue, nor any combination of them, will insure against a redescent of the uterus and vagina, or of the vaginal walls when the uterus has been removed. It was an experience with just such a case as this, Case I, in which various procedures at my hands, removal of the uterus and ventral suspension of the vagina included, had failed to secure permanent relief, that led to the development of the new operation. Fuller details of this somewhat remarkable case will be found in the appended history. Case IV, also, had been operated upon twice previously by two operators of acknowledged skill and experience, with return of the prolapsus soon after each operation.

My operation, properly and successfully performed, guarantees a certain and permanent cure of every case of prolapsus of the uterus and vagina. The more complete the prolapsus and the more unfavorable, therefore, the chances of permanent cure by other operative procedures, the more pronounced is the indication for the new operation, and the greater the facility attending its performance.

The operation is indicated whenever the certain and permanent cure of a prolapsus of the uterus and vagina, either primarily or after the failure of previous operation or operations, forms the one paramount desideratum, other considerations in comparison being relegated to the background. The limitations of its applicability and the contraindications arise from the necessity or desirability, in any given case, of perpetuating the functions of the uterus or vagina. In women past the child-bearing age the uterus need, of course, not be considered. It is quite a different matter, however, with the vagina, and the impossibility of further sexual relations must be clearly presented to the patient, and fully understood and accepted by her, prior to deciding upon the operation. If the patient be a widow past the menopause, the decision will rest entirely with her; if a married woman, her husband must be consulted as well. My first case was a married woman of thirty-six in whom repeated previous operations had failed to give permanent relief. Her condition was so distressing that both she and her husband willingly sacrificed their conjugal pleasures on the altar of the wife's health. The second and third patients were widows, aged sixty-eight and fifty-one respectively, both of whom had no other desire than to be relieved of their troublesome complete prolapsus. The fourth patient, a married woman of sixty-seven, in view of two unsuccessful previous operations, had no hesitancy in accepting an operation which promised a permanent cure, though involving the loss of the vagina.

The operation is inapplicable, therefore, during the child-bearing period of life, whenever further offspring is both possible and desired at whatever hazard as regards the permanent cure of the prolapse. It is contraindicated after the child-bearing age whenever the further use of the vagina is desired by the patient or her husband. Under both the above conditions the combination of curettage, amputation of cervix, anterior colporrhaphy, and colpoperineorrhaphy, or bilateral colporrhaphy, and ventral fixation of the uterus, all performed at one sitting, as first practised by the writer in 1891 (*American Journal of Obstetrics*, 1893, XXVIII, No. 1, Case V), will probably best meet the indications.

I have once, however, partially applied the prin-

*Read before the American Gynecological Society, Chicago, May 30, 1901.

ciples underlying the new operation in the case of a married woman, aged fifty-one, suffering from multiple fibromata of the uterus associated with complete prolapsus, of which she wished to be relieved without losing the power of copulation. In this instance I removed the uterus and the upper ten centimeters of the vagina, obliterating to this extent the bed of the genital canal, and leaving about eight centimeters of the lower end of the vagina for purposes of copulation. The patient, after a perfectly smooth first week of convalescence, contracted bilateral pneumonia on the eighth day after operation and succumbed to pulmonary œdema two days later. I am thus unable to report the curative and functional result in this, my only attempt at partial carrying out of the operation.

The operation itself may be quite briefly described. The prolapsed uterus and vagina are drawn out between the thighs as far as they will come, and an incision encircling the vagina is made just within the vulva. The vaginal tube is now dissected from its bed in one unbroken piece from the vulva clean up to the uterus, care being exercised to avoid injury of the bladder, ureters, and rectum. Each severed vessel is separately ligated with catgut, mass ligatures tending to interfere with the primary union essential to success. After the vagina has been completely dissected off up to its junction with the cervix, the uterus is cut out in the usual way, catgut ligatures being used to control the bleeding. Uterus and vagina are removed in one piece. I consider it a technical advantage to leave the tubes and ovaries when healthy; if diseased, they should be removed.

We are now ready for obliteration and columnization of the extensive raw surface left in the pelvic cavity as the result of extirpation of the uterus and vagina. The uterine ends of the tubes or, if these have been removed, the infundibulo-pelvic ligaments are brought together and united by a suture of chromicized catgut. A second suture of the same material is passed as a gathering or shirring suture around the entire circumference of the raw surface, about two and a half centimeters below the first. By drawing taut and tying the suture in pursestring fashion the raw tissues from all sides are brought together in the middle line of the pelvic axis, the first suture being pushed upward toward the abdomen just prior to tying the second. A third encircling suture, passed two to two and a half centimeters below and parallel to the second, again gathers the raw surfaces from the periphery of the pelvis to bring them together for union in the center. The second suture is pushed upward, disappears from sight, and is buried as the third is tied beneath it. A fourth, fifth, and as many sutures more as are necessary are passed in a manner exactly alike, two to two and a half centimeters apart, always pushing upward and burying the last tied suture before tying the next, until the vulva is reached. The final suture encircles the bed of the removed vagina just within the vulva. When it is drawn taut and tied the bed of the removed uterus and vagina will have been obliterated. The small remaining slit within the vulva is closed by an ordinary running suture, like all the others of chromicized catgut, and the operation is finished.

I have thus far found it necessary to employ from seven to nine pursing sutures to obliterate the bed of the genital tract. The lengths of the exsected vagina, measured after removal, varied between sixteen and twenty centimeters.

After completion of the operation bimanual examination, made by a finger in the rectum and a hand upon the abdomen, reveals a solid pelvic floor some twelve to thirteen centimeters deep from peritoneum to perineum, the base of the bladder and the anterior surface of the rectum being in intimate apposition to the just mentioned extent.

A piece of bichloride gauze applied over the vulva and retained by a T-bandage constitutes the dressing. The patient is put to bed for a week and then allowed to get up and move about. The catheter is used only when the patient is unable to void urine spontaneously. Immediately after passing urine the external genitals are rinsed with a douche of 1-3,000 sublimate solution.

Simple as the description of the operation reads, I would advise that it be attempted only by one experienced in the plastic surgery of the female genitals. It is decidedly not an operation for the novice. Personally, I have found the safe dissection of the vagina from its bed the most difficult part of the entire procedure.

All the work in my four cases was done from the vaginal side. In my last case a previous high ventral fixation of the uterus came very near compelling me to open the abdomen from above to liberate the uterus from its exceedingly firm attachment to the abdominal wall.

The operation will, of course, have a mortality contingent upon the fact that it will find its chief application in women advanced in life and suffering from the worst forms of prolapsus. What that mortality will be only a larger experience can demonstrate.

I append the histories of the four cases in which I have thus far performed the operation. The first case, in which the operation was performed on the instalment plan, will prove particularly interesting as leading to the fully developed operation practised in the three following patients.

Case I.—M. K., aged twenty-eight, single. First seen May 2, 1892, when the following history was obtained: Well up to five years ago, at which time work involving very heavy lifting was followed by a feeling of uneasiness and weakness in the pelvis. A physician diagnosticated falling of the womb and applied a ring pessary. A year later the cervix appeared at the vulva, and for the past three years the entire uterus and vagina have been continuously outside of the body.

Examination shows complete prolapsus of the vagina and uterus, the prolapsed organs forming a tumor some twelve centimeters in diameter outside the vulva. The uterus is completely outside of the body, the retroverted fundus lying in front of the anus and intestines filling the upper portions of the sac of the vaginal hernia. The position of the uterus made reduction impossible until the retroversion was corrected, and the long axis of the uterus brought into line with the axis of the pelvic outlet. A deep ulceration of the vaginal walls, five centimeters in diameter, was located to the right of and posterior to the cervix. The cervix was greatly thickened and hypertrophied; the uterine canal measured five inches in length. Both uterine adnexa were normal.

First operation, May 6, 1892, consisted of curettage of uterus, amputation of cervix, bilateral colporrhaphy, and ventral fixation of the uterus. It was, if I remember correctly, my first experience with bilateral colporrhaphy. After I had completed the sewing of the lateral vaginal walls, I opened the abdomen to perform ventral fixation, only to find that I could not draw the fundus up to the anterior abdominal wall, the vaginal suturing holding the uterus down in the pelvis. I closed the abdomen temporarily, removed the colporrhaphy sutures, resewed the vaginal wounds, and again opened the abdomen, to find that the fundus could not be brought

up to the anterior abdominal wall. Removing the vaginal sutures a second time, I performed ventral fixation very readily, attaching the fundus firmly and broadly to the anterior wall with three silkworm sutures. The large wounds on either lateral aspect of the vagina were sutured a third time, and the operation was completed.

Second operation, June 17, 1892, consisted of a simple perineorrhaphy to reduce the size of the stretched vaginal outlet, and to form a supporting shelf for the anterior vaginal wall. A vaginal canal two and a half centimeters in diameter was left as the result of these operations.

After convalescence, patient remained in hospital, doing the heavy work of a nurse, until December 2, 1892, without the least return of the prolapse. She married, September 7, 1893, and became pregnant for the first time in February, 1895. On November 24, 1895, after a tedious labor of three days' duration, she was delivered at term of a large, healthy child.

The prolapsus, of which she had remained perfectly cured since May, 1892, began to return in April, 1896, five months after the birth of her child, and was soon as large as before operation.

For more than three years she treated herself, and tried to retain the prolapsed organs by rings and pessaries, until she found, about June 1, 1899, that the tumor outside the vulva was growing in size, and that she could no longer reduce it. She again consulted me, for the first time in years, on July 22, 1899, suffering intensely from local distress, and stating that she had been unable to reduce the prolapse for the past seven weeks, all attempts at reduction being accompanied by unspeakable pains. On examination, I found the entire vagina and the three months' pregnant uterus completely outside the vulva. Reposition of the pregnant uterus into the abdomen was found impossible, even under an anæsthetic; it was too large to pass upward through the pelvic canal.

Third operation, July 25, 1899. Vaginal hysterectomy, for removal of the three months' pregnant uterus. Both tubes, left ovary, and upper third of vagina removed with the pregnant uterus, the healthy right ovary being allowed to remain. Three strong bands or cords, each about two centimeters thick, the result of the ventral fixation performed seven years previously, held the fundus firmly attached to the anterior abdominal wall. A ligature was placed around each, and the cords were severed between the ligature and uterus, freeing the latter. The upper end of the vagina was sewn to the stumps of the ventral fixation bands in the hope that the prolapsed vagina would thus be held in place.

Nine weeks after this operation, the vagina again prolapsed.

Fourth operation, October 24, 1899. Ventral fixation of vagina and inversion of normal vermiform appendix. The abdomen was opened at the site of the former ventral fixation, and the summit of the vagina drawn up into the wound and sewn fast to the muscles and aponeuroses of the anterior abdominal wall.

Two months later the vagina became detached from its fixation to the anterior abdominal wall, and again appeared outside the vulva. For four months the patient endured the distressing condition, when she and her husband begged me to make another attempt at relief. I indicated to them that the only hope of permanent relief lay in total removal of the vagina, and explained to them what that meant as regards their future marital relations. After thinking the matter over for a week, both husband and wife asked that the operation be performed.

Fifth operation, April 27, 1900. Pankolpectomy, after the manner described in the body of the paper. The removed vagina measured fifteen centimeters in length. Eight pursing sutures were required to obliterate and columnize the vaginal bed.

Since this operation, performed just one year ago, the patient has enjoyed perfect health, finally freed from her almost life-long prolapse. Both she and her husband express perfect content with things as they are.

The experience gained piecemeal in this rather unusual case led to the fully developed operation performed upon the next patient.

Case II.—E. R., widow, aged sixty-seven, was kindly referred to me by Dr. W. K. Kubin. She was the mother of four children, since the birth of the last of which, thirty-two years ago, she has suffered from a steadily growing prolapse of the uterus and vagina. The prolapse of both is now complete. For the past five years a prolapse of the lower five centimeters of the rectum has added to her discomfort. An anterior colporrhaphy, performed in November, 1900, had failed to give material relief.

Operation on February 8, 1901, at home of patient. Typical panhysterokolpectomy, as described, was performed. The tubes and ovaries were found healthy and were allowed to remain. The removed vagina measured sixteen centimeters in length. Eight sutures were required to columnize the bed of the removed uterus and vagina. Patient was out of bed on tenth day. Perfectly well, except for prolapsus recti, when last seen, May 22, 1901.

Case III.—S. F., widow, aged fifty-one, had four still-births, the last eight years ago. Soon after this the uterus began to descend. The cervix reached the vulva two years ago. When first seen the cervix protruded five centimeters from the vulva.

Typical panhysterokolpectomy, March 1, 1901. Tubes and ovaries were found adherent, the abdominal ends of the tubes being sealed and club shaped. The adnexa of both sides were removed in one piece with uterus and vagina. The removed vagina measured twenty centimeters in length. Nine sutures were required to obliterate the bed of the removed genital tract. Patient was out of bed on the eighth day. Discharged cured, March 26, 1901, since which time not seen.

Case IV.—For the opportunity to operate upon this case, as well as for the history, I am indebted to the courtesy of Dr. Henry D. Fry of Washington, D. C.

M. F., aged sixty-six, married, mother of six children. The first symptoms succeeded the birth of her first child, thirty-eight years ago, and were followed by the gradual development of complete procidentia uteri. Freund's operation, narrowing of the vaginal canal by submucous buried silver wire ring sutures, was performed in February, 1900. Relief was but temporary, however, the condition returning during an attack of the grippe, accompanied with severe cough. A second operation, ventral fixation of the uterus with added appendicectomy, performed on January 4, 1901, also gave but temporary relief, the cervix soon reappearing outside the vulva.

Operation, May 3, 1901, at the Garfield Hospital, Washington, D. C., with the kind aid of Dr. Fry and the house staff. Typical panhysterokolpectomy was performed, the normal tubes and ovaries being allowed to remain. The fundus uteri was found firmly attached to the anterior abdominal wall. The uterus was stretched to the thinness of a finger and elongated so as to allow the cervix to extend beyond the vulva. The resected vagina measured about fifteen centimeters in length. Eight or nine pursing sutures

were needed to columnize the bed of the removed vagina and uterus.

Dr. Fry writes me under date of May 13, 1901: "Patient did nicely. Temperature reached 100.8°, on afternoon of second day; slightly above 99° for few days. Sat up on seventh day. Will go home in a day or two."

Summary.—The very multiplicity of operations heretofore proposed for the cure of complete prolapsus of the uterus and vagina is proof, if such were needed, that no operator of larger and longer experience is entirely and absolutely satisfied with the results of all his prolapsus operations.

There is room, in the treatment of complete prolapse of the uterus and vagina, for an operation which, properly and successfully performed, will guarantee a certain and permanent cure of the prolapse.

Such an operation is panhysterokolpectomy, the essentials of which consist in complete removal of the uterus and vagina followed by operative obliteration or columnization of the bed of the genital tract.

The tubes and ovaries are not disturbed, if healthy; if diseased, they are removed with the uterus and vagina.

Obliteration and columnization of the bed of the removed uterus and vagina is effected by means of from seven to nine buried pursing sutures of chromicized catgut placed about two to two and a half centimeters apart, and running parallel to each other. Each suture gathers the raw surfaces from the periphery in circular fashion and draws or purses them together in the median line. It is buried by being pushed upward toward the abdomen, while the next suture is being tied beneath it.

The effect of the completed operation is to build a solid pelvic floor ten to fifteen centimeters in depth from peritoneum to perineum, and to establish broad apposition of the base of the bladder and the anterior surface of the rectum, conditions similar to those obtaining in the male pelvis.

The patient is kept in bed for a week after operation. Recurrence of prolapse is impossible after a correctly and successfully performed panhysterokolpectomy.

The operation is indicated in the severest cases of total prolapse, and more especially where other operative procedures have been tried and failed.

The interference with further marital relations must be explained, and accepted by the patient prior to operation. In the case of a married woman the husband must also be consulted.

Four cases have thus far been operated upon by the author of the operation, all with perfectly satisfactory result.

59 West Forty-ninth Street

STRANGULATED HERNIA IN INFANTS.*

A STUDY OF SYMPTOMS AND TREATMENT, AND A REPORT OF A THIRD CASE SUCCESSFULLY TREATED BY OPERATION.

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The operation for strangulated hernia in infants under one year of age has recently received much attention. A survey of the recent literature[1-15] of the subject shows that at least twenty-five such cases have been reported since May, 1898, and reports of many others could without doubt be found. There was only one death among these twenty-five cases. They, in addition to the one hundred cases previously tabulated[16] by the author, indicate beyond all question that infants endure this operation very well.

Some of these reports indicate remarkable conditions. Guinard and Vernon[7] report the instance of an infant who was prematurely born at eight and one-half months, who was taken from the couveuse two days after birth, successfully operated upon for strangulated umbilical hernia, and then returned to the couveuse. Stoos[13] also operated upon an infant who should have still been "in utero"—he was prematurely born at eight months and relieved of hernia by operation less than a month later. Lilienthal[9] and Erdmann[10] have successfully operated for strangulated hernia on infants respectively eight and thirteen days old. Bainbridge[12] operated successfully for double strangulated hernia in a child four months old. Moschowitz[8] found constrictions in the lower part of the sac in two cases, which suggest an explanation for the strangulation in certain instances.

Fraenkel[11] operated upon four nursing children—two of them in out-patient practice—and the results were so satisfactory that he advocates operations even for reducible hernia in nurslings, and records twelve such cases among sixty-eight hernia operations in children. Hirschkopf,[13] in reporting the hernia operations from Kocher's clinic, also advocates operating on nursing children for reducible hernia, and quotes Kocher, Broca, and Tillmans to support his view. These references are given, not to advocate such a procedure, but to show the trend of surgical opinion as to the ability of infants to endure operation. Karewski[14] probably voices the sentiment of the majority of surgeons when he states that, although infants bear operation well, they also do well under truss treatment, and this should be tried as a routine practice when they have reducible hernia.

An additional case which has come under the writer's care presented peculiarities that are worthy of note—the intestine had almost slipped back into the peritoneal cavity, leaving no palpable tumor, although the strangulation persisted. The operation was done on account of the symptoms and history. The child was a strong boy, three months and ten days old, who was brought to St. Mary's Free Hospital for Children April 4, 1900. Two weeks previously the mother had, for the first time, noticed a right inguinal scrotal hernia, which remained down for two days and was then reduced by taxis. On April 2 the scrotal swelling reappeared and the child became cross and peevish, and began to vomit. On April 3 there was stercoraceous vomiting, and there was no movement from the bowels after repeated enemata. On the morning of April 4 the tumor had disappeared, but the child seemed sick and was brought to the hospital.

On examination no hernia could be found; the tip of the finger was pushed into the external abdominal ring; a finger was also introduced into the rectum and careful bimanual examination of the inguinal region made, but no hernial protrusion could be distinguished, although thickened tissue could be felt extending from the external ring toward the scrotum. Since the child had not vomited for several hours and had nursed twice during that time, it was hoped that the hernia had really been reduced. The general condition was not bad, temperature 100°, pulse 120, abdomen slightly distended. A high enema of water was given, but brought away no fecal matter.

Two hours later he began to vomit light-yellow semifluid material with a fecal odor, and operation was done with the least possible delay. The ordinary Bassini incision was made; the sac was found

*Read in part before the West End Medical Society, February, 1901.

to be dark colored, almost gangrenous, and was firmly adherent to the surrounding tissues. The aponeurosis of the external oblique muscle was cut through from above and the constriction thus relieved. The sac was then opened, and a very small knuckle of intestine was found to have been obstructed at the external ring. The constriction just included the lumen of the intestine, but no more. This occluded portion of the intestine was dark colored, and there was a flake of fibrin on it about half an inch in diameter. The circulation was quickly restored and the intestine returned to the abdomen. The sac was inflamed and matted to the cord, so that it could not be separated; at this time stercoraceous vomiting came on again; hence the routine steps of the Bassini operation were impracticable. The sac was closed by a ligature of chromicized gut and the split in the external oblique aponeurosis was sutured with the same material. The skin and superficial fascia were brought together above and left to drain below, provisional sutures being placed so that the tissue could be brought together at a later time. The child had copious movements from the bowels within six hours, and recovered without incident. The packing from the wound was loosened, and the provisional sutures were fastened on the second day. The child left the hospital on the eighth day, and healing by granulation took place promptly.

This case calls our attention particularly to certain points in diagnosis—operation was done because the history indicated that there had been a strangulated hernia and because the child continued to vomit stercoraceous material even when the hernia had apparently been reduced—the records indicate that in many instances operation has been delayed because of difficulties in diagnosis; a baby who cannot talk, who cries for various discomforts, and who has a thick pad of pubic fat, which may easily obscure a small hernia, presents many difficulties in diagnosis. In order to study the symptoms in the infants who have been operated upon for strangulated hernia, I have, with the help of Dr. A. G. Hilke, had the symptoms of these one hundred and twenty-five cases tabulated, so far as they are accessible, in the library of The New York Academy of Medicine. The records as to symptoms are very incomplete, but in forty-seven cases they are sufficiently explicit to be available for the purposes of this tabulation. It is to be remembered, however, that the failure to record a given symptom does not always indicate that this symptom was not present. The tabulation probably indicates approximately the relative frequency of the symptoms. The presence of a swelling or tumor was mentioned in forty-four instances. Vomiting occurred in thirty-eight cases; in one instance it continued during four days; in seven instances it continued during three days; in four more instances during two days; it was described as stercoraceous in ten instances.

Constipation is mentioned in thirty-two instances; in one case it existed seven days; in ten instances it existed three days or more.

Inability to urinate, of greater or less duration, is mentioned in nine instances; Tietze[17] has attached much importance to this symptom, and it has probably existed for a certain time in many instances in which it has not been recorded.

Pain is a symptom which cannot be accurately determined in infants, but the crying and fretting is spoken of in twenty of the cases. Of course, it probably existed in all of them. Constitutional depression was severe enough to excite comment in eighteen of the cases.

The relative importance of the symptoms is apparently in the order which might have been expected: (1) Tumor; (2) vomiting; (3) constipation; (4) difficulty in urination; (5) restlessness and apparent pain; (6) constitutional depression. The occurrence of symptoms which might be considered out of the ordinary course was very unusual.

The records indicate that delay in the effort to interpret symptoms or reduce the hernia by taxis has been the greatest danger, while early operation has been the greatest safeguard.

On seeing the case here recorded, at the termination of a year, a recurrence of the hernia is found to be present, which is easily controlled by a truss, and which, without doubt, can be cured by the truss or by another operation. This does not indicate that the method used was not the proper one for this especial case—an infant who is vomiting fecal matter is not a suitable subject for a prolonged operation, even if the isolation of the sac were possible. It does, however indicate that infants should have as thorough an operation as is practical in the effort to secure a radical cure.

Karewski and Eccles advocate the ligation of the sac rather than the performance of the routine Bassini operation in infants. Since this hernia recurred after the neck of the sac was securely included in a chromicized gut ligature, and the split in the external oblique aponeurosis was united by similar sutures, it seems to the writer best always to do the routine operation for the radical cure of the hernia unless an inflamed condition of the tissues or extreme prostration or fecal vomiting render further procedure unwarranted.

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135 WEST SEVENTY-THIRD STREET.

A STUDY IN HEREDITY: IN ITS RELATION TO IMMUNITY AND SELECTIVE ACTIVITY IN TUBERCULOSIS.*

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THE material for this study was taken chiefly from private practice, with the addition of a few cases occurring in the author's hospital service, in which opportunities for close observation at the time and personal knowledge of the subsequent histories of the several cases after leaving the wards were sufficient for the purposes desired. Some apology it would seem necessary to offer for presenting before such a body as this honorable congress deductions and conclusions based upon researches in so limited a number of cases as this present study includes, more especially since certain of the conclusions are

*A paper read before the British Congress on Tuberculosis, held in London, July 22–26, 1901.

at variance with traditional axioms in phthisiology. However, in the present inquiry all facts were collected and recorded personally and without prejudice, so that, however unique may be the conclusions to which a study of my cases has led, they are warrantable at least so far as the limit in number of observations will permit. The material at my disposal consists of carefully recorded histories of two hundred and forty-two cases of pulmonary tuberculosis. In every instance I have endeavored, besides studying the influence of heredity and environment, to ascribe, whenever possible, a cause for such peculiar manifestations of the disease as became apparent, and also to establish the relation which certainly exists between the selective activity of the disease and hereditary influence.

The theory that a phthisical parentage predisposes the offspring to the disease by virtue of heredity, while very firmly grounded in the medical mind, and still more so, of course, in that of the laity, has nevertheless, I believe, always been a subject of more or less controversy, and especially since the isolation of the specific microorganism. Without, however, entering upon a *résumé* of this controversy, which the limits of the present occasion and inclination alike proscribe, I have, like most phthisiotherapeutists, always been disposed to discredit the theory and, until within the last four or five years, to place a negative value upon "family history" except in so far as a tuberculous parentage subjected an individual to additional risks of infection. The following instance, which came to my notice several years ago, first suggested to me that there might be a certain degree of *immunity* conferred to the offspring of phthisical parents. I published this instance as an illustration in 1898, in a paper in which I first ventured the opinion that "phthisical parents might impart to their progeny a certain immunity to the disease."[1] As it is brief and to the point I quote it: "A clergyman and his wife, the latter having borne two children after developing pulmonary tuberculosis, took into their household by adoption the orphan child of a non-tuberculous family. After surviving the birth of her last child six years the wife died. Both of her children are living and in excellent health to-day, the younger having passed her twentieth year. The adopted child came under my observation at the age of seventeen years, having developed acute pulmonary tuberculosis, from which she died."

To adopt as a working theory this idea of conferred immunity in tuberculosis against all traditions requires, I admit, considerable temerity. One is constantly confronted with the question of inherited predisposition and cannot fail to be influenced by the demonstrable fact of "percentage heredity," a term employed by Dr. J. Edward Squire to express in percentage the difference between the number of the offspring of consumptive parents subsequently developing tuberculosis and that of the offspring of non-consumptive parents subsequently developing the disease. Dr. Squire's paper was published in November, 1897,[2] and was a most valuable contribution to the subject of hereditary influence in phthisis. In it he refers to a former paper, by himself, read before the Royal Medical and Chirurgical Society of London in December, 1894, on "The Influence of Heredity in Phthisis." Both papers were based upon results of thorough investigations in sufficient numbers of instances to warrant the adoption of his conclusions as *standards* in future inquiry along this line. I have no hesitation in accepting them as final so far as they are carried.

This "percentage heredity" Dr. Squire found to be only 9.51, and he points out that it is easy to explain this small percentage of influence due to parents by the additional risks of infection to which the children of phthisical parents are exposed. Now it has seemed to me almost certain, that if these children of consumptive parents, especially that usually weak and under-nourished class from which Dr. Squire made his observations, were not in some manner protected, this percentage would be much larger, since in such cases we may take it for granted that all of them fulfil every required condition for the development of the disease. Therefore, while admitting the fact of a "percentage heredity," the very figures which express it are such as to support the theory of an hereditarily conferred immunity.

It is, I think, the rule to find among the children of consumptive parents poor nutrition, imperfect digestion, and other functional derangements, together with certain almost characteristic marks of degeneracy in the bony skeleton, the long, shallow and comparatively immobile chest, prominent scapulæ, and sunken sternum. Yet with such features, more or less marked in a family of several children of consumptive parentage, it is a matter of common experience to see them all reach maturity without succumbing to an infection which, from the very nature of things, it would seem inevitable that they could not escape; while, on the other hand, the more acute, unresisting, and progressively fatal cases, I think, it is the common experience to find among those of a much more normal physical habit and where the source of infection is frequently most difficult to locate. Observations of this character, however, prove nothing, of course. It is from the analysis of a given number of cases occurring under somewhat similar conditions, and among individuals of like hygienic and social relations, that statistics, to be of any value, must be drawn. Even so obtained, statistical figures are very apt to be misleading and are no doubt open to much just criticism on that score. I would not attempt to prove a theory by conclusions based upon an experience in two hundred and forty-two cases unless the results were very positive, but I would very much like to provoke discussion of a subject which cannot be devoid of interest in such a society as this Congress represents and to stimulate further inquiry into a matter of such far-reaching importance. If I shall have accomplished this object I shall rest content with the assurance that the theory will take care of itself.

To proceed, then; the cases which I have utilized in this series have occurred in a community for the most part moderately well-to-do—small tradesmen, mechanics, artisans, operatives in wholesome, well-lighted, clean, and well-ventilated furniture factories, and small farmers. Nationality has been various. Next to American born, Dutch, German, Scandinavian, and Irish predominated. Because of the comparatively recent development of the section of the country in which my observations have been made, and the more or less migratory habits of the first generation or so of foreigners in America it has been the exception rather than the rule to be able to secure accurate data beyond the immediate parentage; but while it would be desirable to secure such data for purposes of demonstrating the transitory character of inherited immunity in tuberculosis, if such exists, for present requirements it is, I think, needless to do so.

The individuals comprising my series, by reason

1. *Medical News*, December 3, 1898.

2. "Heredity in Phthisis," *American Journal of the Medical Sciences*, November, 1897.

of their comparatively well-to-do condition and the customs prevailing in the locality, have none of them experienced the vicissitudes incident to life in the cheap tenement-house districts of larger cities. As a rule this class lives in small, compact but well-lighted and comparatively new frame houses, separated from each other by lawn spaces, and heated by stoves, or occasionally by hot-air furnaces. In the course of inquiry, when phthisis was found in either or both parents, it was the rule, with very few exceptions, to find it to have been present during the early life of the case under observation and to have been the cause of death. Frequently it could be traced back prior to the birth of my patient and to have persisted with remissions in activity for a considerable time afterward; more particularly was this the case among women, where in several instances I have satisfied myself of its presence during most of the child-bearing period. Without exception, these instances occurred among women of consumptive parentage. Of course, positive demonstration of the long existence of the disease in these cases was obviously impossible beyond the time of my own acquaintance with the case, and as scientific evidence, therefore, such citations are valueless.

Of my two hundred and forty-two cases, the parents, one or both, had phthisis in sixty instances, or 24.8 per cent., while the parents were non-phthisical in one hundred and eighty-two instances, or 75.2 per cent. Of the sixty who had phthisical parents, the father was found to have been affected in thirty-one cases, or 12.8 per cent.; the mother in twenty-nine cases, or 12 per cent., and both parents to have been phthisical in four instances, or 1.6 per cent.

It was more common in my experience to find a previous tuberculosis in a brother or sister or both than in the parents, and in such cases an almost perfect history of infection could be traced. It was often possible to designate the date of infection to within a few weeks, and in some instances to within even narrower limits, a point of some value in estimating the period of incubation, or studying that questionable quantity, the "period of latency."

Seventy-four of my cases, or 30.6 per cent., gave a history of previous tuberculosis in a brother, sister, or both, and it is a point of some interest that of these seventy-four only twenty-two were of phthisical parentage; furthermore, as will be recalled, there were sixty cases in which one or both parents were phthisical, and of these twenty-eight had brothers or sisters who were non-phthisical; or, to put it a little differently, out of sixty families with phthisis in one or both parents, there were twenty-eight instances of the disease affecting only one of several children. This does not, of course, imply that in the remaining thirty-two there was necessarily more than one child affected, for in many instances the patient was an only child. It will further be seen that while twenty-two individuals having a phthisical parentage gave a history of previous tuberculosis in one or more brothers or sisters, there were fifty-two cases of non-phthisical parentage giving such a history.

These figures would certainly fail to show an hereditarily conferred predisposition to the disease, and if they have any value at all, it is on the side of a conferred *immunity* instead. Of the whole number—two hundred and forty-two cases—I can, at present, account for two hundred and thirty-five; of these one hundred and thirty-two are living, and one hundred and three have terminated fatally. Although it has a negative bearing upon the present inquiry, it may be of interest to note that in each group the percentage of phthisical parentage is the same; that is, of the one hundred and thirty-two living, 26 per cent. had phthisical parents; and of the one hundred and three dead, there was also 26 per cent. whose parents, one or both, had died of the disease.

The most interesting development in the course of this investigation has resulted from a study of the one hundred and three fatal cases. As above suggested, 26 per cent., or twenty-seven cases, were found to be of phthisical parentage, while seventy-six had non-phthisical parents. My histories show that the *average* duration of the disease from its apparent incipiency to the fatal termination was, in the incidence of the twenty-seven cases of tuberculous parentage, 4.01 years, while in that of the seventy-six cases of non-tuberculous parentage it was 2.93 years, a difference of more than a year in favor of those having a phthisical parentage.

Now, it has been my experience that the development of phthisis in individuals living or having lived for any length of time with consumptive parents is more subtle and indeterminate as to commencement than is the case in the more robust offspring of non-consumptive families, where the onset of the disease is far more apt to be comparatively sudden, and consequently more easily determinable as to date of commencement. In this latter class the so-called "pre-tuberculous stage" has no existence as a rule, and the measurement of the duration of the disease is accordingly much simplified. This "pre-tuberculous stage" is, in reality, I am sure all will admit, a part of the life history of the disease and *should* be included with all subsequent stages of phthisis when estimating duration of the disease in a given case; but because I desired to free my inquiry as far as possible from misleading results or error in judgment as to what was and what was not the early stage of tuberculosis, I have, in this series of observations, limited the definition of phthisis to a stage of the disease where it has been clearly demonstrable. I have, therefore, a considerable leeway over and above the one year in favor of my cases with consumptive heredity, and had I included the "pre-tuberculous" stage in my estimates I am very certain that the difference in duration of the disease between the two classes would have been more marked than it is. I have, like many other observers, frequently demonstrated the presence of tubercle bacilli in the secretions of the air passages of healthy children and adults occupying apartments with consumptives, particularly consumptive parents, when subsequent events failed to show a development of tuberculosis from their presence. As an illustration: In a family consisting of a widow and four adult children, one of whom, a daughter, has been a consumptive for seven years (easily demonstrable during the whole of that time), the father had died after having had phthisis for upward of twenty years. The consumptive daughter above referred to continued the local focus of infection after the death of the father, although to a less dangerous degree because of sanitary education. A few years ago one of the sons contracted typhoid fever, during the course of which the usual bronchitis developed. In the expectorated matter many tubercle bacilli were found during the course of the complication. Doubting the diagnosis of typhoid, I verified it by a positive Widal test and the diazo-reaction in the urine. There was no pulmonary consolidation and the case ran a typical course with good recovery and, to my surprise, the patient has never shown the least evidence of tuberculosis since, although during several subsequent winter attacks of bronchial catarrh a search has been made for bacilli. I might add

that in this family every one of the four children is apparently a classical subject for phthisis, with the long, shallow, and immobile chest, and the imperfect nutrition above remarked; yet, though having lived almost their entire lives in the house with a consumptive, only one has developed the disease, and that one presenting every evidence of being able to resist a fatal termination successfully for many years to come.

Vital statistics show a gradual declining death rate from phthisis. This is, doubtless, in part the result of improved methods in restricting the spread of the disease, but, in view of many facts, is no doubt also due in part to one or both of two not unimportant factors, *i. e.* natural selection and inherited immunity. If the conclusions reached by Otto Naegeli, based upon five hundred autopsies made in the Pathological Institute of Zurich, on bodies of individuals dying of various diseases, shall be verified in other parts of the world, the question of inherited immunity must be acknowledged to play a very essential part in the decline in frequency and severity of phthisis. Naegeli found indubitable evidence of active or latent tuberculous lesions in 97 per cent. of all sections in individuals between eighteen and thirty years of age, and in 99 per cent. of those over thirty years of age.[3]

If it is true that nearly all individuals reaching thirty years of age develop tuberculous lesions which are demonstrable *post mortem*, the only explanation for the comparatively small percentage who die from phthisis lies in that of an inherited or acquired immunity.

Within the memory of men still living there was no phthisis among the Indian tribes roaming the high plateaux of Colorado, Arizona, and New Mexico. But a very few years after it became popular to send white consumptives to those regions as a therapeutic measure, the infection thus spread among the Indians gave rise to an almost epidemic form of phthisis of an unusually acute and fatal type. The same is true of the negroes of certain sections of the Southern States, whose heredity was entirely clean so far as tuberculosis is concerned, yet who succumbed in prodigious numbers as soon as the infection was brought them by the consumptive whites from the North, who, by reason of their greater immunity, often recovered by virtue of a climatic influence which, like that of Mentone, was insufficient to protect the non-immune native.

The older writers, in speaking of the influence of family history in phthisis, often remarked upon the frequency with which the disease affecting the grandparents would skip one generation to reappear in the grandchildren. If there is truth in such a statement, it would seem plausible to attribute the phenomenon to an inherited immunity sufficient to protect the children, but not sufficiently permanent to protect the second generation. In my own experience I have not attempted records with this idea in view, and therefore have no facts to bear it out.

I must acknowledge one rather serious omission in the course of my investigations in the present series of cases. It was, to a certain extent, unavoidable, but in future inquiry along this line it seems to me most important that it be not again omitted if we are to arrive at any positive conclusions by such methods as I have employed. It lies in my failure to determine whether or not, when there was a consumptive parentage, the parent affected was tuberculous prior to the birth of the patient under consideration; for if such were not the case, and the parent became tuberculous only after the child was born, obviously any immunity to the disease which the child afterward developed would be simply an acquired one; and if the child afterward became phthisical, the disease in the parent would have no more bearing upon the case than had it occurred in a brother or sister. In such a case it would be quite proper to include it in the class of non-phthisical parentage, for the purposes of present study.

Briefly then, to summarize the results of observations in my series of cases, it will be remarked that: (*a*) Of two hundred and forty-two consecutive cases of phthisis, approximately one in every four gave a history of phthisis in the parents. (*b*) Nearly one in three gave a history of previous phthisis in a brother, sister, or both. (*c*) More than two-thirds of those giving a history of previous phthisis in brother, sister, or both had non-phthisical parents. (*d*) As a rule, in the incidence of individuals of phthisical parentage afterward developing phthisis, a much longer period was found to exist between the supposed exposure to infection and the subsequent appearance of the disease than was the case in the incidence of those giving a non-phthisical heredity. (*e*) Of one hundred and three fatal cases of phthisis, the average length of life after development of the disease of those giving a history of phthisis in the parents was to that of individuals of non-phthisical parentage approximately as four to three.

So that, from a study of the foregoing series of cases, the following conclusions naturally follow: 1. The percentage of consumptives having a tuberculous parentage is actually smaller than that having a non-tuberculous parentage, and much smaller than would be more than accounted for by the additional risk of infection to which the former class is subjected. 2. Tuberculosis in the parents renders to no inconsiderable extent an immunity to the disease in the offspring, an immunity which of course is but relative, and not sufficiently protective, but still demonstrable, as is shown by increased resistance to the progress of the disease and increased tendency to recover among this class.

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[3] *Virchow's Archives*, May, 1900.

EPILEPSY; ITS ETIOLOGY AND TREATMENT.*

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Of the many diseases whose etiology is obscure and whose treatment leads us into the realms of empiricism, there are few upon which more theories have been advanced and more therapeutic agents recommended, according to the experience of different observers, than epilepsy, yet there is scarcely any more common disease in general practice.

Perhaps no little of this indifference is due to the utter failure, in many cases, to secure any relief for our patient by the *vis medicatrix* at our command, and the further knowledge that authorities differ so widely, a fact that may be explained by considering the point of view which each writer takes of the subject.

The neurologist terms it a functional disease of the gray cells of the cortex, the surgeon, a disease demanding surgical interference to suit some favorite operation, while authorities on general medicine find many causes for the discharges of nervous energy known as epilepsy, unquestionably justify-

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ing the statement that the disorder is as complex as hysteria (Spiller).

Etiology.—We find that three-fourths of the epileptics are affected before the age of twenty; 12 per cent. before the third year, while in nearly half of the cases the disease manifests itself between the ages of ten and twenty. The greater number of these appear during the fourteenth, fifteenth, and sixteenth years (Gowers). The changes of puberty, therefore, appear to influence at least the manifestation of this disease, and this is to be expected, since at this time the growth of the brain is at its maximum and the associative centers are attaining their full development (Berkley), hence are more responsive to any excitant.

A more sensitive nervous system in females during and after puberty renders them more liable to the affection than males, and there is a ratio of females to males about six to five, though males predominate before puberty. Heredity is, however, the most important factor in the etiology of this disease, for as the poison of the syphilitic, the nervous debility of the alcoholic, the susceptibility of the tuberculous parent is transmitted to its progeny, so does the epileptic inherit a tendency—an irritability of the central nervous system which many causes may excite, and which, once excited, responds to the least stimulation in the crises of epilepsy. Two-thirds inherit (Gowers) this tendency from parents manifesting nervous instability by suicide, hysteria, chorea, neurasthenia, insanity, general paralysis, or epilepsy, dissimilar heredity being more frequent than similar (Féré). Epilepsy due to traumatism in parents may be followed by epilepsy in children (Féré). Perhaps the number who inherit the tendency to the convulsions would be greatly increased were we to consider infantile eclampsia or other acute eclampsias in the parents, or could we know their constitutional weakness, which on account of early death from acute disease may not be revealed. For instance, in a family in which six children were epileptics no nervous precedents could be found until at the age of eighty the father died with acute melancholia. The children of alcoholics and syphilitics are specially liable, while drunkenness, poisoning by lead or mercury, morphinomania, infectious diseases, sexual excesses, and like debilitating causes in one or both of the parents at the time of conception (Féré), and in the mother during pregnancy, are important factors in the production of epilepsy in the offspring.

Some authorities class all convulsions in which the exciting cause is known according to that cause, reserving the name epilepsy for the idiopathic form only, while, on the other hand, some are inclined to consider as epilepsy all convulsions which give us the same symptomatic picture, acute or chronic, believing that epilepsy is but a symptom complex produced by the most varied causes.

We shall assume, however, that we have one factor given, viz., *an inherent tendency to convulsive discharges*, and seek to discover the exciting cause.

The apparent cause of the first attack is usually given as the exciting cause, though in many cases this is doubtful or incorrect. It is said that only 40 per cent. of the cases have even an apparent cause. We know, however, that injury to any part of the cerebral cortex may excite the recurrent spasms and that they more frequently follow light blows or falls on the head than severe traumatism. Kocher, who believes that the crises are due to increased intracranial pressure, explains this fact by the formation, by a fracture, of a safety valve, as it were, and bases his statements on experiments upon guinea pigs, in which he found that light blows upon the head would produce convulsions unless the skull had been opened.

Meningeal hemorrhage is likewise a cause, but if Kocher's theory be true it will be clinically impossible to say whether the hemorrhage was the cause or the result of increased blood pressure. The latter would seem the more probable. Other organic lesions (thrombi, emboli, and tumors) cause recurrent spasms.

Microcephalia and hydrocephalus are given as frequently causing this disorder, but after all we may have the identical pathological condition in two persons and the one have epilepsy while the other escapes. Even in microcephalia only one-third of the cases have convulsions (Berkley). Does this not emphatically suggest, if not prove conclusively, that the convulsive tendency must be present or other pathological conditions will not produce the eclampsia?

Disorders of nutrition are to be considered, and the statement has been made that light blows on the head, fright, acute infectious diseases, syphilis, and rickets cause this disease by affecting the nutrition of the brain cells.

Rachitis is the most important predisposing cause of infantile convulsions (Holt), and three-fourths of the epilepsy beginning in infancy shows itself first in infantile convulsions (Gowers). We have no record of how many there are in whom the disorder manifests itself after a history of infantile eclampsia. In fact, the similarity of symptomatic pictures, the hereditary influence in each, and the frequency of eclampsia in infancy in the history of confirmed epileptics give the diseases a very close relationship, if they are not identical. Baumes says that the only difference in the two is the difference in the course, which only time can establish. Why then should we distinguish between the two more than any other acute and chronic forms of a disease? We have, however, these two diseases very closely allied, one, to say the least, an etiological factor of the other and rickets a basis for each. Along with rickets or apart from this disease, anæmia and inherited syphilis prepare the nervous system for the recurrent discharges, primary syphilis never causing epilepsy except by central lesions. The acute infectious diseases frequently mark the onset of epilepsy, notably scarlet fever, measles, and typhoid fever, in the order of frequency. I have seen a case of petit mal follow an attack of typhoid fever. It is to be noted, also, that the convulsions of these diseases are pictures of epilepsy and of the same order, and certainly seem to depend on an inherent tendency, since, other conditions being the same, one patient will have convulsions and another will not.

Renal diseases, apart from uræmia, and in rare instances diabetes mellitus, are probable causes of epilepsy. The uræmic convulsion is attributed to the action of a poison in the blood on the central nervous system giving typical crises of epilepsy, though we do not term it epilepsy, since we think we know the true exciting cause. Further investigations tend to show that there are other poisons, the result of defective metabolism or other morbid process whose accumulation in the blood causes, in many cases, the so-called idiopathic epilepsy. Herter and Smith found in two hundred and thirty eight specimens of urine from thirty-one epileptics, at the time of convulsions, large amounts of the ethereal sulphates, indicating intestinal putrefaction, in 72 per cent. of the cases. We may, therefore, conclude that autointoxication, usually associated with chronic constipation, plays at least a part in the production of the paroxysm (Holt). Of the

limited number of patients coming under my observation, nearly all have required treatment for constipation and were of the lymphatic temperament. This latter condition Olmacher believes to be a basis for this disorder. In this type of persons we usually have indigestion and constipation, hence autointoxication, anæmia, and deficient oxidation.

Indigestion, gastric and intestinal, *per se*, in some cases causes the paroxysms (Delasuave). A case under my care some time since will illustrate this: A girl of six years, with a history of insanity and neurasthenia in the family, had recurrent convulsions. These were preceded by an aura of three or four hours' duration characterized by drowsiness and interrupted by apparent fright. An emetic during the aura prevented the paroxysm, as did vomiting, which supervened at times without the aid of an emetic. A sound sleep of several hours followed—all these being symptoms typical of epilepsy. In this case there was certainly the innate tendency manifested and the indigestion or the improper food furnished the excitant. With this cause removed, some other may in the future bring about a return of the paroxysms.

Haig believes uric acid to be the cause of epilepsy, and Krainsky was able to show in his experiments a ratio between the subnormal amount of uric acid excreted and the number and intensity of the convulsions, but since the convulsion could not be produced by the introduction of this substance into the system another cause must be found. This observer was then able by further research to demonstrate carbonate of ammonia in the blood of epileptics, and in comparatively large quantities in the status epilepticus. This substance injected into the blood will cause the paroxysm. It is formed at the expense of uric acid, and during the attack is broken up into urea and water, giving us the chemical equation:

$$H_2NCO, ONH_4 = H_2O + CON_2H_4.$$

We might further conclude that the convulsion is necessary to produce this change, since in those patients who sometimes suffer from psychic seizures (dumb fits) the mental disturbance following is much greater than after the ordinary convulsion, suggesting that the cause of the disturbance is not entirely removed. We can very readily conceive this to be a product of defective metabolism due to (1) fermentative disturbances in the alimentary tract and imperfect digestion, (2) imperfect oxidation, or (3) trophic disturbances over which the central nervous system has control. Among the causes in the first class, we would have teething, improper food, and indigestion, intestinal parasites, constipation, rickets, etc.; in the second, anæmia, with resulting affections, dysmenorrhœa and amenorrhœa, the puerperium, lymphatism, injuries, and obstructions affecting the respiratory apparatus, etc.; in the third, blows and falls upon the head, organic lesions, sunstroke, fright, mental stress, peripheral irritation, such as phimosis, irritation of the large nerve trunks, etc. Chronic poisoning by lead, opium, alcohol, or cocaine, and syphilitic and other toxins act in a measure in all three classes, yet each one in itself is a sufficient irritant to cause the convulsions.

Defibrinated blood taken from a patient during an epileptic attack and injected into a guinea pig causes convulsions and later death if a sufficient quantity is used (Krainsky). This result is not secured in all cases, from which we may conclude that, in some instances, there is either no toxin present or one which, affecting man, has no effect on the animal, or that the particular animal may have less tendency to convulsions and therefore withstands the irritant, as there are no doubt many individuals who, having all other conditions, but lacking the irritability, have no paroxysm.

The sight of a corpse, of blood, or the realization of immediate danger is not infrequently the cause of a seizure, and in certain cases the only cause, the stimulus in these cases being external. Whether or not circulatory disturbances in the cortex are produced by this is yet to be ascertained.

Diseases of the eyes and ears may produce epilepsy, and even a lump of hardened cerumen or other foreign body in the external auditory canal has caused this disorder (Randolph).

Nothing has been said of idiopathic epilepsy because the object of this paper is to suggest lines of investigation by which we may hope to remove this class from consideration. I offer, then, this definition, which seems to me to define the disease according to our present knowledge:

Definition.—Epilepsy is an affection of the nervous system, characterized by convulsions with or without the loss of consciousness. The reverse may be true, and there may be a simple giddiness or sensation. It is due to an irritability of the gray cells of the cerebral cortex, innate and probably hereditary, these cells being acted upon by some irritant, external or internal, physical or psychical.

Treatment.—Considering the basis of this disorder, inborn if not hereditary, we cannot hope to remove the tendency of the paroxysm to recur, other conditions favoring, any more than we can hope to render one inheriting a tuberculous diathesis immune to pulmonary disease. Since one attack renders an individual more liable to another, we must turn our attention to the prevention of the first paroxysm.

A considerable number of cases due to rickets, teething, and malnutrition beginning in infancy might be prevented by proper feeding (Gowers). Care during the acute infectious diseases, as well as proper diet at all times, will prevent the onset of infantile convulsions, and regular habits may prevent the onset of epilepsy through life.

When the disease has once begun, we have some irritant to deal with, physical or psychical, and to remove if possible. Peterson's advice is to find the cause and remove it. This is the very thing to do when practicable. In any case it is best to begin by treating the mind of the patient; make a profound impression. Perform some minor surgical operation where indicated, which will thus serve a twofold purpose. Make the patient hopeful; remove from him the occasions of anxiety; study the mind and meet the indications as far as possible.

General hygiene is of special importance. The necessity of regular habits cannot be too strongly emphasized—regular hours for eating, sleeping, physical and mental exercise, bathing, etc. Indeed, I believe there is no other disease in which the treatment will be aided so much by the patient living, as it were, by the clock. I had under my care a patient in whom the paroxysms were always brought on by the loss of several hours' sleep; these paroxysms, by the way, usually causing the dislocation of one or both shoulders, at first by violence, later by muscular contractions.

The great majority of epileptics have enormous appetites and many are excessive meat eaters. From my observation, I think the larger number of these sufferers should abstain from meat, if for no other reason than that meats are so difficult to prepare, at least are so rarely prepared properly. The proteid food should be supplied by eggs, milk, and the vegetable proteids. Certainly the diet

should be readily digestible, unstimulating, nutritious, and in quantity fully up to the needs of the body, but not excessive, and the food should be, I repeat, taken at regular hours. Not only is a stimulating diet to be forbidden, but also stimulating drinks, and especially alcohol in all forms, however light. Instances are recorded in which the paroxysms returned, after an absence of months, when a glass of wine had been taken.

Light exercise is to be recommended. The occupation of the epileptic should be one in which there is no danger in event of sudden onset of the spasm (among machinery, etc.); at the same time there should be employment both of mind and body sufficient to keep him in a healthy condition.

The bath, indispensable as it is both in health and disease, is of a special value in both the hygienic and therapeutic management of this malady. The cold bath, given morning or evening, or both, followed by friction to secure reaction, should be inseparably connected with the treatment of epilepsy and later with the life of the epileptic. It acts as a nerve and vascular sedative, keeps the skin active, thereby relieving the other excretory organs, and has a tonic influence on the whole system.

On entering upon any special treatment we must carefully examine the patient for any source of irritation and remove it. Eyes, ears, nose, and throat are to be given attention lest asthenopia, Ménière's disease, foreign bodies, or adenoid vegetations cause the convulsions and go unobserved. The history and habits are to be noted as well as the general condition of the patient, and whatever of surgical treatment is indicated should be given as early as possible.

Operations on the cortex are to be considered in certain cases of partial and traumatic epilepsy, but these are to be carefully selected. McCosh has formulated the following rules defining such cases, which are certainly safe to follow:

"1. Focal lesions or partial epilepsy, where convulsions are limited to a particular group of muscles.

"2. In epilepsy, general or partial, when the condition has followed or was apparently caused by traumatic depression.

"3. In many cases where partial epilepsy has followed head injury, even though there are no external indications, but in which signal symptoms indicate the brain area affected."

The epilepsy should not have existed more than two years (Sachs and Gerster) and even then statistics do not show the results of operations to be as favorable as one might expect. Removal of a portion of the cortex is justifiable when a certain group of muscles is involved, provided the center can be accurately located. Paralysis is the inevitable result, but is preferable to the spasm which is likely to become general. It must be noted, however, that the removal of a portion of the cortex, *e. g.* the hand center, in a case of partial epilepsy affecting the hand, and a resulting cure, does not prove that the excised cells were the sole cause of the convulsions, since hypersensitive cells in this center may have responded to irritation and stimulation from other sources.

Of the many operations not directed to the immediate or local cause is to be mentioned Kocher's operation, viz. trephining and removal of bone and dura, so that the bone will not reform, but the space fill with a soft yielding mass, furnishing, as it were, a safety valve for intracranial pressure. Jonesco, Chipault, and others resect the cervical sympathetic ganglia on the theory that the convulsion is due to cerebral anæmia, and Jaboulay stretches the pneumogastric nerve; both of which operations DaCosta pronounces "too profoundly scientific to be safe or successful." After all, it is to be remembered that any major or minor operation may interrupt the recurrent paroxysms for months and even years, when to our dismay they return. I think, in such cases, the operation has had some direct effect on the cause, but the tendency remains and the same or other conditions in the future give rise to the relapse.

Of all internal remedies for epilepsy the bromides are the most popular, probably because of their apparent and immediate benefits. The physiological action of the bromides in this disorder, I think we may conclude from the experiments of Rohrman, consists in a lowering of the activity of the motor cells, then, after large doses long continued, a degeneration of the protoplasmic processes of the cells of the cortical gray matter. Their irritability being thus decreased, and their power of discharge diminished, we would expect the paroxysms to be less in number and severity, if not absent, until those cells regain their former tone, when the paroxysms return. Is that not clinical experience? In some cases the bromides act better when salt is withdrawn from the food. A combination of bromides, with increasing doses of opium, is the latest recommended specific. In Meyer and Wickel's report, I would call special attention to the dietary and hydrotherapy to which no doubt much of their success is due; and the treatment will succeed in a limited number of cases, provided the habits of the patient are proper after the treatment has ceased.

The bromides, however, have the power to moderate the congestion, whatever may be the cause and wherever the location (Féré), and they are useful in all cases in just sufficient quantity to reduce the central irritability until the cause can be affected. To a patient with petit mal who had three paroxysms while consulting me, I gave twenty-grain doses of equal parts of bromides of potassium, sodium, and ammonium for two weeks, twice a day, and with attention to digestion, the use of laxatives, etc., and daily cold baths, there was no paroxysm for six months, while my instructions were being followed. As to which of the bromides should be used, it will be found that one salt or combination will give best results with one patient while another will act better on another. The action on the patient should decide this, though some favorite remedy is usually the one given.

Instead of depressing the system generally, the most perfect performance of functions of every organ and cell in the body should be secured, by organic stimulants, tonics, adjuvants, or correctives.

Digitalis has long been considered a valuable remedy in connection with bromides. Some believe it to have a specific effect on the central nerve cells, but further observation will probably show us that this drug affects epilepsy to just the extent that the disturbances of the kidneys, heart, or blood vessels enter as causal factors. The same may be said of adonis vernalis, nitroglycerin, and belladonna in accordance with their physiological action. Strychnine is of great value in debility (Peterson); arsenic and iron in anæmia. Gowers mentions cases cured by the administration of iron along with bromides.

The exhibition of digestive ferments and tonics to correct digestion along with proper diet is essential in the treatment of many cases. The much-lauded borax seems to me to be but a mild antiseptic and may be advantageously replaced by resorcin, salol, or β-napthol. Undoubtedly an occasional

course of some intestinal antiseptic will have a favorable influence in a great number of cases (Herter and Smith). My attention was first called to this fact by the administration to a confirmed epileptic of salol at intervals for three or four months. The disease under treatment being relieved, the patient was dismissed, but returned in a few days, saying he wanted more of the same medicine as he had had no "fits" since he began taking it. I have seen sufficiently good results in other instances to convince me of its value in selected cases. Intestinal antiseptics counteract greatly the incidental effects of the bromides (Féré). Intestinal parasites must be removed and the bowels kept clear by laxatives. An occasional dose of calomel is indispensable, since it not only clears the alimentary tract, but stimulates every gland connected with it. Finally, it must be said that epilepsy is too complex a disease to have a specific—the goal at which nearly all observers seem to aim, who, having found a remedy for a few cases, announce to the world a specific for the disorder. Each case should be considered by itself and be treated on its own merits.

Treatment of the Paroxysm.—The patient must learn to avoid anything that will bring on the paroxysm, and all places when there would be danger should a paroxysm occur. If the aura consists of some mental vision, an effort should be made to keep the mind from that subject (Gowers). Emetics during the aura will in some cases prevent the paroxysm. When the spasm begins in the extremities and extends over the body it may sometimes be checked by constriction above the part already affected. Inhalations of amyl nitrite, chloroform, or ether are useful in certain cases in aborting the spasm.

At the beginning of the spasm the patient should be placed in a reclining position so that no injury is sustained from a fall. Dislocation of the joints is quite a troublesome complication in some cases. The head should be extended and turned to one side to prevent the tongue from falling back into the throat and causing suffocation during the sterterous period. A cork or some similar body may well be slipped between the teeth to prevent biting of the tongue. If the attacks come on during the night the patient should be watched, since there are numerous instances of asphyxiation resulting from burying the face in the pillow. The sleep following the attack should be undisturbed, the patient being placed on a comfortable bed or couch.

During psychic seizures, good results may be obtained from agents directed toward lowering arterial tension, such as the mustard bath or atropine, or pilocarpine hypodermically. In the status epilepticus, the patient must be removed from all noise and excitement, best to a dark room. When he arouses he should speak very little if at all. He should be systematically fed, if necessary through a stomach tube (Féré). A lowering of blood pressure is also indicated here, and the above remedies will do well. In either case, the bromides are to be used as nervous sedatives.

In general practice, it is very difficult to treat the average epileptic, since it is practically impossible to control his habits and diet and give him sufficiently careful attention outside of an asylum or home. However enthusiastic your patient may be and desirous of relief, and even if success attends the first weeks of treatment, as months go by the enthusiasm wanes, and he returns to his old habits. The patient with petit mal referred to above was forbidden to eat meat, and although he had had no paroxysm for six months he came at the end of that time and said "he would rather eat meat and have fits," and he did both.

The treatment can, therefore, be satisfactorily given only in homes for epileptics, of which we have a number in New York, Pennsylvania, Ohio, and other States; but few of them provide medical attention for the malady for which they were established. Let us hope that the treatment of this disease will soon be on a strictly scientific basis, and that there will be a home or colony, rather than a hospital, open to every epileptic, where he can enjoy life, earn a living, and at the same time receive the proper medical attention.

Constipation in Infancy and Early Childhood.—According to J. M. Dunham, the causes of constipation in the earlier years of life can all be grouped under three general heads—a decrease in the secretion of the intestinal glands and the liver, muscular atony, and unsuitable diet. Hence, any rational treatment must begin with the removal of the exciting cause. Infants and young children should never be allowed to retire at night without having had a movement of the bowels. The second fact to be insisted on is a proper diet. Infants fed upon cow's milk usually receive, when diluted, one part cow's milk to one of water. This ordinarily means 2 per cent. fat and 2 per cent. casein, while the proper amount for an infant is 2 to 3 per cent. fat and 1 to 1.5 per cent. casein. Children in the second year require still different proportions of fat and casein. When they are suffering from constipation, cream and water should be added to the milk, so that they receive 4 per cent. fat and 3 per cent. casein. One usually finds children who have constipation partake very freely of starchy foods. If these are supplanted by beef juice and other meat juices, the salty constituents of these will help to overcome the habit of constipation. Fruits are usually of considerable service. Many drugs have been used to overcome the trouble under consideration. Many cases will yield readily to the use of powdered rhubarb and magnesia in teaspoonful doses. The aromatic syrup of rhubarb is also very good. In atonic conditions of the bowels, in doses of $\frac{1}{150}$ grain, strychnia sulphate twice a day is very good. The most satisfactory drug in my experience has been the fluid extract of cascara sagrada, used in the proper manner.—*Columbus Medical Journal.*

An Obstinate Surgical Case Treated by Koch's Tuberculin.—J. Ramsay reports the case of a man suffering from abscesses of the shoulder, swelling and pain of the knee-joint, and pain and swelling of the right side of the head. The shoulder condition was undoubtedly tuberculous, the cranial condition and the right knee probably so. Surgical treatment did not relieve. Injections of Koch's tuberculin (the "old form," not the more recent material) were commenced May 10, .05 m. being given daily, increased to .12 m. by June 1, and to .17 m. by June 19. Early in July the ulcer had soundly healed, and the patient was having m. ii. tuberculin injected daily. This dose was then given on alternate days for a fortnight, and on July 19 he had his last dose. The shoulder scar was sound; there was no pain; there was no swelling on the head; the knee was quiescent, and he was wearing a plaster-splint. September 3 he was discharged. The marked improvement dated from the time of the use of the tuberculin, and that at a bad time of the year. It was interesting to note how the reaction could only be induced by gradually increasing the dose, or by intermitting the larger doses.—*Intercolonial Medical Journal of Australasia.*

"Family" Diabetes with Sclerosis of the Pancreas.—R. Silvestrini and G. Nesti report the case of a man who died of diabetes, of which disease a brother, also, had died. The course of the disease was rapid, and classic in type. No symptom (excepting glycosuria) attracted

any attention to the pancreas. Histological examination, however, showed interstitial, intralobular, and interacinous pancreatitis with sclerosis, and almost total destruction of the pancreatic islands. It appears to be certain that there is some connection between some forms of pancreatitis and certain forms of diabetes. The special resistance of the islands of Langerhans in some morbid processes of the pancreas, and the localization of other morbid processes in them, together with the coincidence of their destruction in glycosuria, seem to indicate that they possess individuality and special functioning powers. But whether they are organs of secretion, as Languesse holds, or elaborate the glycolytic ferment, as Lepine asserts, or the substance which Chauveau and Kaufmann consider to possess a regulating power over the production of sugar of the liver, it is impossible to say.—*Rivista Critica di Clinica Medica.*

Acid-fast Bacilli in Gangrene.—Alberto Folli writes of a pseudo-tubercular bacillus whose presence under certain conditions may cause diagnostic errors. Frankel, Pappenheim, Rabinowitsch, and others have found these bacilli in cases of pulmonary gangrene. Laabs found them in deposits on the teeth, Möller in the sputum in a case of simple bronchial catarrh, Dietrich in a suppurating ovarian cyst, Karlinski in the nasal secretion in a case of tertiary syphilis. The writer himself found them a few years ago in the sputum of a youth who died presumably from tuberculosis. At the autopsy, gangrene of the lung was found, but no trace of tuberculosis. He reports three recent cases of grangrene in which acid-resisting pseudo-tubercular bacilli were found. The bacilli were not alike in every case, but were alike in resisting the decolorizing power of acids. The author does not deny the possibility of a cure in tuberculosis, but he thinks that in many cases diagnosed as such, the presence of these bacilli may have led to error.—*La Riforma Medica.*

Irradiations and Sensory Reflexes of the Sympathetic Nerve.—Max Buch holds that these irradiations and reflexes do not need to travel through the spinal cord or brain, but are produced through the agency of sympathetic ganglia, as in the case of motor and secretory reflexes. This opinion is confirmed by the fact that the radiations often occur in several directions, which would be difficult to understand were it not supposable that several hyperesthetic ganglia were irritated at the locality affected, and communicated this irritation to the brain; and by the fact that pain is often felt, not only at the source of the irradiation, but all along its course; as, for instance, from the superior hypogastric plexus, along the median line of the abdomen and thorax, up to the neck. The latter occurrence can be explained only on the supposition that the sympathetic nerve itself conducts the impulses. The sensory cerebrospinal nerves are largely composed of fibers of the sympathetic.—*Finska Läkaresällskapets Handlingar.*

Surgical Intervention in Cirrhosis of the Liver, with Especial Reference to Ligature of the Portal Vein and the Inferior Vena Cava.—G. Pascale holds that this method of relieving the impeded circulation in the branches of the vena cava by grafting of the gastroepiploic, development of the collateral cutaneous circulation, and anastomoses with the capillaries of the vena cava is rational and useful. It does not cure cirrhosis, but it relieves the obstructed circulation, and delays the alteration of the hepatitis cells. It induces a compensation for the ascites by creating better hydraulic conditions, by improving the perihepatics and chronic peritonitis, and the tonicity of the blood vessels. It increases the amount of urination from 200 to 800 gr. up to 2 liters a day. It increases the amount of urea excreted, and diminishes the uroerythrin. It also improves the general condition, as the patients increase in weight and in fat. The process is not equally successful in all cases, however.—*La Riforma Medica.*

Prolonged Septicæmic Infection.—F. V. Milward reports the case of a primipara suffering from a mammary abscess developing about a month after confinement. The case ran on to a septicæmic condition, finally terminating in pyæmia, the immediate cause of death being a pneumonia which did not appear until nearly six months after confinement. It was difficult to determine the origin of the sepsis, as the mammary abscess healed completely, and a subsequent blood-test did not reveal the characteristic pus-reaction. The microorganism found in the purulent deposits seemed to be of a low grade of virulence. Serum-injections were tried without avail, and various blood-counts made during the later stages of the case did not appear to throw any light upon what was finally determined to be the true condition.—*Birmingham Medical Review.*

The Liberation of Nascent Iodine in the Lungs as a Therapeutic Measure.—From a series of experiments conducted on the lungs of animals, A. Cavazzani and O. Spadoni conclude that the iodide of potassium can be decomposed in the lungs by means of insufflations of the vapor of turpentine, and that the nascent iodine thus liberated immediately forms new combinations with the organic elements which it meets. It is therefore logical to infer that in the treatment of pulmonary affections by means of the administration of preparations of iodine and turpentine inhalations, the favorable results are in part due to the development of nascent iodine in the affected tissues. Further researches are under way to ascertain whether iodine has more affinity for diseased pulmonary tissues in general, and tuberculous tissues in special, than for healthy tissues.—*La Riforma Medica.*

Clinical and Anatomico-Pathological Study of a Case of Chorea Minor.—Vincenzo Scarpini concludes from his study of this and other cases, that when chorea is the only cause of death, the post-mortem findings are not such as to explain the pathogenesis and the fatal issue. The clinical type of these cases consists in a rapid course, notable pyrexia, hallucinations and maniacal delirium, convulsions, and coma. The author thinks that it may be a special disease as yet unknown, and caused by the same infection as chorea. He is pursuing researches which point to the existence of functional choreas, caused by various microorganisms, with the prevalence of the common pyogenes. Among these is a rare form, whose typical course suggests the thought that it may be found to merit a place of its own in the chapter of neuropathies. —*La Riforma Medica.*

Subcutaneous Fracture of the Larynx.—Antenore Nizzoli reports a case of this rare lesion in a child of ten years, who fell heavily from a bicycle, striking his throat on the handle. Pain, aphonia, attacks of suffocation, and the raising of mucus and blood followed. Examination showed fracture of the larynx. Tracheotomy was refused by the family, and treatment consisted in immobilization of the head with extended neck, an ice bladder around the throat, and prohibition of solid food. Little by little, all symptoms improved; a little milk was given on the first, but no solid food until the seventh day. On the tenth day recovery was complete, a deviated Adam's apple and hoarseness being all that remained to testify to the grave injury received.—*La Riforma Medica.*

Appendicitis, and Abnormal Forms of Typhoid Fever.—Professor Zagari concludes that typhoid may be masked by the symptoms of appendicitis, and that circumscribed peritonitis of the ileocecal fossa is essential to the syndrome of appendicitis. In addition to the usual etiological factors of appendicitis (coli bacillary infection, calculus, foreign substances, etc.), to tuberculosis, and peritoneal neoplasms we must add typhoid fever. Before deciding upon operative measures in appendicitis, it will be well to exclude typhoid infection.—*La Riforma Medica.*

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THE YELLOW FEVER INSTITUTE OF THE MARINE HOSPITAL SERVICE.

THE most remarkable feature in the steps taken by Science to release the human race from the grip of disease, during the past twenty years, has been the successful discoveries made in the field of bacteriology. Investigation has laid bare the cause of tuberculosis, of diphtheria, to name but two of the maladies of which the secrets have been wrested, by the genius of man, and by painstaking research, and while the studies dealing with the cure of disease have not yielded like brilliant results, yet enough has been accomplished to justify the hope that much more may be attained in this direction, in the time to come.

The lesson, however, taught by recent researches would seem to be that the treatment of disease in the future will tend rather to prevention than cure. The work of such men as Koch, Laveran, Ross, and others has given an immense impetus to original research, and has convinced those nations which have hitherto neglected this branch of science that, if they wish to be in the van of progress, they must gird up their loins, and resolve to grudge neither pains nor money to reach this proud position.

The United States has been in the past, undoubtedly, one of the countries to miss her opportunities in this respect. Happily, there are signs that these sins of omission are to be atoned for, and the dawn of a new era for science may be looked for in America.

The investigations of the Medical Commission of the United States Army, with regard to yellow fever, as is well known, have met with a most satisfactory termination. The rôle of the mosquito in conveying this disease, according to the Commission's report, has been definitely decided, and the particular mosquito which alone is able to transmit the malady to man has been confidently isolated. The conclusion is also that the cause of the disease is unknown.

The medical and lay journals of this country have, within the past few years, devoted a considerable amount of time and space to a consideration of yellow fever in all its aspects, and especially have the investigations conducted in Cuba been followed with the greatest amount of interest by the medical profession and the general public.

The attitude of medical men in the United States with regard to the emphatic assertion of the United States Army's Commission, that the mosquito stegomyia fasciata is the sole agency whereby yellow fever can be conveyed to the human race, has been distinguished for the most part by a judicious impartiality. Perhaps the majority have accepted, without reserve, the findings of the Commission, and have acknowledged that the case against the mosquito has been proven once and for all. Nevertheless, there are still some investigators, who, while freely admitting that the work of the Commission has gone far toward settling the question, are yet of the opinion that the final solution will not be reached until some moot points have been elucidated.

Among this conservative band must be placed Surgeon-General Wyman, and the members of the United States Marine Hospital Service, who have labored long and ably to discover the cause and prevent the spread of yellow fever.

Since the report of the Army Commission has been published, the Marine Hospital Service has especially prosecuted its investigations, with reference to the findings of the Commission, both in the hygienic laboratory and by special orders transmitted to the officers assigned to the several fruit ports of Central America, to the medical officers in Cuba and Porto Rico, and to those at the Southern quarantine stations of the United States. Notwithstanding this activity, General Wyman has become alive to the fact that the work can be carried on in a more effective manner if the methods now in vogue are systematized, and consequently he has organized and established a yellow-fever institute in connection with the Marine Hospital Service. The members of this institute are to be the medical officers of the United States Marine Hospital Service, and others specially qualified. Each of the four sections will be under the direction of one of the medical officers on duty in the Marine Hospital Service Bureau; and said bureau officers, with the director of the hygienic laboratory, the Surgeon-General, and a Secretary, will constitute an executive board, which is to have general oversight of all the investigations.

The different sections into which the work of investigating is divided are as follows: History and Statics, Etiology, Transmission, Quarantine and Treatment. The topics considered in the transmission of yellow fever are: The transmission of the disease by the mosquito. Can any other mosquito than the stegomyia fasciata carry the infection? Is the progeny of the mosquito also infected? How many generations? Can the mosquito become infected by any other means than by sucking the blood of a patient sick with the disease? Can the mosquito become infected by contact with the dried-blood discharges or other infected materials upon fomites? Can the disease be transmitted by any other means than through the mosquito? Can the disease be conveyed by fomites, or through the air, soil or water? The geographical distribution of stegomyia fasciata in relation to the disease. Is the immunity enjoyed by certain localities due to the absence of this variety of mosquito? A study of the life and habits of stegomyia and allied species, especially with a view to their extermination.

These topics cover the whole ground, and their correct interpretation will provide the ultimate answer to the question of the transmission of yellow fever.

The organization of the institute reflects great

credit upon its projector, the admission of outside contributors, by invitation, being a particularly happy thought.

The move is assuredly one in the right direction; yellow fever is peculiarly the disease of this portion of the world, and it is fitting that to American scientific men should belong the honor of discovering its unsolved features, and of ridding the race of the scourge. Moreover, if General Wyman's scheme with regard to yellow fever prove successful, it will not only be the means of stimulating healthy emulation among American investigators, but will also pave the way for the establishment of similar institutions for the investigation of other important diseases.

The action of Congress in providing the necessary funds to conduct the work of the institute is a noteworthy and significant manifestation of the trend of public opinion. It is palpable, even to the comprehension of the man in the street, and the fact has been emphasized many times in the MEDICAL RECORD, that, if America or any other country is desirous of leading in matters scientific and incidentally in successfully fighting disease, the State must be open handed in supplying the sinews of war. By such means, Germany leads at the present time, but the United States with her superabundant riches should, in the course of a few years, be able to challenge this supremacy.

CONGRESS OF CRIMINOLOGY AT AMSTERDAM.

THE Fifth Congress of Criminal Anthropology was held in Amsterdam during the second week of September. It was largely attended, most of the prominent professors of the science being present. The star of the meeting was Professor Cesar Lombroso, who spoke at some length. In concluding his speech as reported in the New York *Tribune*, Lombroso brought up the subject of the remedies to be applied to the natural-born criminal.

Upon the second day of the meeting, as usually happens when they come together, the partisans and opponents of the Italian School clashed, MM. Garnier and Crocq championing the cause of those who believe that criminality is as often the result of accidental circumstances as of physical degeneration. M. Garnier said that statistics amply prove that the increase of crime among youths and girls was greater than among adults.

There are six times as many murders committed by persons, between the ages of sixteen and twenty, as by adults between thirty and thirty-five. This fact is attributed to the progress of alcoholism. The study of the etiology of crime should lead legislators to take hygienic measures against alcoholism.

Miss Robinowitch of New York made, perhaps, the most sensible proposal of any of the speakers; when protesting against the prevailing system of giving all school children a uniform education, without any regard to other conditions, she declared that a selection should be made among children and appropriate courses of instruction given to every category of physical beings.

The recent assassination of President McKinley has once again thoroughly aroused the attention of the civilized world to that part of the human race generally known as criminal degenerates, and has impressed upon the minds of those in authority the absolute necessity of grappling with the problem of how best to deal with them in a manner at once practical, prompt, and satisfactory.

The study of criminal anthropology, and of the means whereby to fight the individual of criminal proclivities, whether inherited or developed, will be perhaps found to be the most efficacious mode of freeing society from the curse of anarchy. This country at present is far behind Europe in matters relating to psychical research a reproach which it is hoped will be soon removed.

IODOPHILIA.

THE diagnosis of pneumonia at an early stage and of so-called central pneumonia at any stage is often a matter of no little difficulty, and it would naturally be a great gain to possess a ready and reliable means of recognition when the usual physical signs and symptoms are wanting. Such an expedient, it would appear, is to be found in the demonstration in the blood of leucocytes that exhibit a peculiar reaction to iodine and for which reason the name iodophilia has been given to it by Dr. Theodore Dunham (*Boston Medical and Surgical Journal*). The reaction, it is true, is not exclusive to pneumonia, occurring also in the presence of suppuration and of some other disorders, which, however, are readily recognizable by other means. Nevertheless, it may prove to be a useful aid in diagnosis. The reaction is developed by exposing a spontaneously dried blood-smear to the action of a solution containing three parts of potassium iodide and one part of iodine in one hundred parts of water, brought up to a syrupy consistency by the addition of lumps of gum arabic. Normally the lymphocytes and the eosinophile cells are not affected by the stain, while the polymorphonuclear neutrophiles either are unaffected or their protoplasm is tinged a faint pinkish or brownish color. Under some pathological conditions, however, the protoplasm of a certain proportion of the polymorphonuclear neutrophiles takes on a reddish-brown color, which in some is diffuse, in others forming a granular network, in still others appearing in large or small refractive granules varying from a light pink to a dark red. The condition seems to occur always in the presence of progressive suppuration and of progressive pneumonia and also of a few other morbid conditions. The intensity of the reaction seems to be closely related to the intensity of the suppurative process. The special value of the reaction in cases of pneumonia resides in the fact that it occurs before physical or other specially suggestive signs make their appearance. Iodophilia has been observed also in cases of various forms of profound blood-change, but these are not likely to be confounded with pneumonia.

SYPHILITIC FEVER.

SYPHILIS, like hysteria, appears in many guises, and unless one be constantly on his guard he is likely every now and then to suffer the mortification of mistake. The liability to error is augmented by reason of the long period of time covered by the disease, as well as by the protracted periods of latency, in which respect it differs radically from most other infectious diseases. Like the latter, however,

syphilis is attended with febrile elevations of temperature, the significance of which may be unappreciated even when other evidences of the disease are obvious, while the difficulty is immeasurably greater when such evidence is wanting. It should therefore be the rule in any case of obscure febrile character to look for signs of syphilis, such as periosteal thickening or visceral lesions. Any doubt which may exist will be cleared up by the results of antisyphilitic medication. In a recent communication, T. B. Futcher (New York *Medical Journal*, June 22, 1901) discusses syphilitic fever in an interesting manner and cites a number of illustrative cases. He points out that the symptom may appear a longer or shorter time before, or even coincidently with, the secondary cutaneous eruption or at any time during the course of the secondary or the tertiary stage. The fever is sometimes mild and continued, at other times remittent, and at still other times intermittent, and it is often preceded by a chill and followed by sweating. It may thus simulate typhoid or malarial fever, tuberculosis, rheumatism, or septic infection. Examination of the blood for the Gruber-Widal reaction and for the presence of malarial plasmodia and of bacteria, of the stools for typhoid bacilli, and of the sputa for tubercle bacilli, and finally the application of the therapeutic test, in addition to search for collateral physical signs, may, under such circumstances, be necessary to establish the diagnosis.

THE QUESTION OF FEEDING IN CASES OF DIPHTHERIA.

The administration of nourishment in the presence of acute disease, particularly in children, and more especially when food cannot for any reason be taken in the usual way, becomes at times a matter for most serious consideration. This problem not rarely presents itself for solution in cases of diphtheria, though by no means with the same frequency now as prior to the general employment of antitoxin. Under ordinary circumstances feeding by the mouth is to be preferred over all other methods, and milk will naturally constitute the principal article of food. Swallowing may, however, be rendered impossible on account of pain or faucial swelling, or regurgitation or vomiting may take place, or food gains entrance into the larynx in spite of every precaution, or attempts at feeding are attended with such struggling as to cause exhaustion. In the presence of any of these conditions some expedient must be resorted to to take the place of the usual method of administering food. Among the substitutes for mouth feeding are nasal feeding through a tube, rectal alimentation, and subcutaneous injection of sterile horse-serum. The indications for these are briefly discussed by R. G. Kirton in the *Lancet* of June 15, 1901. For nasal feeding a soft rubber tube is commonly employed, although occasionally a stiff tube becomes necessary. The food should be liquid, strained, warm, and administered in small quantities at intervals of four hours. Rectal feeding will have to be resorted to when mouth-feeding or nasal feeding does not meet the requirements of the case. A funnel and a rubber tube may be used for the purpose, the latter being introduced as high up into the rectum as possible. Here also the food should be liquid, strained, warmed, and administered in small amounts at intervals of four hours. When a sufficient quantity of food cannot be administered by the mouth, through the nasal tube, or by way of the rectum, recourse may be had to subcutaneous injection of sterile horse-serum, from twenty to forty c.c. being thrown daily into the loose subcutaneous tissues of the trunk.

THE HEALTH OF THE KING OF ENGLAND.

The newspapers in Copenhagen, a place where many rumors concerning royalty emanate, recently received the reports that King Edward is suffering from cancer of the tongue. A despatch from London also says that a story is in circulation among the clubs, purporting to come from a titled member of the late Queen Victoria's household, giving color to the cancer story and saying that court circles are discussing the possibility of no coronation next year. It is said also that he has been undergoing local treatment of the throat by spraying for several months. The Medical Record is pleased to state, however, that it received, as late as Wednesday of this week, from a most trustworthy source, the following cablegram: "The King is and has been quite well."

It is safe, then, to assume that the cancer story is a myth, as are all other accounts of his failing health.

News of the Week.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 5, 1901:

	Cases.	Deaths.
Measles	48	6
Diphtheria and croup	181	31
Scarlet fever	85	5
Smallpox	7	2
Chickenpox	6	..
Tuberculosis	225	134
Typhoid fever	143	15
Cerebrospinal meningitis	..	6

The Medical Society of the County of New York will give a reception to the Medical Society of the State of New York, at the Academy of Medicine, on the evening of Wednesday, October 16. Personal invitations will not be sent out, but it is hoped that as many members as possible will be present.

A McKinley Memorial.—It is proposed by Dr. S. A. Knopf of this city that a seaside sanatorium, with a pavilion for every State, for the treatment of American children suffering from tuberculous and scrofulous diseases, or predisposed to consumption, be established in memory of our lamented late President. The idea is an excellent one, and should forcibly appeal to the charitable public.

A Bill for Professional Services.—A Pittsburg physician has put in a bill of $5,240 against the estate of a deceased millionaire for professional services during a period of five months. His charges were $25 each for visits at his patient's residence, and $100 a day for accompanying him on a three weeks' visit to Atlantic City.

Vaccination of Italians.—The Board of Health of this city has made the suggestion to employers of Italian laborers that they demand as a requisite to employment the possession of a certificate of vaccination. Many cases of smallpox occur among

Italians, and the health officials say that persons of this nationality will not voluntarily submit to vaccination, and so are often instrumental in spreading the disease.

University of Pennsylvania.—Dr. M. Howard Fussell has been elected Assistant Professor of Medicine, Dr. Thos. R. Neilson, Assistant Clinical Professor of Genito-Urinary Diseases, and Dr. Elisha H. Gregory, Jr., Demonstrator of Anatomy. Dr. H. C. Wood has resigned as Clinical Professor of Nervous Diseases, but remains Professor of Materia Medica, Pharmacy, and General Therapeutics, although he has been granted leave of absence for one year on account of impaired health. In his absence, Dr. F. A. Packard will deliver the lectures on "Applied Therapeutics," and Dr. H. C. Wood, Jr., the lectures on "The Physiological Action of Drugs."

A Systematic Study of Yellow Fever is about to be undertaken by the Marine Hospital Service, the incentive thereto being the discoveries made by the army medical officers in Cuba, and the demands, based upon these discoveries, made in the interests of commerce for a relaxation of the existing quarantine regulations. For the better carrying out of the desired investigations, an institute will be established for the purpose of collecting all facts concerning yellow fever, to designate the specific lines of inquiries to be made, and to make the same. The work will be divided among four sections, on history and statistics, etiology, transmission, and quarantine and treatment, respectively. The following are the topics to be considered by each of the sections:

A. History and Statistics: 1. The early history of the disease. 2. Relation to the slave trade. 3. History of recent epidemics (since 1850). 4. Relation to modern sanitation, especially paving, drainage, etc., in cities. 5. Why did not New Orleans have it in early times while Boston did? 6. Mortality statistics. 7. Maps showing yellow-fever zones. 8. Maps showing the infectible territory in the United States.

B. Etiology: 1. The cause of the disease.

C. Transmission: 1. The transmission of the disease by the mosquito. 2. Can any other mosquito than the stegomyia fasciata carry the infection? 3. Is the progeny of the mosquito also infected? 4. How many generations? 5. Can the mosquito become infected by any other means than by sucking the blood of a patient sick with the disease? 6. Can the mosquito become infected by contact with the dried-blood discharges or other infected materials upon fomites? 7. Can the disease be transmitted by any other means than through the mosquito? 8. Can the disease be conveyed by fomites, or through the air, soil, or water? 9. The geographical distribution of stegomyia fasciata in relation to the disease. 10. Is the immunity enjoyed by certain localities due to the absence of this variety of mosquito? 11. A study of the life and habits of the stegomyia and allied species, especially with a view to their extermination.

D. Quarantine and Treatment: 1. Is disinfection of baggage necessary to prevent the spread of the disease? 2. Is any treatment of baggage necessary? 3. Mosquitos in baggage, in merchandise, in cars, in ships. 4. Treatment of the patient. 5. Guards against mosquito bites. 6. Immunity of individuals, of races. 7. Individual prophylaxis. 8. Communal prophylaxis—sanitation.

Officers of the State Board of Dental Examiners.—At the annual meeting of the New York State Board of Dental Examiners, held October 5, at the Regents' office, Albany, the following officers were elected for the present academic year: *President*, Dr. S. B. Palmer of Syracuse; *Secretary*, Dr. Frank French of Rochester; *Editor*, Dr. William Carr of New York.

A Request for Better Wages at Bellevue Hospital.—The New York City Board of Apportionment recently received from the State Charities Aid Association a request for larger salaries in the lower grade of service in Bellevue Hospital, where the female helpers now receive only $12 a month. If better wages were paid and better living quarters provided, the association urged, Bellevue would have as good service as is now had at the first-class private hospitals in the city.

Losses in the British Army in South Africa.—The latest official report, issued a week ago in London, states that the British casualties in South Africa, from the beginning of the war to September 30, were 548 officers and 5,823 men killed in action, and 1,529 officers and 28,032 men wounded; 365 officers and 9,177 men are classified as missing or prisoners, of whom 354 officers and 8,471 men have either been released or have escaped. The deaths from disease and accidents numbered 10,738.

Veterinary Surgeons Needed in the Public Services.—Complaint is made of great difficulty in getting veterinarians qualified to do the work of food and animal inspection for the Bureau of Animal Industry in the Agricultural Department. One reason alleged for this scarcity is that the British government has been a large purchaser of horses and mules for use in the Boer war, and has employed many veterinarians at good salaries to see that the horses purchased were sound.

Rabies in Pennsylvania.—One of the hounds of the West Chester (Pa.) Hunt developed hydrophobia a few days ago, and bit thirty-five other dogs in the kennel. The dog is known to have been suffering from genuine rabies, and it is believed every one of the bitten hounds will have to be killed.

A Conference of Sanitary Officers of the State of New York will be held at Albany on October 24 and 25. It will commence with an evening session on the 24th, which will be held in the Assembly Chamber of the Capitol, and it is expected that the meeting will be addressed by Governor Odell. The next day, there will be a morning and afternoon session, and the conference will close with a banquet in the evening at the Hotel Ten Eyck. The object of this gathering is to afford an opportunity for meeting and making the personal acquaintance of the local and the central health authorities, and in a personal conference to present, by addresses and discussions, subjects and matters which are of practical and immediate interest to boards of health and their executive officers. The discussion of practical sanitary matters is one of the chief objects of the conference, and topics for this are chosen in which, in the advisory capacity of the central department, it has been found that the executive officers of the local boards have asked for assistance. More general subjects also will be discussed, and those which are in the way of future work in sanitary affairs that are opening up for health boards in general or those which for many local boards are soon to demand attention. A partial program of the meeting, which has been prepared and is being sent out, includes the following topics: "Testing the Eyes of School Children," by Dr. P. A. Callan of the New York Eye and Ear Infirmary; "Sewage Disposal for Cities and Villages," by Professor O. H. Landreth, School of Engineering, Union College, and further discussed by J. J. R. Croes, President of the American Society of Civil Engineers; "The Attitude of Health Officers Toward Tuberculosis in the Smaller Cities and Towns,"

by Professor Hermann M. Biggs of the Health Department of the City of New York; "Milk Supply of Cities and Villages," by Dr. Ernest Wende, Health Commissioner of Buffalo; "Some Essentials of a Registration System," by Professor Walter F. Willcox of the U. S. Census Office; "The Diagnosis of the Exanthemata," by Dr. F. C. Curtis, Professor of Dermatology in the Albany Medical College. The new Serum Laboratory and the Bureau of Pathology will be described by Dr. H. D. Pease and Dr. George Blumer, who are in charge of these new departments. There will also be an exhibition of disinfecting apparatus and their use demonstrated. Sanitary conventions have been held in other States, but this is the first general meeting of this sort which has been called together by the State Department of Health of this State in its twenty years of existence. The Commissioner of Health purposes to have such a meeting annually hereafter if the response to the present invitation and the attendance upon it are such as to warrant it in the future.

Opposition to Women Medical Students in Germany.—The professors of anatomy, chemistry, and physics at the University of Königsberg have excluded women students from their lectures, with the result that women cannot study medicine regularly at that institution.

Dr. W. D. Shelby, Captain and Assistant Surgeon of the United States Army in the Philippines, has given Hanover (Ind.) College a fund, from the proceeds of which a medal will be struck annually for the best work in scientific studies.

Advance of the Plague.—Reports to the Marine Hospital Service from all parts of the world show a continued spread of the plague. In British East India, during the week ended August 2 last, 2,622 new plague cases were reported and 1,930 deaths were recorded in the Bombay presidency, an increase of more than 200 deaths over the previous week. There were 136 plague deaths in the city of Bombay that week, and many others suspected. In Egypt, the total number of bubonic-plague cases from April 7 to September 2 was 132, with 60 deaths. In Queensland the destruction of rats continues, but the official report shows thirty-two plague cases, including ten deaths from February 28 to July 6. In China, at the port and town of Swatau and neighboring districts, the plague is steadily decreasing.

Legal Decision on a Question of Pathology.—A man in Rochester who suffered from ivy poisoning, which confined him to the house for three weeks, made a claim against an accident insurance company for compensation. The company alleged that the man was not wholly disabled, and that, even if he were, he could not recover more than one-tenth, by reason of the provisions set forth in the face of the policy, in which it is held that for any poison absorbed or inhaled the company's liability shall be one-tenth of what it would otherwise be. Regarding the question of total disability, the court decided that a man whose features were so distorted that he was unrecognizable, and who suffered pain and irritation in the skin from the effects of the rhus poison, was plainly suffering from total disability. On the second point the judge sustained the answer of the company. He said that "there was no proof that the contact with the plant was violent, within the meaning of that word. Violence imports something more than a mere touch. It means great physical force. Nothing of that kind occurred here. The plaintiff's body came in contact with a poisonous plant, and the pores of his skin sucked in or absorbed the virus exuding from the leaves. This is just what occurred, nothing more nor less." And on the strength of this belief he decided that the sufferer could claim only one-tenth of the amount which would have been due him for total disability resulting from actual violence.

An Irate "Coverer."—A "medical institute" in this city employed a registered physician to act for it when any inquisitive person questioned the legality of its therapeutic efforts. A few days ago, the coverer's wages were withheld for some reason, and this aroused his ire to such a degree that he seized a hammer and broke every mirror, every piece of furniture, and all the bric-à-brac in the office of the concern. The police were called in, the angry man was locked up, and the treasurer of the company is on the lookout for a new medical sponsor for the concern.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the Navy, week ending October 5, 1901: September 30—Surgeon P. Leach, ordered to recruiting duty at Port Royal, S. C. October 1—Surgeon P. Leach, order to recruiting duty at Port Royal, S. C., revoked. October 2—Assistant Surgeon E. J. Grow, order to proceed home, upon detachment from the *Castine*, modified; ordered to the New York Navy Yard. October 3—Medical Director J. C. Ayers, detached from the Naval Hospital, Chelsea, Mass., October 15, and ordered home and to wait orders. Medical Director D. Dickinson, detached from duty on medical examining board at Washington, D. C., October 10, and ordered to duty in charge of the Naval Hospital, Chelsea, Mass., October 15. Surgeon S. H. Griffith, detached from duty at the Pan-American Exposition, Buffalo, N. Y., October 9, and ordered to duty as a member of the medical examining board, Washington, October 10. Surgeon H. L. Law, retired, ordered to duty at Buffalo, N. Y., in charge of the exhibit of the Bureau of Medicine and Surgery at the Pan-American Exposition, and as attending medical officer at the naval recruiting rendezvous, October 9. Assistant Surgeon D. B. Kerr, detached from the *Culgoa*, when put out of commission, and ordered home and to wait orders.

A Strange Proceeding in St. Louis.—Dr. Louis Knapp of St. Louis has been, at his own request, shut up with a Chinese leper in the isolation hospital, and will there remain, so the newspapers announce, until the man dies. The leprosy hospital is a frame cottage of three rooms, within sight of the smallpox station. The middle room is the kitchen, and the other two are for the doctor and leper. The food and such other articles as may be daily needed will be placed under a temporary shelter half-way between the smallpox station and the leper ward by an attendant, and later taken to his quarters by Dr. Knapp, where he will prepare the food for himself and patient. The physician is said to have left a wife and family to live on his salary of $50 a month, while he has immured himself with this leper in order to study his disease. The health commissioner, it is said, though one can scarcely believe it, insisted upon this complete and absolute isolation, through fear of the spread of the disease to others were the medical attendant permitted to visit his family after having been with the leper. It is strange that an educated physician should be willing to make such a sacrifice for the sake of studying a disease which he could study just as well elsewhere, without deserting his family, especially as the probabilities are that he will learn nothing that is not already known and contained in every modern work on leprosy. It is strange, also, that a health com-

missioner, in the year 1901, should look upon the disease as so contagious as to render such a sacrifice necessary on the part of the would-be student. Indeed, the whole story is absurd and almost incredible.

Dr. Hamilton Williams, a coroner's physician of this city, has been removed from office on charges of discourtesy and the collection of illegal fees, preferred by Coroner Zucca. Dr. Williams denies the truth of the charges, and disputes the right of the coroner to act as both accuser and judge. He intends to make a fight in the courts for reinstatement.

A New Consumption Cure is announced from Evansville, Ind. The treatment, devised by Dr. Peckinpaugh of Mount Vernon, Ind., consists in the inhalation of smoke from the burning of various kinds of leaves, the fumes of which are believed to possess marked bactericidal properties.

College of Physicians of Philadelphia.—At a stated meeting held October 2, Dr. George McClellan read a paper entitled "An Analysis of the Character of Dr. Physick." A portrait of Dr. Paul B. Goddard, a former Fellow, was presented.

Infectious Diseases in Philadelphia.—The Philadelphia Bureau of Health reports for the month of September 407 cases of typhoid fever, 234 of diphtheria, 214 of pulmonary tuberculosis, 152 of scarlet fever, and 116 of smallpox.

Increased Hospital Accommodation.—The trustees of St. Luke's Hospital in this city have ordered plans to be drawn for a new pavilion for private patients at the northwest corner of the grounds at One Hundred and Thirteenth Street and Morningside Avenue. The pavilion is to cost $300,000. It is reported that Mr. Adrian Iselin, who recently built a home for hospital convalescents on his land near Yonkers Park, is preparing plans for another building. The new structure will be a frame one and will cost about $50,000.

Anti-Vaccination Agitation.—The Board of Education of Philadelphia having decided that, owing to the prevalence of smallpox, all children who, on examination, do not bear marks of having been successfully vaccinated, shall be revaccinated or excluded from school, a body known as the Anti-Compulsory Vaccination Society threatens to take legal steps to restrain the board from carrying out its purpose, contending that the board is exceeding its authority, the Act of Assembly stipulating only that before being admitted to school the children shall produce physicians' certificates of successful vaccination. It is estimated that from 15 to 20 per cent. of the pupils in the schools have not been successfully vaccinated.

The "Nordiskt Medicinskt Arkiv," a Norwegian medical quarterly, has abandoned the use of Norwegian, the original contributions being now published in English, French, or German, chiefly the latter. The contributors will be, as before, Scandinavian medical men (Danish, Swedish, Norwegian, and Finnish), but a staff translator will put their articles in either of the three languages mentioned which they may select, if they have not themselves already written in that tongue. There will hereafter be two parts each quarter, one containing medical, the other surgical, subjects. Dr. Axel Key retains the editorial management.

The Mortality in New York State.—There were 10,999 deaths in this State during August, according to the monthly bulletin of vital statistics issued by the State Board of Health. The number of deaths was 1,300 less than in July, when the rate was excessive. The only material decrease was, however, in deaths from accident and violence, to which heat stroke added 1,300 deaths. In August the heat was the cause of very few deaths. There were five deaths from lightning. Smallpox caused forty deaths, and pneumonia 280. There was an increase in the deaths from typhoid fever, diphtheria, and pertussis.

Obituary Notes.—Dr. James W. Dunphy died at the home of his parents in this city, on October 1, of pulmonary tuberculosis. He was twenty-six years old, and was graduated from the Medical Department of Columbia University in 1894. He was connected with St. Francis's Hospital for three years, and was also visiting surgeon of St. Joseph's Hospital for Consumptives in the Borough of the Bronx. Four years ago he went to Saranac Lake, in the Adirondacks, and lived there until a month ago, when he came home to die.

Dr. John Eliot Woodbridge of Cleveland, Ohio, died of cardiac disease at Bad Nauheim on August 31, in the fifty-sixth year of his age. He was a graduate of the Medical Department of the University of Wooster, Cleveland, in the class of 1866. He was well known through his advocacy of the so-called Woodbridge treatment of typhoid fever, a combination of the eliminative and antiseptic methods, through which he claimed excellent results. During the Spanish War he served as surgeon of volunteers, being stationed at Fort Meyer.

Dr. Samuel J. Jones, for twenty-five years Professor of Ophthalmology and Otology at the Northwestern University, died in Chicago of stomach trouble, aged sixty-five years. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1860. After graduation, he served for a time as surgeon in the U. S. Navy. He was a member of the American Academy of Medicine, of the American Medical Association, and of many other medical societies, both special and general. He was attending surgeon in the eye and ear department of St. Luke's Hospital. He was instrumental, a year or two ago, in securing the passage, by the Chicago Council, of an ordinance designed to lessen the city noises.

Dr. E. W. McCleve of Collinsville, Conn., was drowned at Jackman, Me., on October 1. He was graduated in medicine in this city, and afterward spent a year in special study in France and Germany. He was thirty-five years old.

Testimonial Banquet to Dr. N. S. Davis, Sr.—Dr. N. S. Davis, Sr., was tendered a testimonial banquet, October 5, 1901, at the Auditorium Hotel, Chicago. It is estimated that there were three hundred physicians in attendance from the city and various parts of the country.

Dr. Edward F. Wells made a speech in which he presented a loving-cup to Dr. Davis. This beautiful cup, of Grecian design, was, in its lines and proportions, a model of simple, vigorous dignity, and was selected as being peculiarly emblematic of the character and career of the distinguished guest. Engraved upon one side was an excellent likeness of Dr. Davis; upon the other was the leaf of victory, and beneath it the inscription, "*Palmam qui meruit ferat*"—let him who has won it bear the palm; and beneath this, "Pioneer in local and national medical organizations, and in graded medical instruction," and upon the other was this memorial tribute: "Presented to Nathan Smith Davis, A.M., M.D., LL.D., in recognition of his long and distinguished services to medicine, in its every field of usefulness, by the members of that profession which he has so conspicuously adorned, and to whose shield he has given an added luster."

Dr. Davis was received with great enthusiam, and, in accepting the loving-cup, expressed his cordial thanks for the demonstration of kindness.

Progress of Medical Science.

The Boston Medical and Surgical Journal, October 3, 1901.

Infantile Scurvy.—Edward L. Peirson considers this a fairly common disease, which, unlike rachitis, prevails in well-to-do families, where the hygienic surroundings are good. Proprietary foods and absence of fresh milk seem to be predisposing causes at times, but are not always factors in the case. The earliest symptom is swelling of the lower end of the diaphysis of the femur, with tenderness, but with neither heat nor redness. The other symptoms are anæmia and stomatitis ulcerosa. Hemorrhage may occur from the bowels or nose, into the skin, or into any of the internal organs. The child lies with its legs drawn up, dreading to be touched. Treatment consists in giving modified uncooked milk, fresh beef juice, and one-half to one lemon or orange daily. Iron, etc., should be given for the debility and the anæmia.

A Case of Myeloma of the Spine, with Compression of the Cord.—John Jenks Thomas reports the fourth case to be put on record in this country. The patient, a man of thirty years, suffered from general paresis of the legs with other spinal symptoms, with pain in the back, between the shoulders, aggravated by motion and diminished by repose. Operation revealed a tumor in the medulla of the spinous process and lamina of the fourth dorsal vertebra. As much of the growth as could be curetted out was removed. There was complete relief of the paraplegia. The administration of bone marrow and the injection of Coley's toxins resulted in apparently marked improvement in the condition of the bones and of the patient. An interesting feature of the case was the presence of the disassociation of disturbance of the temperature, pain, and touch sensations, such as is seen in syringomyelia, in a case of pressure on the cord from without.

Rachitis.—Arthur R. Crandell gives the symptomatology of this disease in full. The premonitory signs, such as head-sweating, irritability, restlessness at night, prolonged gastroenteric disturbances, and delayed dentition excite suspicion; the detection of the rosary and the enlarged epiphyses render the diagnosis certain. In the treatment, a proper percentage of fats and proteids in the food must be given, and improper elements in the diet eliminated. Large amounts of light and air must be secured, seashore visits or residence must be had if possible, and bathing and massage are useful. Drugs are of minor importance, but cream or cod-liver oil is sometimes needed. Many deformities may be prevented if their possible occurrence is borne in mind. Creeping, walking, and sitting up may cause bending of the softened bones, and should be allowed guardedly until the bones begin to harden. Manipulation may reduce the lesser deformities of the extremities while the bones are feeble. Deformities that are severe require orthopedic treatment.

New York Medical Journal, October 5, 1901

Social Aspects of Dermatology.—In the Fourth Lane Lecture, Malcolm Morris speaks of the bacterial diseases of the skin. The various topics discussed are impetigo contagiosa, boils, carbuncles, anthrax, sycosis, canities, alopecia, and acne, with the addition of paragraphs on affections peculiar to the tropics, such as the diseases caused by the chigoe, Guinea worm, etc. Insistence is laid on the necessity for an improvement in the hygiene of the barber shop and for the more general establishment of laboratories in institutions devoted to the treatment of skin diseases.

Acute Amygdalitis; Its Treatment by the Local Application of the Tincture of Iodine.—This application of iodine is advocated by S. Floersheim, who claims for it the following advantages: 1. The tincture of iodine is the most powerful antiphlogistic in inflammations of the throat. 2. Its action is very rapid, relief being often experienced within five minutes. 3. It has relieved the intense inflammation completely when all other throat remedies had absolutely failed to benefit. 4. Its use in sixty-eight cases of acute amygdalitis has been followed by marked benefit in every case. 5. The method of application is simple.

The Influence of Climate upon Nervous Diseases Considered from a Physiological Standpoint.—F. Savary Pearce calls attention to the effect of decreased atmospheric pressure producing a freer circulation in the surface of the body as an important physical and physiological fact in studying the effect of altitude on disease. In neurasthenia, altitudes above 2,000 feet should be avoided, and also high winds. Hysterical subjects also do badly at high altitudes, on account of increased excitability caused by overactivity in the superficial circulation. Both classes of patients are also unfavorably affected in regions where there is a continued prevalence of fogs with low atmospheric pressure. On the other hand, melancholia cases usually do well in high altitudes; for they need increased circulatory activity with correspondingly increased metabolism. Choreic cases do best at a medium altitude, while patients suffering from insomnia are benefited by a sea voyage. Patients with idiopathic epilepsy, if living at an altitude, are apt to improve by coming down to the sea level. Disease of the central nervous system is benefited by a residence in mountainous regions where the air is distinctly dry, while in chronic peripheral neuritis the ideal conditions are found in a region with a dry climate, little or no wind, and at a lesser altitude where the tendency would be to favor the blood current toward the interior of the body.

Medical News, October 5, 1901.

Lager Beer in Acute Vomiting.—Louis Kolipinski advocates the use of lager beer in cases of acute vomiting. The dark beer is preferable to the light. His attention was attracted to this remedy by a patient who evinced a craving for it. The results of its administration were most happy. The after-effects are soporific. It is certain in its action, and intolerance of it is rarely shown. The best results are obtained in women and in those who have not the habit of drinking alcohol. Small doses meet with the best results, *e. g.* a wineglass repeated in half an hour.

Conservative Operations upon the Uterine Adnexa.—Henry T. Byford believes that cases of severe sepsis of the uterine appendages, where there are much pus, elevation of temperature, frequent acute attacks, and complete disorganization of the tubes and ovaries, cannot be treated conservatively, as a rule. But a large majority of the remaining cases admit of the removal of diseased tissue only, without interference with the sexual functions or vigor. The abdominal method gives good results more frequently than the vaginal. Both the immediate and remote results of his conservative operations have been good.

Anæsthesia and Analgesia; a Study of Drug Action and Modern Methods.—William Seagrove Magill defines analgesia as the inability to receive a pain-impression. Anæsthesia would mean a general intoxication of the body, a state of unconsciousness, while the vital reflexes of organic life remain unimpaired; the tissue life and function meanwhile should be affected as slightly as possible outside of the desired period of unconsciousness. The writer then discusses the principal anæsthetics from the chemical standpoint. Safety in the use of any anæsthetic depends far more on the experience and knowledge of the anæsthetizer than on the method or mechanical device used, whatever that may be. The great danger from chloroform is that of primary cardiac syncope. There is little or none of this danger from the use of ether, but the progressive depression of this latter drug is its disadvantage. The final arrest of respiration following this depression occurs undoubtedly more often and is more inevitable than the fatal secondary effects of chloroform. To avoid the initial cerebral excitement caused by chloroform, various expedients have been suggested. The writer advocates the use of ethyl bromide, which must be absolutely pure. In this state it is almost perfectly safe, and after primary anæsthesia has been induced, it may be replaced by chloroform, which may be continued in minute doses, a teaspoonful (in drop doses) being all that is generally necessary for anæsthesia of an hour's duration.

Journal of the American Medical Association, Oct. 5, 1901.

Dangerous Hemorrhage after the Removal of Enlarged Tonsils and Adenoids, with Report of a Case.—A. C. Getchell operated on a delicate-looking girl of five years under ether anæsthesia. Hemorrhage followed two hours later and was repeated at intervals, but under the usual restorative measures, including salt solution under the skin, the child was saved. The history of the case does not make it clear as to the exact source of the bleeding, as no bleeding points could be found in the throat. Getchell advises the postponement of removal of adenoids if a large amount of blood is lost in a preceding tonsillotomy.

A Satisfactory Operation for Certain Cases of Retroversion of the Uterus.—The operation is thus described by J. C. Webster: The patient being in the Trendelenburg position, the abdomen is opened, adhesions are separated, and other pathologic conditions which may be present attended to. The fundus of the uterus is elevated and pushed forward. A small hole is then made through the broad ligament on one side under the utero-ovarian ligament near the uterus. Through it a pair of forceps is passed from behind, in order to grasp the round ligament

about an inch from its uterine end. The latter is then pulled through the broad ligament in a double fold. It is carried across the back of the uterus a short distance above the uterosacral ligaments, and is then stitched in this position with chromic catgut. A similar procedure is carried out on the other side, the second round ligament being stitched to the back of the uterus above or below the first and crossing it. The amount or overlapping of the round ligaments depends upon their length and laxity. Each ligament is also stitched to the edge of the hole in the broad ligament. As a result of this operation, the round ligaments are much shortened, and through their new attachment to the posterior and lower part of the uterus act both in elevating the uterus as a whole and in preventing it from returning to its retroverted position. The ovaries are also elevated. No raw surface is produced on which adhesions can form. No new ligament is formed to act as a possible cause of intestinal obstruction, and of trouble in pregnancy and labor. The normal range of uterine movements is not materially altered. There is no possibility of any interference with pregnancy and labor.

Symptomatology of Cerebral Hemorrhage.—F. Savary Pearce thus summarizes the symptoms of this condition, which, in its mildest form, may present only motor aphasia, or cause only an effort when movement is necessary, without any sensory phenomena and without paralysis. But if the hemorrhage has been massive, the patient will, of course, be found comatose. The conjugate deviation of the eyes will occur toward the affected side, the pupils will be dilated, generally one more than the other, and will be only slightly responsive to light stimuli. The reflexes will be found abolished on the affected side at this stage. At the end of a few hours, the knee-jerk and other reflexes, which have been abolished, now return and become increased from day to day, due to irritation of the motor tract from the cerebral lesion, whether it be a hemorrhage, embolus, or thrombus. The patient will breathe heavily; perhaps the Cheyne-Stokes style of respiration will prevail. The temperature will be found increased both on the surface, where the affected side of the body shows an increase of $\frac{2}{5}$ or $\frac{3}{5}$ above the opposite side, the degree of caloric developed being 102 to 103 in the axilla, and slightly above this when taken under the tongue or in the rectum. The patient generally lies supine, the paralyzed extremities may be hyperesthetic, and within an hour or so when consciousness partially returns—if the case progresses favorably—the patient will frequently brush away the clothing or any irritating body, as a house fly, which may light on the paretic member. If the patient is to recover, the temperature drops at the end of four or six hours; the pulse which had been slow and full will become softer, and will increase in frequency to slightly above the normal. Flushing and cyanosis of the face will then disappear, and the mentality be restored gradually, although the mental anxiety and lacrymation may be shown at once in the physiognomy of the patient, aside from any paralysis in the face or lachrymal apparatus. This sudden change of expression of the individual is an interesting and sad indicator of the havoc played by extensive organic rupture in the brain mass. There usually is a secondary rise of temperature even in a favorable case, due, no doubt, to irritation of the heat-regulating mechanism; finally, after six or seven days, the temperature will remain irregular and hovering about the normal line.

American Medicine, October 5, 1901.

The Efficacy of Quarantine and Fumigation in the Prevention of the Spread of Yellow Fever, Without Molesting the Mosquito.—Joseph Waldauer advocates quarantine that will permit commercial intercourse with as little interruption as possible, commensurate with safety. He cites a number of instances, one of which is as follows: In 1897, yellow fever had infected the eastern part of Clinton, Miss. A cordon was placed about the infected center, and not a single case appeared outside of this boundary. The mosquito was there, but seven-eighths of the population escaped the disease. He reports instances in which he believes fomites are alone responsible for the existence of the disease.

The Heredity of Appendicitis.—F. Forchheimer states that in the cases of appendicitis under consideration ethnological causes can be excluded. Gastrointestinal troubles, associated with symptoms on the part of the nervous system and circulatory apparatus, are noted in the earlier generations, appendicitis in the later. The lithæmic diathesis is observed in families where appendicitis has occurred. In certain cases there is a local predisposition to this affection, whose precise character cannot be discovered. The position and direction of the appendix may be affected by heredity, as are its length and lumen. In a general sense, all cases of appendicitis have an hereditary origin.

A Case of Endocarditis Developed During Typhoid Fever.—J. A. Scott reports this case of a man, aged twenty-five years. The diagnosis of typhoid fever was made. Within a few days after admission to the hospital, there was considerable dull but constant pain in the epigastric and precordial region. Later, the blood count showed 15,200 leucocytes. Examination of the heart showed visible impulse in the fourth and fifth interspaces, just within the midclavicular line. In the fourth interspace in the nipple line was a breezy or soft systolic whiff, transmitted beyond the nipple and heard in the fifth interspace. On slight exertion there would develop palpitation of the heart, with some rapidity of pulse. As the man grew stronger, the murmur grew louder, and the left heart became more hypertrophied. The second sound was accentuated. Other complications were carefully looked for, but the only abnormality found was in the heart, which was normal on the patient's admission.

Philadelphia Medical Journal, October 5, 1901.

A Lecture on Strangulated Hernia—Carl Pfister concludes that strangulated hernia is entirely within the scope of those conditions which the general practitioner can treat. Not more than a fair modern surgical education is required. No rarely used instruments are needed. Strangulated hernia is so frequent that every physician should inform himself on the technique of its treatment. Taxis should always be tried unless contraindicated.

The Close Relationship Existing Between Epilepsy and Dyspepsia.—Charles D. Aaron characterizes epilepsy by its periodic loss of consciousness, and general convulsions, which run a typical course. Patients may be perfectly well in the intervals. Epilepsy is caused by functional disturbances in the central nervous system. There is a class of patients whose epilepsy seems directly traceable to gastrointestinal irritation. When one is about to have an attack, the crisis seems to be precipitated by the digestive trouble, and it seems to abate when the digestive trouble is corrected. This trouble is frequently latent. An analysis of the stomach contents and urine should be made in all cases of epilepsy and suspected stomach disorder.

Melancholia and Its Treatment.—George Stockton states that all causes which tend to produce profound mental disturbance are exciting causes of this affection. The disease is more common in females than in males. Ill-health and chronic disease are prominent factors. When a suicidal tendency is manifested, the patient must be most carefully watched. When melancholia relapses into the chronic form, the chances for recovery are very small. Little is known of the pathology of melancholia. In all cases of acute melancholia, there are profound disturbances of the digestive tract. Lavage of the stomach is frequently most valuable. Insomnia is generally present. Hydrobromate of hyoscine is much used, as are also trional and sulphonal. Chloral and conium may be used. Calomel is satisfactory. The bitter tonics are useful. A change of surroundings will sometimes accomplish wonders.

The Lancet, September 28, 1901.

A Case of Acute Double Pneumonia Treated with Oxygen; Recovery.—The patient of G. E. Richmond was a man of twenty-three years, who was of a general robust constitution, and did not appear to have the severe type of toxæmia often seen in this disease. Against recovery were the facts that (1) the pneumonia was double; (2) the disease progressed *pari passu* on both sides until the upper lobes alone were left intact; and (3) the patient fell into a typhoidal state, without delirium, but with respirations of 80 per minute and a pulse varying from 120 to 136, and after the slightest exertion the respiratory rate was anything from 80 to 120 per minute. If this condition had lasted a day or two longer than it did, the patient must have died from lack of respiratory capacity, or if the upper lobes on either side had been attacked, the subsequent dyspnœa must have killed him very shortly. From the time the oxygen was given the temperature began to fall, while before that it had been rising, the highest temperature (104.6°) being reached just before the first inhalation.

A Dilated Superficial Abdominal Vein with a Suggestive History.—T. Fisher presents the history (with illustration) of the case of a mentally deficient girl with a large vein running from the center of the right groin to the costal margin, where it divided into several branches, spreading over the right chest as high as the clavicle. The flow in the vein was downward, not upward. Fisher thinks that in this case there was a blocking of the common iliac vein. At the time that the obstruction of this vein occurred there were convulsions followed by a week's un-

consciousness, terminating in mental defect. There was probably some definite lesion in the brain. This lesion was probably thrombotic. No hemiplegia was noted, and the lesion probably lay outside the motor area. Hemiplegia of acute onset in an apparently healthy child is more difficult to explain. If the paralysis be due to a blood infection resulting in thrombosis of a cerebral vessel, one would suspect some indication of ill-health before the onset of the acute cerebral attack. Generally, however, the child is described as being strong and well at the time of the onset of the convulsions which usher in the hemiplegia. Yet, apparently, other manifestations of a blood infection, such as purpura, may show themselves suddenly, and one would think that the normal condition of the blood must be much impaired before a rigor can take place; but when a rigor is a symptom of commencing acute disease, it has rarely been preceded by any feeling of ill-health which has attracted the patient's attention.

The Prospect of Cure in Cancer.—Horace Manders thinks that the great point in the treatment of cancer is to fix one's attention on the natural forces inherent within the body. We have in electricity, for instance, an agent capable of directly and profoundly affecting the molecular changes that go on within cells, increasing metabolism and resistance to adverse influences. In cancer we may not have to deal with an invading microbe, yet it is evident that some malign source is at work, whose influence the natural defensive powers of the body have become unable to resist, and it is only reasonable to infer from analogy that if these inherent powers could be revitalized to the extent that generally obtains in the equilibrium of health, as has been done in tuberculosis, then there is a definite prospect of a cure for that even more intractable disease—cancer. If these inherent powers did not exist, we should all fall victims, as it is unreasonable to suppose that we are not constantly exposed to the source of cancer, just as we are to that of tuberculosis, of which we are now well aware. It is quite possible that the ultra-violet rays of the spectrum have a distinct value in this condition. Yeast treatment is unreliable. The author closes with the statement that in currents of high potential and exceeding frequency we have a means, hitherto unknown, of stimulating the vital energy of cells and of enabling them to utilize, by taking into their protoplasm auxiliary remedies; and that sometimes one and sometimes another, when used in conjunction with these currents, will be found to be the particular one needed.

Diagnosis of Cancer of the Stomach.—J. C. Hemmeter says that the nature and concept of an early diagnosis of cancer of the stomach are intimately associated with a knowledge of the duration of the disease, which can be approximately ascertained by three methods: (1) By observing the rate of growth in cancers that are open to direct inspection, *e. g.* those of the uterus, mammæ, rectum, etc.; (2) by noting the size and rate of growth after the first beginning of subjective and objective complaints in tumors capable of palpation; and (3) by noting the rate of growth in visible or palpable metastases. Cancer of the stomach often occurs in relatively young patients. There is nothing characteristic in the early dyspeptic symptoms. Hæmatemesis occurs in 50 per cent. of cases, and constipation in 75 per cent. Hydrochloric acid disappears from the gastric juice, absorption is lessened, lactic acid is generally absent (but this is a later symptom), the peptic and rennet ferments are decreased *pari passu* with the HCl. In the examination of the stomach-contents only two structural elements have a possible diagnostic value, viz., fragments of the neoplasm and the Oppler-Boas bacilli. The urine contains albumin in about 40 per cent. of cases, while indican occurs in excess in about 90 per cent. Demonstration of a tumor is the infallible sign, but it often comes very late in the course of the disease. The author would recommend exploratory laparotomy in all cases of gastric disease associated with rapid emaciation, absence of HCl, reduction of proteid digestion under 30 per cent., and the presence of lactic acid, as shown by Uffelman's test, or of numerous long baseball-bat shaped Oppler-Boas bacilli. He thinks little can be hoped for from operation in the case of cancer of the stomach, and looks forward to the possible discovery of a cure through the methods of research now being pursued.

British Medical Journal, September 28, 1901.

The Staining of the Tubercle Bacillus.—E. Mello Saunders uses no coverglass at all. As soon as the film has been stained with the carbol-fuchsin and methylene blue and dried, a drop of cedar-wood oil or castor oil can be put on the specimen, which may then be examined with a $\frac{1}{12}$ inch objective. This is a much shorter and less expensive method than the ordinary one.

Foreign Body in the Left Nasal Duct.—A. J. McCloskey was consulted by a woman fifty years old for a left fistula lacrymalis of fifteen years' duration. He saw protruding through the canaliculus what appeared like a shred of tissue. He seized it with a forceps and pulled out a roll of cloth $\frac{3}{8}$ inch in circumference, $1\frac{1}{4}$ inches long, and $\frac{3}{4}$ inch wide. The patient knew nothing of its introduction, but had been to a Bengalese "doctor" a year ago, who had opened a swelling in the position of the present fistula, and he had probably introduced the rag. After the cloth had been removed, the patient made a good recovery.

Case of Strangulated Perineal Hernia.—H. R. Woolbert reports this case. The patient was a large man, aged forty-four years. He first noticed a hard, tender lump the size of a horse bean, at the right of the center of the perineum. Later, the right ischiorectal fossa was swollen and hard. An incision was made to the right of the anus. From the wound there escaped some thin dirty pus with liquid fæces, and at the same time there was a protrusion of black, necrotic omentum of very bad odor. A rectal examination showed nothing wrong with the lower gut, but a hard mass was felt in the right side of the pelvis. There was no abdominal pain, swelling, or tenderness There had been no symptoms to indicate strangulation. Later, the temperature rose to 101° and the pulse ran up to 100 and was feeble. The gangrenous omentum was removed several times. The parts gradually became cleaner. Two deep sinuses remained; one passed up between the rectum and the bulb, and the other upward behind the rectum. The patient refused further surgical aid, and when last heard from had a small sinus behind the rectum.

Berliner klinische Wochenschrift, September 16, 1901.

Babinski's Sign.—H. Schneider has found that, while it is practically true, nevertheless the assumption that the presence of Babinski's phenomenon indicates a lesion of the pyramidal tracts is open to certain theoretical objections. The normal response to stimulation of the sole of the foot consists of two reflexes having different origins. One of these, plantar flexion on slight stimulation, is a cortical reflex, while the other dorsal flexion of the toes, with associated movement of the leg, is evoked by strong stimuli and is of spinal origin. Babinski's sign is present when slight irritation is sufficient to produce dorsal flexion without the occurrence of plantar flexion, and is always due to general increase in reflex excitability. It may be caused in two ways, first, through a break in the pyramidal tracts, whereby the cerebral reflexes are cut off (which is the true Babinski), or, secondly, in conditions of increased spinal activity (*e. g.* strychnine poisoning), or of decreased cerebral excitability (stupor), when the dynamic excess of the spinal response suppresses the cerebral reflex and simulates the true condition.

Soluble Silver as an Internal Antiseptic.—Credé describes the steps which led him, starting from the old-fashioned nitrate-of-silver stick, to evolve his system of silver therapy. The action of silver foil in inhibiting the growth of microorganisms is easily shown by placing it in Petri dishes containing cultures of various bacteria. In this way it is possible to determine the antiseptic value of the different metals, and cadmium is found to occupy the first place, with silver fourth and aluminum last. In this form, however, the use of the metal as a vulnerary is impracticable, and an insoluble salt was sought for. Comparative tests showed that itrol, the citric-acid salt, was the most suitable, and its use during the past five years has justified the author's expectations. He uses it in all operative cases, as well as catgut and silk impregnated with actol (silver lactate). An endeavor to make the valuable properties of the metal available in diffuse and generalized processes brought about the evolution of a soluble preparation, the "argentum colloidale," which is intended for inunction and intravenous use When it is to be applied by the percutaneous method it is necessary to have a suitable skin, for the lifeless, withered epidermis of the aged does not absorb at all, and even in younger persons some degree of preliminary stimulation by friction with soap and water is needful. The author's observations on the intravenous use of this remedy are still in the preliminary stage, but he describes good results in severe sepsis, pyæmia, acute rheumatism, and advanced pulmonary tuberculosis. The inunctions are valuable in all septic conditions, whether local or general, and an epidemic of unusual severe scarlatina is mentioned in which the method proved of the greatest value.

Munchener medicinische Wochenschrift, September 17, 1901.

The Eczema Question. J. Frederic contributes an exhaustive study of the bacteriology and histology of this disease and of artificially produced dermatitides, the intricacy of which sufficiently attests the difficulty of the problem involved. No very definite conclusions can be drawn from his results, and the most valuable

clinical deduction is that in every case of eczema the possibility of two sets of causes must be kept in mind, and both internal and external factors in the etiology considered.

An Aid in Seasickness.—R. Heinz calls attention to the close proximity of the vomiting and respiratory centers and describes an experiment on dogs which showed that by inducing apnœa by artificial respiration it is possible, so far, to inhibit the vomiting center as to nullify the effect of emetic subcutaneous doses of apomorphine. Further observations led to the discovery of the fact that by taking several deep breaths in rapid succession a state of sufficient apnœa can be voluntarily produced to counteract vomiting stimuli, and the author recommends that in seasickness, at each crisis, this method be taken to forestall the threatened vomiting.

Acute Sternal Osteomyelitis in Typhoid Fever.—G. Jochmann describes a case of typhoid fever in which, three days before death, pulsation was noted over the sternum on a level with the third rib. Death followed as the result of pyæmic infection, and on autopsy an acute osteomyelitis of the sternum was found. The absence of more marked external manifestations is ascribed to the dense fascial coverings of this bone, which made the inward route the line of least resistance, and in fact it was found that pus had broken through and entered the mediastinum. The pus was found to contain staphylococci, but no typhoid bacilli, a result in harmony with the view that most post-typhoid suppurations are due to the depreciated vitality of the tissues, which makes them an easy prey for pyogenic organisms rather than to specific pus-producing powers of the typhoid bacillus itself.

A Contribution to the Subject of Renal Diabetes.—H. Lüthje describes a case which he considers as affording good evidence of the possibility of a glycosuria of purely renal origin. The patient was a young man who, after an acute gonorrhœa, developed cystitis and nephritis. Soon afterward sugar was detected in the urine, and has been present ever since in spite of periods of rigid dieting which were wholly without effect, while, on the other hand, the consumption of large amounts of carbohydrates did not increase the quantity excreted. We, therefore, have a patient, who, after a renal lesion, developed glycosuria, which probably did not exist before, and which was independent of diet; while, at the same time, the sugar content of the blood was found decreased to a pronounced degree. The author considers that if, as a result of disease, the renal epithelium can become permeable for serum albumin, it may also, in a similar way, lose its power of keeping back sugar.

Deutsche medicinische Wochenschrift, September 19, 1901.

An Interesting Case of Acquired Dextrocardia.—Walbaum's patient was a serving maid of twenty-five, who had for some time been giving symptoms of disturbed cardiac compensation. On examination it was found that the apex beat was in the fourth right interspace, and an *x*-ray photograph confirmed the diagnosis of very marked cardiac displacement. The history revealed no evident attack of pleurisy, and it was assumed that during childhood some such trouble had resulted in the formation of adhesions which had produced the deformity without giving rise to evident symptoms.

Acute Suppurative Perichondritis of the Nasal Septum.—M. Lubinski describes two cases of this unusual affection. One patient was a boy of twelve and the other a middle-aged woman. In the one case, no cause for the trouble could be found, while in the other it was ascribed to the large number of carious teeth in the patient's upper jaw. In both, the symptoms consisted in swelling and tenderness of the entire organ, with the development of an acutely sensitive tumor of the septum. In each instance relief was afforded by ample incision and drainage with curettage, though the septum was left sufficiently damaged to produce marked flattening of the member with sinking in of its dorsum.

The Lymphocytes.—L. Michaelis and A. Wolff believe that the status of the lymphocyte is still far from settled, and that even its recognition is not as easy as is usually supposed. The lymphoid cell is a descendant of the original mesenchyma cell and has definite morphological characteristics, *viz.*, a large round nucleus and a narrow rim of basophile protoplasm. Two varieties of these lymphoid cells may be distinguished: (1) Those still capable of further differentiation, such as the lymphoid marrow cells which probably can undergo transformation into granular cells (myelocytes); and (2) those that have lost all power of differentiation into other types and are the true lymphocytes of Ehrlich. It is only in the normal circulating blood of the adult that these may with certainty be recognized; under these conditions every lymphoid cell is a lymphocyte. In other body fluids, such as transudates, exudates, or pus, the identification of lymphocytes is difficult owing to the presence of degenerated cells, especially polynuclear forms and epithelial cells, which may present nuclei damaged either through (*a*) nuclear thickening (pyknosis) and nuclear fragmentation, (*b*) pyknosis without fragmentation, and (*c*) imbibition. In sections geometrical considerations still further complicate the question; for, while in smears the cells are flattened out and show their nuclear characters plainly, in the tissues a polynuclear cell may easily be cut so as to simulate a lymphocyte.

French Journals.

Concerning the Transformation of Tuberculous Hypoacid Soil into Resistant Hyperacid and Arthritic Soil.—Samuel Bernheim concludes that the treatment of tuberculosis should include the cultivation of a resistant soil. The tuberculous soil is in a condition of hypoacidity and demineralization. The arthritic soil is exactly the opposite. In order to make an arthritic soil in a tuberculous patient, there must be an effort to hyperacidify, to mineralize, and to phosphatize. Hygiene and medication offer us aid. The first will include air, rest, and food; the second, the administration of phosphates and creosote —*Gazette Médicale de Strasbourg*, September 1, 1901.

A Case of Precocious Menstruation.—Lop reports the case of a girl of six years, born at term of healthy parents. The child had good health till the age of three and one-half years, when she had a rather severe attack of typhoid fever, during the course of which there was a profuse intestinal hemorrhage. At five years she had scarlet fever. When five years and seven months old, she had a decided genital hemorrhage, which lasted eight days. Her health remained good, and since that time she has menstruated regularly each month. Her general condition is good, though the face is a little pale. All the thoracic organs are in good condition. There is no albuminuria, diabetes, or hæmophilia. The genital organs are well formed and of normal size. The mammary glands are small.—*Gazette des Hôpitaux*, September 12, 1901.

Cerebrospinal Meningitis of Syphilitic Origin.—Debove reports this case of meningitis, which occurred in a boy of eighteen years. In May, 1900, he had an attack of syphilis, and the following January was admitted to the hospital suffering from meningitis. The writer believed the disease to be the result of syphilis, for the following reasons: It occurred in the course of a severe attack of syphilis; it coincided with a sharp attack of cutaneous syphilides, ulcerating rapidly; its severity appeared to vary with that of the cutaneous lesions, and it yielded to treatment, antisyphilitic medication being followed by excellent results. Bacteriological examination of the cerebrospinal fluid did not show the presence of any kind of microorganism. There were practically nine punctures made. In the fluid were found lymphocytes and multinuclear leucocytes. The patient was completely cured.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, September 15, 1901.

Employment of Suprarenal Extract by the Oculist.—L. Thilliez has met with the happiest results in his use of suprarenal extract in ocular affections The solution he uses is composed of equal parts of distilled water and the dried suprarenal powder, which is carefully sterilized and preserved in glass receptacles holding 1 gr. It is a brownish liquid, which is preserved indefinitely as long as the tube is closed. The results are constant. The profound anæmia which is induced in the conjunctiva by its use lasts for one or two hours, according to the individual and the quantity used. Its vasoconstrictor action is especially marked on the conjunctival vessels, but is also seen in the sub-conjunctival or episcleral vessels, and to a slight degree in the deep vessels. The use of this drug is most valuable in intense conjunctival injection. It is useful in cases of keratitis and iritis with injection. Its use has been followed by excellent results in the treatment of glaucoma.—*Journal des Sciences Médicales de Lille*, September 14, 1901.

"Mal de Caderas."—By this name M. Elmassian designates a disease prevalent among horses, characterized by emaciation, fever, and paresis of the hind legs, the last being the most prominent symptom. At a later stage, this paresis becomes general, and the animal dies in coma. In sixteen out of eighteen cases the author found in the blood of animals affected with this disease a flagellated organism which he considers to be the morbific agent.

Book Reviews.

PRACTICE OF MEDICINE. By Eminent Medical Specialists and Authorities. Edited by GEORGE ALEXANDER GIBSON, M.D., D.Sc., F.R.C.P.Ed. Physician to the Royal Infirmary, Edinburgh. Vol. I., 824 pp., and Vol. II., 907 pp. Philadelphia: J. B. Lippincott Company, 1901.

THE editor endeavors in these volumes to express the modern English medical teaching and hopes that this is done thoroughly by the numerous coworkers with whom he is associated.

The scheme of the work is much like most of the modern American works which present the subject of the Practice of Medicine in one or two volumes. There are, however, some unusual features worthy of mention. The first hundred pages are devoted entirely to etiological and pathological problems wherein the more general view of disease is succinctly yet ably discussed, and especially those facts which have a practical bearing on the clinical study of pathological conditions; immunity, serum therapeutics, predisposition to infections, etc., all being explained by the most modern theories.

Besides the exhaustive, though usual, article on Nervous Diseases we find incorporated in the text exceptionally thorough articles on the parasites of the intestine, and diseases caused by chemical substances such as lead, arsenic, phosphorus, mercury, alcohol, ptomains, and other poisons.

In the second volume over a hundred pages are devoted to diseases of the skin, and we think wisely, since the general practitioner sees and treats so many cutaneous conditions which are not of necessity seen by a dermatological expert.

In the list of contributors we notice thirty-six, many of whom have written on their special lines for a long time and who also represent many of the different towns and schools of Great Britain.

The work is interesting and authoritative in consequence of this careful selection of contributors, yet we notice some minor omissions and errors such as are apt to creep into all volumes of this character. Under Cerebrospinal Meningitis there is no mention of Kernig's sign, which, as a clinical phenomenon, has been studied so much of late. We also notice under Yellow Fever the statement that children are rarely affected, whereas the truth is that in epidemics they are especially liable to infection to the extent that it might not improperly be placed among the diseases of childhood. So also in the distribution of typhus fever the fact that it is prevalent in Mexico is ignored. The two volumes are nearly solid text, there being scarcely over a hundred illustrations scattered through the work; had it been profusely illustrated, however, it would have been too bulky, and we scarcely regret the comparative absence, as books are made to-day, of the pictorial art.

We judge the work will meet with the approval of the profession at large as being a good working help, concise, clear, and conservative in teaching, yet fully abreast of the latest investigations—although the omission of the recent yellow-fever experiments seems odd in view of the fact that these volumes are intended for the English-speaking races of all climes.

A TREATISE ON THE ACUTE, INFECTIOUS EXANTHEMATA, including Variola, Rubeola, Scarlatina, Rubella, Varicella, and Vaccinia, with especial Reference to Diagnosis and Treatment. By WILLIAM THOMAS CORLETT, M.D., L.R.C.P. (Lond.), Professor of Dermatology and Syphilology in Western Reserve University; Physician for Diseases of the Skin to Lakeside Hospital; Consulting Dermatologist to Charity Hospital, St. Alexis Hospital, and the City Hospital, Cleveland; Member of the Dermatological Association and the Dermatological Society of Great Britain and Ireland. Philadelphia: F. A. Davis Company, 1901.

UNLESS there is offered to the student a special opportunity of observing the acute exanthemata, accuracy in their diagnosis is often a difficult problem to meet. Perhaps the young physician makes no more mortifying mistakes than in just this class of diseases. The nature of such exanthemata as variola, scarlatina, and rubeola makes it very difficult and sometimes impossible to give the undergraduate sufficient instruction to make him feel at ease when dealing with them. Next in value to experience with the disease itself stands a textbook giving accurate descriptions and showing life-like plates representing the appearance of the skin lesions. Such a volume is the one under discussion. The author states in his preface that it was the need of just such a work when he was young in the practice of medicine that prompted him to prepare the present volume. But it is not only the undergraduate who finds difficulties in the way of acquiring knowledge of these diseases. The opportunities are often just as limited in graduate instruction. The author has had great success in his lantern-slide demonstrations of the acute exanthemata, and this also suggested the value of a volume devoted exclusively to this subject. He embodies in this work the results of modern research. The book contains twelve colored plates, twenty-eight half-tone plates from life, and two engravings. The work of Félix Méheux, *dessinateur et photographe*, of the Hôpital Saint-Louis, Paris, has been secured in this part. There is a most interesting and valuable list of charts and diagrams illustrating various points in connection with these diseases: for example, one showing the influence of wind in disseminating smallpox; another showing the neglect and enforcement of isolation and disinfection of measles; and others showing the course of the fever in various phases of these diseases. There is an introductory chapter giving the early history of the exanthemata which is both interesting and instructive. An addendum gives a table showing the chief features in the differential diagnosis of the acute infectious exanthemata, as well as directions for various methods of disinfection

THE ESTIVO-AUTUMNAL (REMITTENT) MALARIAL FEVERS. By CHARLES F. CRAIG, M.D., Acting Assistant Surgeon U. S. Army; Pathologist and Bacteriologist to the U. S. Army General Hospital, Presidio of San Francisco, Cal., etc. Illustrated by two colored plates and twenty-one clinical charts. New York: William Wood & Company, 1901.

TOGETHER with the territorial increase that has accrued to this country in the course of the events of the past year or two, we have also acquired a far less desirable heritage of hitherto almost unknown physical ills, and some of our progressive medical schools are exhibiting an enterprise almost commercial in the promptness with which they are instituting chairs of tropical medicine. The appearance of the present volume is therefore very timely, and it cannot but prove of great personal interest to every practitioner in the country, for there is not one who may not at any moment, if he has not already been in that unfortunate position, be confronted with a case that, after baffling all his diagnostic and therapeutic skill, will finally resolve itself into the characteristic picture of this protean infection.

In the space of a brief review it is impossible to give even a résumé of the contents of so important a volume and the original must be consulted for the details of the tertian and quotidian fevers, the two subheadings erected by the author in his consideration of estivo-autumnal malaria. One thing, however, it may not be amiss to underscore by special mention, as it is a point the author reiterates over and over, and that is the absolute necessity of the microscopical investigation of the blood in all suspected cases. The sections on the technique of such examinations and the morphology of the organism are very satisfactory and instructive, but we are surprised to find that although most of the newer stains like Futcher's thionin and the Nocht-Romanowsky are described, no mention is made of Jenner's method, which for simplicity and utility we think can hardly be excelled.

In general arrangement the book is eminently thorough and systematic and it is a matter for great congratulation that the author has seen fit to make public the results of his large experience gained through unusual opportunities for the observation of a still comparatively unfamiliar disease.

A GUIDE TO THE CLINICAL EXAMINATION OF THE BLOOD FOR DIAGNOSTIC PURPOSES. By RICHARD C. CABOT, M.D. With colored plates and engravings. Fourth revised edition. New York: William Wood & Company, 1901.

No other department of clinical diagnosis has developed so rapidly during the past year or two as the subject of hæmology and none of the refinements of laboratory technique have become so popularized as those pertaining to this branch. But in spite of this increased interest and the consequent advances that have been made, progress has really been less rapid than at first sight appears; for in a manner suggesting Penelope's web, each year has demolished a certain amount of the gain that has gone before simply because as statistics increased and observations from different sources were collated deductions made from insufficient material could be corrected; as a single instance the vicissitudes in terminology and percentages which the normal blood count has undergone during the last decade may be adduced.

No better evidence of this shifting ground on which the whole subject stands could be found than is afforded by the radical changes which the rapidly succeeding editions of this book, the most valuable, as it was the first, of its kind in English, have displayed The present revision has been perhaps the most radical so far, and, in spite of omissions where possible, has increased the

bulk of the volume by nearly sixty pages. The most important changes are those in the sections concerned with pernicious anæmia, leukæmia, typhoid fever, and malaria. Under this latter heading, Ewing's recent studies have been incorporated and the old wood-cuts replaced by very interesting photographs of the organism, which, however, as is too often the case with this class of illustrations, are more pretentious but far less useful than good lithographs would be. Under the heading of hæmoglobin estimation we find descriptions of two new instruments, Tallqvist's and Dare's, which are both to be preferred to the old Fleischl or other forms. The author considers the former of these the best of all for clinical use as combining simplicity, cheapness, and quickness with sufficient accuracy—an opinion with which personal comparisons made in a considerable number of cases lead us heartily to agree.

The wealth of statistical data the book has heretofore offered has been still further increased, and we cannot but feel that Grawitz, who lately said that "he knew of no better book on the subject than Cabot's," did not do more than justice to this most admirable work.

A Handbook of Pathological Anatomy and Histology. With an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By Francis Delafield, M.D., LL.D., Professor of the Practice of Medicine, College of Physicians and Surgeons, Columbia University, New York, and T. Mitchell Prudden, M.D., LL.D., Professor of Pathology and Director of the Department of Pathology, College of Physicians and Surgeons, Columbia University, New York. Sixth Edition. With thirteen full-page plates and four hundred and fifty-three illustrations in the text in black and colors. New York: William Wood & Company, 1901.

Though the title-page of this well-known work remains unchanged, it is stated in the preface that Dr. Delafield has retired from an active share in the preparation of this edition and that the junior author alone is responsible for such alterations and additions as have been made. The almost universal adoption of this work by the more prominent medical schools throughout the country has already made its general scope widely known, so that although this revision has been so radical as to produce what is practically a new book, for the present purpose it will suffice to mention some of the more important features wherein it differs from the old.

The section on inflammation, replacing that in the old edition, is of such interest and importance that we wish every student attending medical lectures might read it over and over. By an analysis of the methods in which the body responds first to simple and then to more and more complicated forms of injury and of the cellular activities thus called forth, the paramount deduction is made that inflammation is a conservative process and represents the "local attempt at the repair of injury," a concept usually slow to permeate the understanding of the undergraduate. The chapter on infection and immunity is likewise new and presents the data leading to the conclusions of to-day in logical and convincing sequence. The intricate subject of immunization is stripped of most of its hypothetical complications and sets forth in an easily comprehensible manner, the author's closing word that it is, after all, only "the result of an adaptation of normal cell capacities to the special emergency which the introduction of a new environment involves" being a very satisfactory summing up of the little that is definitely known on the subject. In spite of his plea of its being forbidden by the scope of the book, we cannot help wishing that the author had incorporated, at least in a foot-note, some of the theories which the recent work of Buchner, Erlich and Morgenroth, Ascoli, and others has made to seem rather more than plausible. Typhoid fever is treated at greater length and more satisfactorily than before and photographs illustrating the intestinal lesions have been added, together with a short description of the agglutination reaction with some of its fallacies, to which we think a few details as to technique might have advantageously been added. Haffkine's preventive inoculations are also mentioned, but not commented on. Bubonic plague and yellow fever are given more room than in the old volume and a non-committal foot-note refers to the mosquito theory of transmission of the latter. The somewhat antiquated discussion of malaria in the former edition has been replaced by a very comprehensive essay written by F. C. Wood, which embodies the latest studies on this subject and together with its really helpful illustrative plates deserve more than a passing word of praise. The sections on the blood, revised by the same writer, though short, are equally satisfactory and comprehensive. The etiology of tumors receives thoughtful but conservative treatment. The various theories as to the parasitic nature of their causation do not impress the author favorably, and certainly the recent fiasco of Schüller's elaborate pretensions is not calculated to inspire confidence in similar vagaries. The author's view, that rather than to seek a single excitant or group of excitants for these structures it will avail better to devote more time to the study of the obscure influences at work in all tissue growth and especially those controlling morphological and functional specialization, seems eminently more rational.

In Part Three we find noted a new splenic lesion, primary splenomegaly, but the greatest interest attaches to the topics of the lungs and kidneys which have undergone radical changes in their treatment. The formerly involved and blurred classification of tuberculous lesions of the lung has been clarified into a simple and logical system. Dropping altogether the designation phthisis as being inexact and non-distinctive, the subject-matter is arranged under the following heads: 1. Focal or miliary tuberculosis. 2. Tuberculous bronchopneumonia. 3. Complex forms of nodular and diffuse tuberculous lesions. 4. The formation of cavities. 5. Secondary lesions in pulmonary tuberculosis. 6. Concurrent infection. The result of this classification is a grouping as nearly as possible satisfactory from both a clinical and pathological standpoint. The renal lesions have been expurgated in much the same way and we now have a simple yet comprehensive series of pathological types capable of conveying a clear mental picture to the student and still adapted to the use of the scientific pathologist. The section on the nervous system has been relegated to the last portion of the book and contains much new matter, including an admirable plate by F. R. Bailey.

It is unfortunately true that we have long since ceased to demand or even look for literary excellence in medical textbooks, and it would therefore be unfair to close a discussion of this remarkable work without a tribute to the beautifully limpid and well-chosen English in which it is written. Another factor that contributes largely to the reader's pleasure and comfort is the presswork, which is of unexampled beauty and craftmanship, while the illustrations are not equaled in any other treatise on the subject with which we are acquainted. Particularly fine photographic reproductions are those of the heart on pages 391 and 397 and of the intestinal lesions in Chapter VII.

Perfection or an approach to it is apt to be irritating and to stimulate criticism, but we are sure that even envy could find but few flaws in this piece of work, and taking into consideration the importance of the subject it deals with, the source whence its experimental work emanates, the eminence of its authors, and the superlative excellence of the result, there is little doubt that the course of time will show this to have been by far the most important medical publication of the present year.

Dr. Garnault in Berlin.—Dr. Garnault, the French medical man who offered himself to Professor Koch for experiments on the identity of human tuberculosis and perlsucht has arrived at Berlin. He had a long interview with Professor Koch, the language used being English, as Professor Koch does not speak French, neither does Dr. Garnault speak German. Professor Koch declined to give injections to Dr. Garnault, and advised him, if he really wished to do something toward the elucidation of the question, to drink unsterilized milk from a tuberculous cow for about a year, and to abstain as much as possible from other foods. Dr. Garnault agreed to do so, but in addition will have an injection of highly virulent perlsucht bacilli performed every month.—*Berlin Correspondent to Lancet.*

Rat Plague.—Edington (*Centrabl. f. Bakt.*, June 27, 1901), who has been making investigations at Capetown, has isolated from a rat, supposed to have died of plague, a bacillus resembling the plague bacillus in cultures and in its effects on guinea pigs, but differing from it morphologically and in having no effect on rabbits. He concludes as a result of these experiments, that the so-called rat plague is not the same disease as bubonic plague, and suggests that in future in cases where rats die from a disease resembling plague, other animals besides guinea pigs should be used for diagnostic experiment. The disease produced by the organism isolated by the writer resembles in guinea pigs that produced by the true plague bacillus.

Society Reports.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Twenty-ninth Annual Meeting, Held in Buffalo, N. Y., September 17, 18, 19, and 20, 1901.

The association met in the Seventy-fourth Regiment Armory under the presidency of Dr. Benjamin Lee of Philadelphia, Pa.

There were many representatives present from the United States, Porto Rico, Canada, and Mexico.

Dr. Stephen Smith of New York, one of the ex-presidents of the association, made the Opening Address. He referred to the havoc which death had wrought in the ranks of the association during the past decade, and in giving a history of the public health system of the United States said in part: "Thirty years ago there were not more than three or four well-organized municipal boards of health in this country, but to-day there is scarcely a civil organization without its department of health. Within a single decade this association has been largely instrumental in the development of a complete system of public health administration in this country, namely, municipal, State, and national. A national board of health, which was at one time established by Congress, existed but four years, and for twenty years we have been without such a body, chiefly because of a want of harmony among those who approach Congress on the subject."

Dr. Smith then referred to the early history of the Marine Hospital Service, saying that it was originally created at the close of the eighteenth century in imitation of the English system, when the sailor's home was on the sea, but since the steamship has supplanted the sailing vessel, the sailor's home is at the port. All great advances, he said, in health legislation result from the devastation of epidemic pestilences.

Dr. A. L. Gihon, in moving a vote of thanks to Dr. Smith for his paper, drew attention to the fact that while on his right sat the Director-General of Public Health of Canada, and while on his left sat the supreme head of the sanitary department of Mexico, the United States had no such officer, and said that a demand should be made on the government to make such an appointment.

Out of respect to the memory of President McKinley, and in accordance with the national and State proclamations relating thereto, it was decided to hold no meeting on Thursday, September 19.

Dr. Frederick Montizambert of Ottawa, Canada, and Dr. Eduardo Liceaga of Mexico feelingly referred to the sad event which had just culminated in this city, and extended the sympathy of themselves and their countrymen.

Some Results of the Army Canteen or Post Exchange from the Standpoint of Discipline and Hygiene.—Captain Edward L. Munson, Assistant Surgeon in the United States Army, read statistics he had compiled from the official records of the War Department, comparing the figures of two periods. The first period, which he called the precanteen period, consisted of the seven years from 1885 to 1891, inclusive. Though the canteen was first introduced in the army in 1889, it was not thoroughly established until 1892. The second period began with that year and ended with 1897. He did not quote figures after 1897, because he did not believe the figures of the last three years of active service in the army could fairly be compared with the figures for a period in the time of peace, although he commented that, as a matter of fact, the figures for 1898, 1899, and 1900 show even a more marked improvement in those conditions of the army that were affected by the canteen than the figures for the six years immediately preceding 1892 showed over the precanteen period from 1885 to 1891. The paper showed that for the ten years from 1878 to 1887 the ratio of soldiers entered upon the sick reports for alcoholism was as 64.28 to 1,000; that this rate was diminished as the canteen was gradually introduced, and that comparing the period 1885–1891 to the period 1892–1897, the statistics showed a reduction of 23.6 per cent. in the entries for alcoholism on the sick list in favor of the latter period. That, whereas, in 1890, before the canteen was fairly established, the number of posts at which the alcoholism entries on the sick list exceeded 10 per cent. of the total strength of the garrison, in the following year the number of such posts was eleven, and each succeeding year the number was reduced until, in 1897, there were only two posts throughout the army which showed a greater rate of alcoholic sick cases than 10 per cent. of their total strength. The author showed that the gravity of the cases of alcoholism also was reduced through the influence of the canteen, and that the number of cases of insanity diminished during the period in which the canteen was thoroughly established.

The profits of the canteen each year were returned to the men for the purpose of buying better food, reading matter, gymnasium and athletic equipment, and in other ways to make their lives more comfortable and the military service more attractive. The writer showed that during the period of 1892–1897 there was an increase of 13.3 per cent. in the number of soldiers making deposits with the army paymaster over the number for the precanteen period, 1886–1891. Also that the average number of convictions by court-martials for drunkenness during the precanteen period was three hundred and seventy-two a year, whereas the average number after the canteen was established was but one hundred and sixty.

Much might be said to show the remarkable influence which the canteen, with its restricted sale of beer and light wines, has had in preserving the health of troops, maintaining discipline, and promoting temperance; but in view of the figures given further argument on the subject would seem to be unnecessary. The canteen, as formerly operated, was a positive element for good, and is so regarded by 95 per cent. of the more than six hundred officers of the army who have made reports to the Secretary of War concerning its influence.

At the conclusion of Dr. Munson's paper, the following resolution was offered by Dr. Charles A. Lindsley of New Haven, Conn., which was adopted:

"*Resolved*, That this body deplores any action in curtailing the operation of the army canteens or post exchanges, and in the interest of general and military sanitation and temperance recommends their establishment as formerly existing in the United States."

Dr. Charles R. Greenleaf, an army surgeon, described the sanitary conditions in the Philippine Islands since the United States came into occupancy of them.

Tuberculosis.—Dr. Felix Formento of New Orleans, La., read a paper with this title, in which he stated that in medicine a certain spirit of conservatism was required. There seemed to be nowadays too much laboratory work, and not enough bedside practical instruction. While he did not deny the glorious discoveries in bacteriology, he feared that the study of man in health or disease was often sacrificed to that of the infinitesimal microbe. The discovery of the tubercle bacillus was one of the greatest events of modern medicine, unifying into one classification many affections considered as being of a different character; also making diagnosis perfectly certain; it was shown that the disease was communicable from man to man—that the sputum of consumptives was the great carrier of infection; but was it not going too far to affirm that tuberculosis was only transmissible by contagion and that heredity played no part in this transmission? The observation of sanitarians had shown that heredity, as in cancer and other affections, was a powerful agent of transmission. Some cases of direct transmission to the fœtus in utero had been observed. Without hereditary predisposition, local infection would remain sterile

in the great majority of cases. The air swarmed with microbes, and those who were predisposed succumbed. In order that a seed might develop two conditions were required—an active seed and a proper soil. The same is true of a disease germ. All debilitating causes by lowering the powers of resistance furnished a favorable nidus for the development of the tubercle bacillus. War should be waged on the bacillus, and we should try to exterminate it by all possible means, as well as to destroy the sputum; the disinfection of rooms occupied by consumptives was important, and a rigid inspection of milk and meat necessary in spite of the claims of Professor Koch. International measures should be adopted among nations for the disinfection of railroad trains, steamers, hotels, etc. Marriage of consumptives should be prevented. All places where numbers congregate should receive special attention, and the general public, when once informed, would become a most powerful auxiliary in the crusade against tuberculosis.

Dr. Jesus Chico of Mexico read a paper in which he detailed some observations tending to prove that the meat and internal organs of tuberculous animals brought about the appearance of tuberculosis in the persons who ate them.

The British Congress on Tuberculosis.—Dr. Frederick Montizambert, Director-General of Public Health of Canada, read a paper on this subject, in which he laid great stress on the curability of the disease, if taken in time, and all agreed in regarding human sputum as the chief medium of infection. He stated that the feature of the Congress was the address by Dr. Koch, more particularly that part dealing with the alleged non-identity of bovine and human tuberculosis, and the non-transmissibility of the disease. His (Koch) actual words in this connection were: "Though the important question whether man is susceptible to bovine tuberculosis is not yet absolutely decided, and will not admit of absolute decision to-day or to-morrow, one is nevertheless at liberty to say that if such a susceptibility really exists, the infection of human beings is but a very rare occurrence. I should estimate the extent of the infection by the milk and flesh of tuberculous cattle, and the butter made of their milk, as hardly greater than that of hereditary transmission, and I therefore do not deem it advisable to take any measures against it.

"On the other hand, current view and practice of local sanitary authorities in England have been in accord with the findings of two royal commissions that 'any person who takes tuberculous matter into the body as food incurs risk of acquiring tuberculous disease.'"

Dr. Montizambert stated that the feeling throughout the Congress seemed to be that the statements of Koch were made prematurely and upon insufficient data. The position of eminent authorities who criticised Dr. Koch's announcement was essentially uniform.

After the reading of Dr. Montizambert's paper, there was a general discussion on the subject of tuberculosis, which was participated in by several members of the association.

Dr. Chico of Mexico read the paper of Dr. Francisco Berbaldez on "Remarks Intended to Show the Character of Human Vaccine as a Preventive of Smallpox."

At the Tuesday evening meeting, Mr. Ansley Wilcox of Buffalo delivered an address of welcome. He paid a glowing tribute of affection and respect to President McKinley, and among other things said: "When we think of the way in which the American people calmed themselves in their intense grief, and the reins of power dropping from lifeless hands were taken up peacefully by the strong hands of the appointed successor, we will say again with heartfelt joy, whatever may happen to our individual leaders, 'the Government at Washington still lives,' and towers among the nations of the earth as our electric tower amidst the beautiful buildings surrounding it."

President's Address.—This was delivered by Dr. Benjamin Lee of Philadelphia, who referred to the overwhelming grief with which the representatives of one of the nations composing the association were now stricken. He said that among the problems with which the association had to deal was that of the protection, safety, and welfare of the community against the possible infection of leprosy; that the moral leper was sometimes infinitely more dangerous than the physical leper. The anarchist was the moral leper, and it was high time that we undertook to limit the spread of this, the most horrid of all infections.

He complimented the city of Buffalo upon its condition of health and cleanliness, and expressed the wish that the association might leave with the city some lessons which would be helpful in the administration of health matters.

The next meeting was held on Wednesday, September 18, at which time reports were read of the Committees on Pollution of Public Water Supplies, Etiology of Yellow Fever, and cases of yellow fever observed on the two coasts of the Mexican Republic, from September 17, 1900, to August 31, 1901.

One of the features of the meeting was a paper by Dr. Walter Reed of Washington, D. C., on yellow fever, which was in part as follows: "We were able, under strict rules of isolation, to bring about an attack of yellow fever in ten non-immune individuals out of a total of thirteen by means of the bites of mosquitos—the Stagomyia fasciata—that had previously been fed with the blood of yellow-fever patients during the first, second, and third days of their attacks. We were thus able to establish in the most practical manner that the mosquitos serve as the intermediate host for the parasite of yellow fever. At the same experimental station we were able to demonstrate that yellow fever cannot be induced through contact with the clothing and bedding of yellow-fever patients, even though these articles had been previously thoroughly soiled with the excreta of such patients."

Dr. Reed then described in detail the mosquito which carried the infection of yellow fever, as to its history, method of propagation, habitats, breeding places, method of generation, and measures that should be taken to prevent them from infecting healthy individuals, and guarding the sick against bites of these insects. He said the life of this mosquito was about five days, if deprived of water, and if a voyage at sea had consumed more than that time, the mosquitos contained in the hold of the vessel would have perished unless they had access to water or moisture, and the danger of infection lay not in the cargo or personal baggage, but in the individual sick with the disease. In 1901, there was a reduction of 83 per cent. in yellow fever in the city of Havana.

A paper was presented by Dr. A. H. Doty, Health Officer of the Port of New York, dealing with the practical methods of quarantine necessary in view of the changes in our belief in regard to the necessity of disinfection in yellow fever.

A recess was then taken until 3 P.M., at which time resolutions were adopted to the effect that every effort should be made by sanitarians to diminish the mortality of tuberculosis; that sufficient facts have not been offered by Professor Koch to prove that human and bovine tuberculosis are different diseases; that municipalities should make regulations against expectoration; that they should compel notification by physicians of cases of tuberculosis; that they should establish municipal sanatoria for the benefit of persons in families of limited means; that tenements, factories, workshops, schools, and other public institutions should be inspected in order to promote cleanliness, ventilation, and other sanitary conditions.

A paper was read by Dr. Gorgas covering about the same ground as the one submitted by Dr. Reed.

A general discussion of the subject of yellow fever was then indulged in by the members of the association, and

some of the members, among them Dr. Formento and Dr. Wasdin, dissented from the views expressed in the paper of Dr. Reed. They maintained that yellow fever was probably transmissible by fomites. However, Dr. Reed, in his closing remarks on the subject, was very sanguine of the position he had taken, and claimed that the experiments conducted in Havana were absolutely conclusive.

Several reports were submitted during the afternoon, among which was the report of the Committee on "The Relation of Forestry to the Public Health," by Professor William H. Brewer of New Haven, Conn.; also, a report on "Bacterial Purification of Water by Freezing," by Mr. H. W. Clark of Boston, Mass. Professor S. H. Woodbridge of Boston submitted the report of the Committee on "Car Sanitation."

At the session on Wednesday evening, Dr. A. WALTER SUITER of Herkimer, N. Y., read the report of the Committee on "The Cause, Prevention, and Duration of Infectious Diseases."

This was followed by the report of the Committee on "Disinfectants and Disinfection," by Dr. Hibbert W. Hill of Boston, Mass., after which there was a short discussion on them.

On Thursday, the third day of the meeting, there was no business transacted, but the President called the meeting to order at 10 o'clock as usual, at which time resolutions of sympathy and regret in regard to the death of the late President McKinley were passed unanimously by a rising vote.

Drs. William Bailey of Louisville and C. P. Wilkinson of New Orleans made short speeches on the resolutions, which were very appropriate and much appreciated, after which the association adjourned until Friday morning at 10 o'clock.

The association met Friday morning at 10 A.M. Considerable time was taken up in reading various reports, the election of officers, and the appointment of committees.

Notes on the Necessity of Attending to the Hygiene of the Mouths of Pupils of Schools.—This paper was read by Dr. JUAN BRENA of Zacatecas, Mexico. The author stated that the bacillus of Koch had a predilection for the buccal cavity of the mouth, which greatly favored its multiplication. He said it had been demonstrated that whatever the form of oral sepsis might be, it was susceptible of causing all the phlegmoses connected with the local organism. Many cases of septic diseases of the mouth were due to dental caries, and to that alone.

The Influence of School Life Over Health.—A paper on this subject was presented by Dr. Frank W. Wright of New Haven, Conn. The author said, in part, that the first principles of school hygiene were embodied in the sites for the building, construction, and furniture. With proper care, natural ventilation was superior to artificial ventilation. Some of the diseases affecting children were near-sightedness, diseases of the spine, disorders of the digestive system, tonsillitis, consumption, and contagious diseases. Nervous diseases were not at all infrequent, and affected the teachers as well as the pupils. Impure air, defective light, and mental strain were the principal causes of these troubles. Many failures were due to the long hours. The exercise and refreshment taken during intermission were not of the right nature, and the lunches were sometimes made up of sweets and other indigestible food. The first great care, on the reassembling of school, was to see that all pupils were successfully vaccinated. Previous to the discovery of vaccination, smallpox killed more people than all other scourges combined. No child from a house in which a contagious disease existed should be allowed to attend school, and any person exposed to a contagious disease should not attend school for at least two weeks after the last exposure. While whooping-cough was not particularly fatal to older and more robust children, it might be contracted at school and communicated to other members of the family. He thought it was of the greatest importance that pupils should have nothing in common, as it was well known that children with contagious diseases often attended school for several days before it was discovered that such was the case. Such diseases might be communicated by pencils, drinking-cups, books, and clothing. An examination of the pupils should be made daily for the prevention of contagious diseases. An examination should be made twice a year of the eyes and ears of each pupil, and outside inspection was important when children were absent from school.

Hygiene in Its Relation to the Primary School.—Dr. GUZMAN of Mexico followed with a paper on this subject, and among other things he said that aid to the physician must come from the teacher. In his belief, teachers should be trained to help the inspecting physician so as to be able to discover diseases produced by ill-directed schoolwork, contagious diseases in the school, examination of the physical condition of pupils at the time of their entrance to school, and at regular intervals thereafter.

Cremation in Its Relation to Sanitary Legislation.—Dr. LUIS G. ESPINOZA of Vera Cruz, Mexico, read a paper with this title. He divided the subject into three parts: (1) The merits and demerits of cremation; (2) the establishment of hygienic regulations in cemeteries, and a discussion of their respective value; (3) he concluded in favor of compulsory cremation in contagious diseases.

There were several reports of committees and a few papers which were not read, owing to lack of time, as there were no sessions held on Thursday; but these papers and reports will appear in the official proceedings of the association.

The following officers were elected for the ensuing year: *President*, Dr. Henry D. Holten, Brattleboro, Vt.; *First Vice-President*, Dr. Walter Reed, U. S. Army; *Second Vice-President*, Dr. Jesus Chico, Guanajuato, Mexico; *Secretary*, Dr. Charles O. Probst, Columbus, Ohio; *Treasurer*, Dr. Frank W. Wright, New Haven, Conn.

New Orleans, La., was selected as the place for holding the next annual meeting, but the exact date was not determined.

NEW YORK COUNTY MEDICAL SOCIETY.

Stated Meeting September 23, 1901.

NOMINATIONS.—*President*, Dr. Frank Van Fleet; *First Vice-President*, Dr. C. N. Dowd; *Second Vice-President*, Dr. Robert Lewis, Jr.; *Treasurer*, Dr. E. W. Peet; *Secretary*, Dr. J. Van Doren Young; *Assistant Secretary*, Dr. E. P. Fowler. The nominations also included one hundred and seventy-five delegates to the State Society.

Report of the Milk Commission.—Dr. HENRY DWIGHT CHAPIN, the Chairman, read the report. He said that since last November over eight hundred bacteriological tests had been made, under the supervision of the commission; also, that thirty visits to farms had been made by the members, and ten conferences had been held with the milk dealers of this city. The bacteriological examinations were made by Dr. Sarah Belcher and were made possible by a grant from the Rockefeller Institute for Scientific Research. Circulars embodying the suggestions as to the care of milk that have been made by the United States Department of Agriculture were sent broadcast throughout the milk-producing areas of the State. In looking for a cause of the deteriorated milk found in this city, it was finally determined that this was due to microbic agencies. From a chemical standpoint the milk was always good. The law requires a 3-per-cent. butter fat, whereas the average found exceeded 4 per cent. The entire history of the milk, from the cow to consumer, was studied step by step.

It was deemed advisable that a fixed standard of clean milk should be established, and to those dealers who

reached that standard a certificate should be issued. Their milk is called "certified milk." This standard is that the acidity must not exceed $\frac{2}{10}$ of 1 per cent., must not contain more than 30,000 bacteria to the c.c., and must yield $3\frac{1}{2}$ per cent. butter fat. Out of twenty samples of milk examined on a winter day, the range extended from 13,000 to 128,000 bacteria in each c.c. On a summer day, with the thermometer at 90°, it varied from 500,000 to 220,000,000 per c.c. The large number of bacteria is due almost entirely to dirt that gets into the milk. The number of bacteria found in the milk depends on seven conditions: (1) Cleanliness of the barn; (2) condition of the cow; (3) of the milker; (4) of the utensils; (5) the cooling process; (6) the transportation; (7) the cleansing of the bottles before they are returned by the consumer. It was found that if a cow was milked in an ordinary barn in its usual unhygienic condition, the milk yielded 120,000 bacteria to the c.c., whereas the same cow, when milked by the same hand in an open pasture, gave a milk with 26,000 bacteria to the c.c. When the tail, udder, and groin were not cleansed, other conditions being proper, a count of 90,000 bacteria to the c.c. was obtained; after cleansing these parts, it was reduced to 2,000.

The milker should be clean-shaven, and should wear clean linen clothing. Young single men were preferable, because married men were more apt to carry infection from their children.

If the milkpail was not cleansed specially, a count of 80,000 to the c.c. was obtained. After sterilization, this was reduced to 5,000. All of these counts were made twenty or thirty times, and always gave the same results. Metal strainers are not advisable, because the dirt is broken up and disseminated. Absorbent cotton or gauze held fast to the can by clean clothes-pins is the best strainer. Aeration as practised by the ordinary farmer is not a success. The increased number of instruments increases the likelihood of infection. The object of æration is to get rid of the "cow odor" of the milk. This odor is not present if the milk is clean and has a low bacterial count.

A low bacterial count at milking will always be low if the milk is cooled to 45° F. within twenty minutes, and kept at that temperature. No matter how low the count may be, if we wait longer it will be high. The average temperature of springs, which are the usual places to cool the milk, was found to be 55° F. This is 10° too high, and for this reason ice is always a necessity for the milk farmer. The cans should be surrounded by ice and kept at 40° until they are taken out of the car. The car should be kept closed, and the temperature kept as low as possible. The consumer should be instructed to cleanse and scald the bottles before returning the same.

In families where a contagious disease exists, the bottles should be demolished. The farmers and milk dealers have entered into the work of the commission most enthusiastically. All of the dealers that have come up to the standard have kept their milk below the standard of 30,000 bacteria to each c.c. throughout the past summer, whereas in former years the average milk found in this city yielded from 500,000 to 226,000,000 bacteria. Several forms of stoppers for the bottles have been recommended by the commission.

Dr. W. H. Park said that the Health Department had recently passed a resolution (1) that no milk would be received in New York City next year the temperature of which registered more than 50° F., and (2) that all milk unnecessarily contaminated will not be received. The milk ordinarily received that had been exposed to the sun's heat often furnished one billion bacteria to the c.c. The method of counting bacteria consists in diluting each c.c. 100 times, and counting the number of colonies, and in this way estimating the total. The kind of the bacteria was not determined. A low count, if no antiseptics are used, always means cleanliness. A high count does not always mean bad milk, but it does mean either dirt or insufficient cooling. In connection with the Rockefeller Institute, experiments have been in progress in various parts of the city during the past summer to ascertain the effect of various forms of milk on infants among those fed on breast milk. There were a few cases of diarrhœa, but no deaths.

In the second class, milk from clean farms low in bacteria and then boiled, was used. In the third, milk from clean farms, but high in bacteria and then boiled, was employed. There was no difference in the results from the use of the second and third classes. There were but few fatalities in these classes. In the fourth class, ordinary cheap grocery milk was employed. The parents were told to go to their own groceries and get the milk which was paid for by the institute. All of these children had diarrhœa and nearly one-fourth died. Pasteurized milk when two days old generally caused vomiting and diarrhœa.

Dr. Henry Koplik said that the acidity of the milk is a good index of the number of bacteria in it. If the acidity be very high, no matter how high or low the bacterial count may be, the milk is unfit for use.

Mr. Tuttle expressed his appreciation of the work from the dealer's standpoint. He advised that the Board of Health should clean up the rural cow-barns.

Mr. Horton said that about one million pints of milk are sold daily in this city. A great deal of the contamination occurs after the milk is delivered, the poorer classes not using sufficient ice to preserve the milk.

Dr. Wendell C. Phillips asked if there is any extensive employment of preservatives by the milkmen in this city, and if it is harmful to do so.

Dr. W. H. Park said that during the hot weather 10 per cent. of the milk delivered in the city contained more or less formaldehyde. Lately it has fallen to 1 per cent. After observing children fed on this preserved milk he is not able to say that it does any harm.

The report was further discussed by Mrs. Van Zandt, Mr. Bennet, and Dr. E. D. Fisher. A vote of thanks was given to the milk dealers and the committee was instructed to continue its labors.

A Fibrocyst of the Cæcum.—Dr. Thos. H. Manley presented this growth. All of the classical symptoms of appendicitis were present, and the blood examination pointed to pus. No pus was found. Leucocytosis, he said, is an unreliable sign of the presence of pus in the abdomen.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-first Annual Meeting, Held in Philadelphia, September 24, 25, 26, 1901.

First Day—Tuesday, September 24.

Dr. Thomas D. Davis of Pittsburg, President, called the meeting to order at 10 A.M. Prayer was offered by Rev. Dr. H. C. McCook of Philadelphia.

The address of welcome was made by Dr. George Erety Shoemaker, President of the Philadelphia County Medical Society.

Hon. Samuel H. Ashbridge, Mayor of Philadelphia, extended a welcome on behalf of the city.

Dr. John H. Musser, Chairman of the Committee on Arrangements and Credentials, presented the program, and made announcement of various clinics. Invitations were also extended to visit and inspect the hospitals of the city.

The Secretary, Dr. C. L. Stevens, reported a total membership of 3,460, which was a net increase of 112 members.

The Board of Trustees reported that the financial affairs of the society had been prosperous. A recommendation was made for a change in the by-laws by which the Committee on Nominations shall be directed to fix a date between the 15th of September and the 15th

of October of each year for the holding of the meeting of the society. The death of Dr. John Curwen was reported. Dr. Curwen had long been a most respected and useful member of the society, once the President, and at the time of his death he was a member of the Board of Trustees.

The Committee on Pharmacy recommended that the Legislature be asked to pass an act requiring all persons seeking hospital or dispensary aid to record their names and addresses, and when unable to write them, make their marks, as in legal documents. If it is found that persons able to pay are fraudulently receiving aid, it is recommended that a penalty be inflicted.

Dr. Henry Beates, Chairman of the State Board of Medical Examiners, called the attention of the society to the fact that, though great advances had been made under the law governing the practice of medicine, the conditions were yet far from the ideal.

Some Aural Complications of Influenza.—Dr. S. MacCuen Smith of Philadelphia in this paper stated that influenza has been recognized and treated as such for ages, the epidemics having always been characterized by intervening periods during which the disease seemed to have been banished. Brief mention was made of mastoid complications and the importance of their early recognition, and the adoption of energetic measures for relief of local symptoms and the prevention of additional complication of even more serious import was insisted upon.

Dr. Charles H. Burnett of Philadelphia said that when the so-called epidemics of grippe or influenza broke out in 1889 he had been practising otology seventeen years, and he had never seen any case of so-called grippe presenting symptoms which he had not seen previous to the spread of this affection. The hemorrhagic form he did not think any more prevalent in grippe than in measles. He believed there was no specific excitant in influenza.

Address in Otology.—Dr. E. U. Buckman of Wilkesbarre delivered this address. Changes that had taken place in the progress of otology in recent years were noted. Mastoiditis, which had been looked upon with considerable dread, was now, with the present methods of radical operation, so successfully treated that abortive measures were employed but for a short time. Tinnitus aurium he regarded as one of the least satisfactory conditions to deal with, and one in which there had been little progress in the last five, possibly twenty, years. Electrolysis in obstinate tinnitus and increasing deafness had been beneficial. Success, however, was more dependent upon the way medicines and instruments were used rather than upon what remedies or appliances were used.

Dr. John B. Roberts offered a resolution that the Committee on Publication, in conjunction with the Board of Trustees, consider the propriety of publishing a directory of the physicians of Pennsylvania.

Incudectomy in the Treatment of Progressive Hardness of Hearing, Tinnitus Aurium, and Ear Vertigo.—Dr. Charles H. Burnett of Philadelphia maintained that in this disease the surgeon had to contend with a trophoneurosis of the muscular structures of the middle ear, and not simply with a chronic catarrhal process. The latter condition often accompanied symptoms of progressive hardness of hearing and tympanic vertigo, but when the catarrhal symptoms were relieved the aural symptoms often remained unchanged. The proneness of progressive hardness of hearing to pass from one ear to the other was noted. The mode of treatment best adapted to arrest the progress of disease in the one ear and to prevent its occurrence in the other, advised by Dr. Burnett, was to remove the incus from the worse ear. The operation must be performed upon the etherized patient, and with the aid of the electric lamp (six volts). Observation of the patients for periods of ten to thirteen years had proven the efficiency of the operation.

A Few Reasons for Early Operation in Acute Mastoiditis.—Dr. William H. Dudley of Easton read this paper. He stated that there is a variety of acute mastoiditis usually a sequel to chronic purulent otitis media, which at no time presents any serious local symptoms. In some of these cases the swelling may be moderate in amount, the tinnitus not great, and at no time is there severe pain or other general disturbance; yet, when given sufficient time, the disease may become so extensive as to threaten the patient's life. Cases illustrative of this condition were cited. Aside from the intractable chronic otitis media purulenta which may follow these cases, if the condition is allowed to continue, there may ensue extradural abscess, meningitis, cerebral abscess, or septic thrombosis of the lateral sinus, each with its attendant fatalities. He believed that the dangers attending mastoiditis not operated upon in the early stages have not been sufficiently impressed upon the mind of the profession.

Dr. B. Alexander Randall of Philadelphia believed that many of the mastoid inflammations were not purulent and did not need operative intervention; at least four out of five cases of redness, swelling, and tenderness of the mastoid, in his experience, did not require operation, but would clear up under proper medication and rest.

Some of the Ocular Affections of Childhood Associated with Impaired General Nutrition.—Dr. S. D. Risley of Philadelphia presented this paper. He did not attempt to discuss the more frequently occurring forms of strumous eye disease in very young children, but gave briefly the clinical history of two cases illustrative of a form of ocular disease frequently occurring during adolescence, but not necessarily dependent upon the peculiar conditions of vitality at that age. He gave a graphic picture of the general conditions which were described as malaise, variability of temper, precarious appetite, intermittent albuminuria, high specific gravity of the urine, excessive urates, and frequent deposition of red crystals. In both cases boggy turbinates and pharyngeal adenoids developed, and the eyes passed while under observation from hypermetropic to myopic astigmatism. This change of refraction through distention of the eyeballs was preceded and accompanied by retinochoroidal disease, impaired sharpness of vision, photophobia, injected conjunctiva, fronto-occipital headache, and general nervous symptoms; in one case by chorea minor. In discussing the conditions presented by this group of patients, Dr. Risley raised the inquiry whether, given the general impaired metabolism and the absence of the congenital astigmatism, the ocular conditions would have occurred. He believed that they would not, but said that, given the abnormal refraction condition, the observed ocular disease and stretching of the balls were much more likely to occur in the presence of the abnormal state of the general nutrition.

Dr. McAllister of Reading asked for diagnostic points which would determine operation.

Dr. Burnett of Philadelphia stated his belief that operation was indicated in the presence of one or more of the three symptoms—pain, pyrexia, and prolapse in the posterior upper portion of the auditory canal. He referred to the paper of Dr. Shepherd of Brooklyn on "Acute Mastoiditis Following Acute Otitis Media," which he considered one of the best he had ever read.

Gumma of the Ciliary Body.—Dr. Edward Stieren of Pittsburg, in a paper with this title, said that syphilitic invasion of the deeper parts of the eye, especially the acquired form, usually calls for a guarded prognosis. A detailed report of an apparently hopeless case was given. The patient was first seen in November, 1899, and the diagnosis of tertiary syphilis made. Treatment was continued only until March, 1900; although treatment for two or three years had been advised. In December, 1900, the patient reappeared for treatment, which was continued uninterruptedly until May 1, 1901. The patient was next seen on July 19, when there was perfect move-

ment of the eyeball. A slight accommodative squint was corrected by the occurrence of a cycloplegia. The round pupil was slightly displaced upward and inward. The only evidence of the gumma was a slaty discoloration of the sclera and the displaced pupil. The anterior capsule of the lens was dotted with a score of fine deposits near the periphery.

Contagious Diseases of the Eye and Their Treatment.—Dr. S. Lewis Ziegler of Philadelphia briefly outlined some practical methods of treatment, which if applied early and efficiently would, he said, bring about speedy convalescence and avert dangerous complications and sequelæ. The contagious diseases were classified under catarrhal ophthalmia and purulent ophthalmia. He spoke briefly of acute catarrhal conjunctivitis and granular conjunctivitis. Prophylaxis in these conditions was an important element. The local treatment was given. The purulent inflammations were described with their symptoms. In the treatment of ophthalmia neonatorum the successful prophylactic measures were limited to three applications of Credé's ointment, irrigation of the eye with mercuric bichloride solution 1 to 4,000, and irrigation with a solution of protargol of from 10 to 25 per cent.

Paresis from a Standpoint of the General Practitioner.—Dr. Robert H. Chase, Superintendent of the Friends' Asylum for the Insane, at Frankford, Philadelphia, took this as the subject of the annual "Address on Mental Disorders." The importance of the subject was brought to the attention of the general practitioner and his responsibility pointed out. The disease in its initial stage should be intelligently studied by him for the especial reason that this favorable season is the only time during the course when any treatment is likely to succeed. The history of the disease was given, showing that to the pupils of Esquirol belongs the distinction of its discovery. The prominent theories given in the past respecting its nature were stated briefly as follows: (1) As a complication of insanity; (2) as a distinct form of insanity; (3) if not as a group of cerebral or cerebrospinal affections, at least as a paralytic dementia, with which is associated more or less frequently, and under various conditions, insanity. The interesting history of the prodromal stage was briefly sketched. The early signs of the disease, as seen in general practice, were described at length, and the treatment in this stage, including prophylaxis, was outlined.

Two Cases of Progressive Muscular Dystrophy in Brother and Sister.—Dr. A. A. Eshner of Philadelphia reported these cases occurring in a boy of thirteen and a woman of thirty-two years. The cases were considered interesting apart from the relative rarity of the muscular dystrophies, because of their occurrence in two members of the same family, of the history of another dystrophy in the collateral ancestry, and of the presence of a traumatic cerebral disorder in the father. Muscular dystrophies were stated to be hereditary or familial diseases, sometimes congenital. Their appearance, as a rule, occurs during the first decade of life. They are more common in males than in females in the proportion of about six to one. They rarely, if ever, occur in negroes. The essential lesion of the disease, so far as known, consists in degenerative changes in the muscle-fibers, some of which are increased, while others are diminished in size, together with more or less hyperplasia of the interstitial connective and fatty tissue. The etiology, the author stated, was obscure. The view was expressed that the most plausible explanation of the lesions was that which attributes them to some developmental defect, resulting in the replacement of muscular by fatty and fibrous tissue, with secondary motor disability and the consequent deformities. The disorder is usually progressive in course, and the prognosis is consequently unfavorable. Massage and electricity were mentioned as aids in preserving tissue and preventing deformities. Surgical correction of the deformities might be required.

Prognosis in Neuritis.—Dr. F. Savary Pearce of Philadelphia believed that in summing up scientific clinical facts of carefully studied cases of neuritis there would be found existing signs and symptoms indicating the ultimate results in different classes of cases dependent upon pathological findings, variety of cases, etc. Examples of needle prick and gunshot wounds, as unfavorably affecting nerve tissue, were given. The prognosis in such traumatic cases was said to be very grave. Pressure neuritis should be differentiated from the palsies of occupation neuritis. Degeneration of peripheral nerve trunks after severance was regarded as of grave prognosis unless the operation of suturing was done either primarily or secondarily. The diathetic causes of neuritis, as of rheumatism, gout, etc., are usually local and responded in proportion to the general disease. Neuritis from alcohol and the metals is usually recovered from in the first attack if the poisoning had not been too profound. Tumors, such as false neuromas, when the cause of neuritis, should be excised by the surgeon.

Some Cases of Hysteria.—Dr. Edward E. Mayer of Pittsburg, in a paper with this title, emphasized the statement that hysteria is always a psychic disease, and that the various motor, sensory, secretory, and vasomotor symptoms are but the result of this primary mental condition. The altered psychic condition is based upon altered relations between actual consciousness and subconsciousness. Stigmata of degeneracy are generally found in hysterical persons. The treatment advised by the author was a psychic one, mental or suggestive therapeutics being necessary. A number of interesting cases was described, among which was one with double ptosis (spastic), rhythmical contractions of the diaphragm and upper arms, paraplegia, etc., which had lasted for four years and was cured in three weeks. Another case was one of blue hysterical œdema of the left hand. A third case was one with successive attacks of hystero-epilepsy, mutism, somnambulism, multiple neurotic (hysterical) gangrene, and paraplegia.

Second Day—Wednesday, September 25.

The President's Address.—Dr. Thomas D. Davis of Pittsburg delivered the annual address, taking for its title "Pioneer Physicians of Western Pennsylvania." He described the perils and privations experienced by the doctors who crossed the Alleghanies in the latter part of the eighteenth century. In ministering to the sick and wounded, many of these brave men suffered death at the hands of the Indians. "The pioneer doctor," said Dr. Davis, "was often a farmer, a minister, or a school teacher. He traveled over several counties, and often made long and perilous journeys."

The Address in Medicine was delivered by Dr. John B. Donaldson of Canonsburg. He said the present century's achievements promised far to outstrip the past. Internal scientific medicine with preventive means will be the work of the medical world. Surgery, the brilliant half sister of Medicine, would go hand in hand with her in the crusade against disease, and the profession might certainly look for other Jenners to arise who will eliminate many of the fatal but preventable diseases of our day. The hope was expressed that, in the great Keystone State of Pennsylvania, the present century might see legislative bodies willing to legislate in the interests of indigent tuberculous patients. The relief for these patients was an important field, to his mind, toward which the minds of philanthropic millionaires might be directed. Ere long he believed that there would be an end to the so-called different schools of medicine, for all would be compelled to practise rational medicine.

Movable Kidneys; Their Effect upon the Gastric and Intestinal Functions.—Dr. Boardman Reed of Phila-

delphia read this paper. Nephroptosis, he said, was frequently one feature of a general sagging downward of a number of abdominal organs. Glenard's division of movable kidney into three stages was given: That in which only a part of the kidney can be felt below the ribs; that in which the entire kidney is in the flank between the last rib and the ilium; and that in which the kidney may be felt anywhere in the abdominal cavity between the last rib and the pelvis. The female sex is more prone to the condition. Movable kidney in the author's opinion was conducive to the causation of chronic appendicitis. Symptoms mentioned include pain or sensitiveness on pressure over the site of the displaced organ, and certain dyspeptic symptoms. The writer advised complete rest in bed in the severer cases with much pain, and later the support of a well-fitting pad and belt, with special exercise and very cautious massage to the abdominal muscles; outdoor air, tonic hydriatic treatment. When such treatment fails, or is not practicable, surgical treatment must be employed.

Dr. R. H. Gibbon of Scranton regarded the application of a pad to a loose kidney a mistake. This had been pointed out by Edebohls, who laid great stress upon the fact of appendicitis having been frequently caused by a loose kidney displaced downward, causing interference with the superior mesenteric vein, resulting in congestion and inflammation. He believed that surgical treatment was the proper method in the majority of cases. The only external device of value in his opinion was the Cardigan corset, with the lacing reversed, *i. e.* beginning at the bottom.

Dr. Charles P. Noble said his personal experience had been limited to surgical treatment. When the mobility did not exceed two or three inches, he believed the rest cure, with general tonic treatment, was useful. If the urinary symptoms are negative, the case required little attention. Marked symptoms showing congestion of the kidney indicated nephrorrhaphy.

Dr. Reed, in closing the discussion, said movable kidney should not be considered *per se* necessarily a surgical disease. In the cases where the circumstances would not permit the rest cure, he thought operation should be done.

Enteroptosis.—Dr. John G. Clark of Philadelphia spoke upon this subject. He dealt more especially with the mechanical part of the treatment. He felt that in the majority of cases the more conservative plan should be first tried. He had seen cases in which there was a general sagging of the pelvic floor with retrofixation, and in which not infrequently after operation the patient complained of the dragging sensation. He referred to the article by Webster of Chicago, which he regarded of signal interest. Models were shown illustrative of the abdominal wall muscles looking from the front and from the back, and the pathology demonstrated.

Dr. Gibbon of Scranton thought the fibrous sheaths of the muscles were at fault rather than the muscle tissue itself.

Report of Several Cases of Infective or Malignant Endocarditis.—Dr. A. O. J. Kelly of Philadelphia said that during recent years our ideas concerning the nature of acute endocarditis had undergone considerable modification. Formerly, it was customary to distinguish two forms of acute inflammation of the endocardium—one, a benign, non-infective process, ending in the recovery of the patient, those usually with permanent damage to the valves affected; the other, a malignant, destructive infective process, running a comparatively short course and ending in the death of the patient. It had long been observed that clinically the differential diagnosis between the two forms is sometimes attended with considerable difficulty. It had been ascertained that all cases of acute endocarditis are associated with, if not due to, bacteria; that the same bacteria are found in cases associated with ulceration as in those that are not, and the necessity for revision and modification of our conception of acute endocarditis became apparent to all. Three factors of diagnostic value were: (1) Leukocytosis; (2) bacteriologic examination of the blood; (3) irregular heart murmurs.

Dr. A. E. Roussel referred to three cases of endocarditis occurring in his practice, two of which possessed features resembling those of Dr. Kelly's second case. In a girl of nineteen, the diagnosis of malignant endocarditis of the ulcerative type was confirmed by death. In many of the cases he thought it might be well to leave off the term "ulcerative" altogether; in many of the cases, the tissue changes have gone as far as death without the presence of ulceration. The term "malignant" would seem to cover the ground. On the other hand, this term might be objected to because some of the cases got well. These were a small minority, however. A point of great interest in the second case was the progressive enlargement of the spleen. Leukocytosis was also marked. The third case was of interest in that it followed miscarriage and presented all the symptoms of a profound septicæmia. The blood was taken from the vein, and Dr. Roussel emphasized the importance of taking a large amount of blood for examination bacteriologically.

Dr. J. M. Anders spoke of the difficulty in diagnosis in the two forms of endocarditis, and emphasized the great importance of studying the cases minutely by the application of the most modern methods. He thought some value should be placed upon the presence of murmurs even in so-called ulcerative endocarditis. Of more importance were the embolic phenomena. His constant rule was carefully to eliminate all affections simulating ulcerative endocarditis, particularly typhoid fever and the allied diseases.

Dr. James Tyson thought that if the process were looked upon as a pyæmic one, in which the heart valves become the objective point of the bacterial effect, the question would be greatly simplified.

A Few Notes on the Salts of Sulphocarbolic Acid.—Dr. Edgar Moore Green in this paper mentioned a few of the sulphocarbolates which he had found excellent in intestinal antiseptics, notably the sodium, potassium, and ammonium salts administered in pill form with enteric coating. Sodium sulphocarbolate with acetanilid he advocated for the relief of headache, especially associated with deranged digestion.

Primary Abdominal Tuberculosis.—Dr. Lawrence F. Flick of Philadelphia in this paper defined the condition in question as the primary existence of a tuberculous colony in some tissue or organ within the abdominal walls. The general belief that tuberculosis began in the lungs was, he said, based upon the common experience that the first recognition of the disease is in the lungs; not until these organs are affected do the classical symptoms occur. The observations of pathologists and surgeons have proven that tuberculosis does frequently occur primarily within the abdomen; in what percentage is yet undetermined. Diagnosis is often impossible, and in this direction surgeons and gynecologists could aid much. Frequent discussions of the subject were urged. The question of treatment is still unsettled; men of the largest experience recommend early surgical intervention. As an alternative to this the building-up treatment is advocated by others.

Dr. Joseph Price, in discussing Dr. Flick's paper, said that if the surgeon could see these cases, the treatment would be very simple and, as they often had occasion to think, very fortunate. For a number of years he had never refused to open the abdomen for intraperitoneal tuberculosis, whether ovarian, tubal, general, or of whatever nature. He considers iodoform abundantly used of great value. The condition of abdominal tuberculosis he considered one which justifies excessive and undue liberty intraperitoneally, and which could be undertaken in no

other condition. Iodoform should be used freely and drainage employed, either pelvic or general.

Dr. MORDECAI PRICE expressed his belief that the infection occurred through the lymphatics and the blood through some disorganization of the digestive tract with food infected with tuberculosis. He had seen several cases apparently directly traced to the milk product. In diagnosticating intraperitoneal trouble, where there was slow emaciation, he believed it was the urgent duty of the surgeon to open the patient and investigate.

Dr. JAMES TYSON stated that in the difficult diagnosis the tuberculin test presented an infallible test.

Dr. S. SOLIS COHEN said that the use of iodoform in a clinical experience extending over a great many years had convinced him of its value in combating tuberculosis, internal or external. In the internal administration the secret of its efficacy is in the gradually increasing dosage, taking some three or four months to reach a maximum. The question of etiology was important. With the conflicting theories as to the transmission of human and bovine tuberculosis the etiology was unsettled. That bovine tuberculosis can be transmitted to cattle, or bovine tuberculosis transmitted to man, he thought there was sufficient evidence upon record from careful observations in the clinic and laboratory to make the profession very careful at this time not to give the impression that such transmission is not possible.

Dr. Flick, in closing, stated that the tubercle bacillus could enter the alimentary canal through other sources than food and milk; the bacilli entering the respiratory tract might lodge in the pharynx and be swallowed; these bacilli might be from a consumptive as easily as from food and milk. In the same way the germs could be carried into the bronchial glands, the thoracic duct, and into the circulation. He laid special stress upon the value of iodoform and the preparations belonging to the same group.

Election of Officers.—The following is a list of the officers elected: *President*, Dr. F. P. Ball of Lock Haven; *First Vice-President*, Dr. Walter Lathrop of Hazleton; *Second Vice-President*, Dr. A. S. Harshberger of Lewistown; *Third Vice-President*, Dr. R. W. Stewart of Pittsburg; *Fourth Vice-President*, Dr. H. K. Weaver of Norristown; *Secretary*, Dr. C. L. Stevens of Athens; *Assistant Secretary*, Dr. W. B. Erdman of Macungie; *Treasurer*, Dr. G. B. Dunmire of Philadelphia.

Dr. G. W. Guthrie, Dr. W. Murray Weidman, Dr. W. S. Foster, and Dr. A. P. Hull were elected delegates to the House of Delegates of the American Medical Association, to serve for two years. Dr. W. T. Bishop, Dr. John B. Roberts, and Dr. H. S. McConnell were elected delegates to serve for one year. Sixteen alternates were elected, and it was recommended by the committee that Dr. William M. Welch of Philadelphia should be selected to serve as the fourth delegate for one year, should the society be entitled to eight delegates.

The place of the next meeting will be Allentown.

Afternoon Session—Wednesday, September 25.

Address on Hygiene.—The afternoon session was opened by the address on Hygiene by Dr. E. B. BORLAND of Pittsburg. Special hospitals for the care of smallpox, diphtheria, and scarlatina patients in populous centers were declared to be a necessity. The advertisements of patent medicines and medical frauds were deplored. It was stated in regard to the water supply of the Commonwealth that about 20 per cent. only used water that was normal. The rest of the community were obliged to use water admissible, suspicious, or dangerous. Preventive medicine was declared to be as exact a science as clinical medicine.

The Histories of Three Accidents in Tapping the Chest.—This paper was read by Dr. J. C. LANGE of Pittsburg. The cases were: One of instant death following the entrance of an aspirating needle through the seventh intercostal space at the posterior axillary line on the left side; male, aged twenty-three years, failing to regain health after attack of croupous pneumonia. Cure was effected by tapping; condition now normal, except slight lack of fulness in subscapular region, and difference of one and one-half inches in expansion of the two sides. The third case was that of a woman aged fifty-eight, with biliary cirrhoses attacked with acute pleuritis of the left side. Restoration to condition of health was compatible with the liver lesion. Death occurred, however, sixteen months later without any complications of liver disease.

Reforms in Medical Education.—Dr. H. M. SHALLENBERGER of Rochester in this paper deplored the low standard of equipment of the average medical graduate in comparison with graduates in other sciences or in the polytechnic schools. A preliminary examination of students, admitting only those who have had an adequate education, and a change of the curriculum, giving a uniform standard in all colleges, embracing a comprehensive course of study and including all collateral branches with special stress on clinical and bedside instruction, were the two remedies suggested.

In discussion, Dr. E. B. BORLAND remarked upon the necessity of raising the standard of medical requirements. In regard to examinations, he was "in favor of examining all the way round, beginning with the student asking admission to a medical school," which examination might well extend to members of faculties and of State medical boards of examiners.

Dr. J. C. BATESON of Scranton believed that higher medical education should be general and include all sects practising the healing art.

Dr. HENRY BEATES, Jr., emphasized the high responsibility of the Medical Society of the State of Pennsylvania in elevating the standard of medical education. Commercialism was rife, and the result was the admission of men as students utterly incapable of comprehending the science of medicine.

The Duration of Immunity from Diphtheria Antitoxin.—Dr. HENRY D. JUMP of Philadelphia presented this paper. With a patient who had been exposed, it was his practice to inject as much as 500 units of antitoxin. After the isolation of the sick person, the room was disinfected, and all persons not affected were given an immunizing dose, being removed. A series of cases was given.

Lay Medical Education.—Dr. E. N. RITTER of Williamsport in this paper stated her belief that school teachers were capable of instructing pupils of the lower and intermediate grades, but that physicians should instruct the advanced pupils. Higher classes should be instructed in "First aid to the injured, with practical demonstrations." The preservation of health should be taught. The importance of the selection of a healthy life partner was emphasized.

Strength.—Dr. JOHN M. BATTEN of Downingtown stated that a perfectly healthy parent governed the sex of his or her offspring; if the father were strong, the offspring would be a female; if the strength of the mother should prevail, the offspring would be a boy.

The Vermiform Appendix.—Dr. EDMUND W. HOLMES of Philadelphia read a paper by this title, and presented a fine collection of specimens. The four varieties of cæca according to Treves were given. In the examination of one hundred and ten adult appendices, he had found the first variety but once, the second but once, the third ninety-six times, the fourth twelve times. The tendency was shown of the cæcum to encircle the ileocæcal valve as a pivot, and so carry the appendix toward the left. A search for the base should on this account be made to the left, the ileocæcal valve itself being a valuable land-

mark when the usual band is indistinct. He believed that the displacement of the appendix or the displacement of the cæcum and colon *en masse* might explain anomalous symptoms. Palpation of the appendix through the abdominal wall was not always reliable, owing to the displacement of the organs.

Dr. JOHN B. ROBERTS congratulated Dr. Holmes upon the valuable contribution in the presentation of the paper and specimens.

The Doctor's Fee; Is It Fixed and Definite?—Dr. L. J. LAUTENBACH of Philadelphia read a paper by this title. The amount of the physician's fee was determined, in his opinion, by the doctor's reputation, skill, the time consumed, risk incurred, and responsibility assumed. The patient's standing, obedience, and the result of the treatment are also influencing factors. The practice of fraternal societies of supplying medical services for a nominal sum was deplored. He believed that in every case doctors should charge a fair price, which, if not paid, should be collected.

Therapeutic Notes.—Dr. LINNÆUS FUSSEL of Media called attention to a few remedies which appeared to him of great value, some well known, but none fully recognized as the acceptable treatment among the majority of the profession. Among those mentioned were tincture of iron in acute rheumatism in doses of 30 minims every six hours; ipecacuanha in dysentery, giving first $\frac{1}{4}$ grain of morphine, applying a mustard plaster to the epigastrium, and in half an hour a dose of 20-30 grains; hydrargyrum in rhus poisoning; cider vinegar in diarrhœa; calomel as a specific in most forms of skin disease. Many other conditions were enumerated with the remedy and dosage.

Some Respiratory Conditions Dependent upon Gout and Obesity.—Dr. J. M. ANDERS of Philadelphia stated that the conditions present in the lungs in obesity should be more thoroughly observed. He attributed the symptom of dyspnœa so frequently present in the anæmic variety of obesity largely to mechanical interference with the respiratory function, though hæmatologic and muscular changes entered into the causation. Special attention was called to the thoracic symptom of pain in the subscapular and intrascapular muscles. This pain might be acute, and might be localized, though it commonly extended across the back. Dr. Anders described also hyperæmic bronchitis with troublesome cough and copious mucoid expectoration occurring in over-fatness. Intimately associated with this bronchitis was asthma, due largely to transient insufficiency of the heart muscles, and an asthma due to gastric disturbance. His tentative conclusions concerning the relation of asthma to polysarcia were: that asthma occurs in about 5 per cent. of the cases of obesity; that it occurs only in extreme polysarcia; that there is a gouty state or history in most cases in which true asthma is secondary to obesity; that about 50 per cent., or one-half, of the cases are curable by overcoming the causative condition.

A Medical Examination as a Prerequisite to Marriage.—Dr. J. C. BATESON of Scranton remarked in this paper that, instead of regarding the many thousands of unhappy marriages yearly as the natural result of violated physical law, many people piously criticise the severity of Providence. The question of hereditary influence, for a number of years agitated by the writer, was receiving attention in the proposed scientific regulation of marriage in some States. He believed that all applicants for marriage should pass a medical examination. For the preservation of the integrity of the race and the physical welfare of the republic, legislators should be prompted by the medical profession to give the subject active attention.

The Diagnosis of Lesions of the Aortic Orifices, with Special Reference to Functional Aortic Insufficiency; Pseudo-Leukæmia, with Enlargement of the Liver and Spleen, Due to Lymphatic Tuberculosis; A Case of Typhoid Fever Complicated by Noma, with the Demonstration of Diphtheria Bacilli in the Necrotic Area.—Dr. JOSEPH SAILER of Philadelphia presented these papers. He did not attempt to read them all, giving a mere outline of the second case. He referred in this connection to the investigations of General George M. Sternberg, who had found fifteen cases in all in which the lymph glands showed peculiar histological enlargement and in which tubercle bacilli could be found by staining. These investigations were the most important that had been made, in that they constituted the first systematic effort to prove that pseudo-leukæmia of a certain peculiar type was not a blood disease, but an infectious one, and that the infection was produced by tubercle bacillus. The total number of reported cases is only about thirty. In the short space of six months three such cases had come under Dr. Sailer's observation, in four of which it was possible to confirm the diagnosis before death, in two by the autopsy. The general features of the cases were given. The temperature chart showed a singular irregularity occurring nowhere else except in chronic pyæmia, differentiation consisting in the absence of leukocytosis. Attention was called to this peculiar group of cases because so few had been recorded. Dr. Sailer thought with those who had written upon the subject that the cases escape recognition because the pathological changes are not invariably those indicating the existence of tuberculosis, and the clinician is probably satisfied with the diagnosis of leukæmia or Hodgkin's disease.

Thursday, September 26—Morning Session.

The President, Dr. THOMAS D. DAVIS of Pittsburg, called the meeting to order at 9.30.

A resolution recommending personal visitation to disinterested county medical societies was offered by Dr. MCCONNELL of New Brighton, and referred to the proper committee.

Psycho-Physical Laboratory.—A resolution was introduced expressing the favor of the society in regard to the establishment of a psycho-physical laboratory in the Department of the Interior at Washington for the practical application of physiological psychology to sociological and abnormal or pathological data, especially as found in the institutions for the criminal pauper and defective classes, and in hospitals, and also as may be observed in schools and other institutions. The resolution was accepted as read.

Dr. GEORGE ERETY SHOEMAKER offered a resolution recommending compulsory vaccination in schools.

Governor STONE gave a few words of greeting to the society. To the physician he accredited the strongest hold on the pulse of the country.

President McKinley's Physicians.—Dr. JOHN V. SHOEMAKER offered a resolution to the effect that the physicians and surgeons in attendance upon our late President, William McKinley, enjoy the fullest confidence of the members of the Medical Society of the State of Pennsylvania, who record their appreciation of the labors of the doctors in attendance, knowing that they faithfully performed their duties, though grieving that their efforts were in vain to save their distinguished patient.

Address on Surgery.—The scientific meeting was opened by the address in surgery entitled "Torsion of Arteries," by Dr. JAMES W. MACFARLANE of Pittsburg. The author divided torsion into "limited" and "free." Free torsion was said to be the rule. He believed that when this form failed, primarily in a large artery, the ligature, acupressure, and perhaps the entire hæmostatic forces of the surgeon were required. Advantages mentioned were saving of time, absence of danger from foreign bodies, and the requirement of no assistant. A table of cases in which torsion was employed was given with results.

The Operative Treatment of Female Bladder; Descent and Sacculation.—Dr. GEORGE ERETY SHOEMAKER of

Philadelphia in this paper stated that displacements of the bladder in the female might take place upward, backward, laterally, forward, and downward. Only in the downward direction is sacculation and imperfect evacuation liable to occur frequently, but its secondary effects are very important. The writer has seen but one case of pathological forward dislocation. The various displacements with their symptoms are described. Operations above the pubis have little effect upon the bladder position, if unsupported by other measures. The plan adopted by the writer is given in detail. Special attention is called to the method of taking up the redundant anterior vaginal wall and supporting the bladder.

The Present Status of the Bottini Operation as a Method of Treatment in Obstructive Hypertrophy of the Prostate Gland Derived from a Summary of 834 Operations by Forty-eight Operators.—Dr. Orville Horwitz, in this paper, declared his belief that prostatic hypertrophy generally commences much earlier than at fifty years of age. He quotes Dr. L. Bolton Bangs, who agrees with him in this view. He regarded the experience of trustworthy surgeons a guarantee of the value of the operation. The operation of complete prostatectomy he thought was attended with far greater danger than the Bottini, and should only be attempted in rare instances. The complication of contraction of the vesical outlet had not occurred in Dr. Horwitz's cases. Pyelitis is not necessarily a contraindication. A series of conclusions is appended.

Surgery in Its Relation to Neurasthenia.—Dr. G. D. Nutt of Williamsport presented a paper by this title dealing with the correction by surgical means of certain prominent symptoms of a neurotic nature caused by disease of the sexual organs, movable kidney, errors of refraction, and muscular insufficiency of the recti muscles of the eye. Since pathological conditions cause nervous symptoms not directly connected with the affected organs, the question was raised, Might there not be other diseased organs causing reflex disturbance yet unknown, to account for the large and increasing number of neurasthenics?

A paper entitled "Tuberculosis of the Rectum," by Dr. W. M. Beach of Pittsburg, and one entitled "Some Practical Points in the Treatment of Typhoid Fever," by Dr. S. Birdsall of Susquehanna, were read by title.

Rare Complications of Appendicitis, with Their Treatment.—Dr. Ernest Laplace presented this paper. The cases exhibiting these complications had had history of a previous acute attack cured by medical measures, but lingering obscure abdominal pain. Such cases had been diagnosed as affections of nearly every organ in the abdomen. The necessity of proper surgical intervention was emphasized in consideration of the difficulty in diagnosis. Particularly, Dr. Laplace stated, was this necessity apparent when it was realized that pain may be absent in acute appendicitis, or felt at an entirely different spot, or that fever may be absent or range to 104° or 105°, and that a general disturbance and local rigidity are perhaps the only constantly present symptoms of the disease. It should be borne in mind in every case of appendicitis that there was a time when operation would have saved life.

Dr. Joseph Price, in discussing Dr. Laplace's paper, made the statement that "more people are dying to-day of appendicitis than from an epidemic of smallpox." Chronic cases, he said, ought never to occur. Well-marked symptoms late in the cases evidenced the fact that the early symptoms should have been detected by a good clinician. He believed the public would come to hold the clinicians thrice responsible for early diagnoses. The complications mentioned in Dr. Laplace's paper should have been prevented by proper recognition of the early conditions.

Dr. Adolph Koenig of Pittsburg said that he was a general practitioner, and as such believed that the general practitioner should use good judgment. He had been in practice twenty-two years and had never yet lost a case of appendicitis which he had had from the beginning. If he saw that a case was not improving under medication, he would call in a surgeon, but asserted that a surgeon had no right to operate in a mild inflammatory condition mistaken for appendicitis.

Dr. Mordecai Price reinforced the sentiments of the paper and the expressions of Dr. Joseph Price. His common experience of meeting physicians who had never seen a case of appendicitis, he thought, was explained by the fact that the condition was not recognized. In any intraperitoneal inflammation he thought you could safely operate for appendicitis ninety-eight times out of a hundred.

Dr. Laplace, in closing, said that inasmuch as the complications are numberless and the diagnosis often difficult, the patient should be given the benefit of the doubt and the chance of recovery by immediate operation. If the appendix could be purged of its offensive material by drastic measures, this should be done. Should the pain reappear after having disappeared, nothing could do justice but the cold steel blade. If everybody were justly dealt by, we would not hear of a case of appendicitis. An "unsuccessful operation" meant that somebody had blundered; the medical man had treated too long, "or the surgeon has been a dirty surgeon." With the present understanding of appendicitis the patient should live.

The Radical Cure of Hernia was the title of a paper presented by Dr. Edmund W. Holmes of Philadelphia.

A Case of Perforating Typhoid Ulcer; Laparotomy; Recovery.—Dr. W. L. Rodman of Philadelphia read a paper by this title. The case presented typhoid ulcer in the fifth week, followed by extensive general peritonitis, and was operated upon thirty-seven hours after the accident. The perforation was found directly under the incision. The opening was rapidly closed with Lembert sutures, and the cavity flushed with hot saline solution. A large amount of iodoform gauze was introduced as protection from further infection and to favor drainage. A drainage tube was introduced at the lower end of the wound. Although the patient was in extremis, with a pulse that could not be counted, he is to-day perfectly well. The time of operation from beginning to end was sixteen minutes. Dr. Rodman's impressions were that a case of perforation, even though in general peritonitis, should have the benefit of a laparotomy if in a hospital with proper facilities; and that general anæsthesia can be borne even in so grave a condition. Ether was given. Cocaine was considered, but the patient was too young to give intelligent co-operation. Operation was at least thirty-seven hours after perforation. This case, with one of general peritonitis following gunshot wound of the intestine and operated upon successfully fifty-one hours after the accident, has taught Dr. Rodman that it is rarely ever too late to give such cases the benefit of surgery. The proportion in which pathological perforations of the gut in typhoid fever repair themselves without surgical intervention has been estimated at between 3 and 10 per cent. The rule of action in civil practice should be just the opposite to that in military practice, where it may be proper to decline interference because of lack of facilities. The analogy between traumatic and pathological perforations of the intestines involves the same general principles, and as early a laparotomy as is consistent with the existing shock should be done in both. Dr. Rodman believes it is as much one's duty to operate in both conditions as it is to tie a bleeding vessel in hemorrhage.

Dr. Joseph Price considered the operation in this case the acme of good surgery.

Dr. Ella B. Everitt, physician in charge at the Woman's Hospital, said that it had been with the greatest interest that she had watched the case. Drainage from the tube was continued for a week after the operation,

and drainage from gauze a day or two later. Pus cells were present, but no active organisms were found. She thought the lesson was evident that such patients were entitled to operative interference, even though, as this child, almost moribund. The severity of the attack was so great that it seemed that the child hardly could have lived even without this grave operation. The result was doubly gratifying. The occurrence of a small hemorrhage after the operation was also noted as a second complication. The child rallied well from this, and went on to a satisfactory recovery.

Dr. Elizabeth Bundy said the point of interest to her was the range of the persistent temperature. The condition of the child had begun to improve within an hour from the time of the accident.

Case of Ascites, Due to Syphilitic Cirrhosis of the Liver.—Dr. W. J. Roe of Philadelphia presented the report of this case seventeen months after the beginning of ascites, and fourteen months after the first paracentesis he transplanted the omentum between the parietal peritoneum and the abdominal wall, suturing the omental border of the stomach and colon to the margins of the artificial pocket. Previous to operation, paracentesis was performed thirty-one times, with an average of 760 ounces and of fourteen days' interval; subsequent to operation, twenty-one times, average ounces 218 and twelve days' interval. Marked improvement in her general health ensued. After six months, her general condition reverted to that at time of operation, and death occurred at the end of eight months. Autopsy showed extensive vascular adhesions, a horseshoe kidney, and syphilitic cirrhosis of the liver.

Ludwig's Angina Complicating Typhoid Fever.—This paper by Dr. William E. Robertson and Dr. Charles A. Biedert of Philadelphia was read by title.

Afternoon Session—Thursday, September 26.

Address in Obstetrics.—The annual address in obstetrics was given by Dr. David Funk of Harrisburg. Dr. Funk presented the status of several of the more serious obstetrical complications and operative procedures. From the standpoint of the general practitioner, it was stated that placenta prævia would probably remain one of the most disquieting and alarming complications for the reason that there can be no prophylaxis and because of the appalling rapidity with which it destroys life. Symphysiotomy as an operation of election would appear to be gradually displaced by cæsarian section, where the high-forceps operation is dangerous. Puerperal septicæmia and ectopic gestation were considered fully. The responsibility of the general practitioner in making an early diagnosis in ectopic gestation was emphasized. Previous history of sterility, cessation of previously regular menstrual history, irregular bleeding, colicky pains, nausea, and vomiting were given as points in differential diagnosis. Puerperal eclampsia in its etiology and treatment was considered; as to etiology, writers are agreed upon the single point of toxæmia. Serum therapy in the treatment is regarded as a problem of the future.

The Ultimate Results of Operation for Cancer of the Uterus.—Dr. Charles P. Noble of Philadelphia stated the greatest problem before the medical world to-day to be the causation and cure of cancer. Recent literature shows that hysterectomy for cancer of the cervix cures about 10 per cent. of cases, based upon the standpoint of freedom from recurrence at the end of five years, statistics varying from a percentage of zero to twenty of cures. Hysterectomy for cancer of the body of the uterus gives 75 per cent. of cures. Dr. Noble reports thirty-two cases of hysterectomy for cancer. Ten of these have died of recurrence and one of pneumonia. Six cases have disappeared, two cases of cancer of the cervix have had recurrence, and the remaining thirteen are free from recurrence at the present time. The hope for improvement in results lies in early diagnosis. Dr. Noble strongly urges that all cases with irregular discharges should be promptly investigated.

Dr. Frank E. Hammond of Philadelphia read a paper entitled "The Value of Local Treatment in Gynecological Practice."

Dr. F. P. Ball of Lock Haven presented a paper giving a report of a case of double extrauterine pregnancy, and emphasized the importance of early diagnosis.

Instrumental Perforation of the Uterus.—Dr. Wilmer Krusen of Philadelphia in this paper discussed the conditions which soften the uterus and render the accident liable—carcinoma, anæmia, tuberculosis, and subinvolution. The different perforations are enumerated with the results. He reported a case of perforation of the uterus at the fundus, in which the omentum had been caught by the curette and drawn through the uterus into the vagina. He saw the case within two hours after the accident, and immediately performed cœliotomy. An uninterrupted recovery ensued. He emphasized the necessity for care, cleanliness, and special training in all intrauterine manipulations.

Some Surprises Met in the Practice of Obstetrics.—Dr. R. B. Ewing of West Grove reported a series of obstetric cases interesting from the fact that the unexpected occurred in their course. They were illustrative of the terse expression of one of the most gifted medical authors and teachers of America, after a lifetime of active service as an obstetrician, that "The practice of obstetrics is full of surprises."

Dr. John V. Shoemaker exhibited a patient with a peculiar parasitic disease of the skin. It was characterized by its appearance from the twentieth to the fortieth year in somewhat irregular patches upon the anterior portion of the chest. The cause, being from without the body, is one point in its dissimilarity to liver spots. The parasite is conveyed from water or from decayed vegetable material. Clean linen may contain the germs. In treatment, he especially stated that water should not be used; alcohol, or alcohol in water, being substituted; and, in medicaments, the copper salts, either in sulphate or oleate, and mercury in the form of ointment gave the best results.

A Remarkable Case of Infantile Typhoid of Fœtal Origin, with Recovery.—Dr. Harry C. Westervelt of Pittsburg reported the case of a woman seven months pregnant who had typhoid fever. Delivery occurred at seven months and the mother made a good recovery from the fever. Weight of the child was nine pounds fourteen ounces, and it presented the characteristic "old man" appearance. A temperature of 103 4° F. soon appeared. Recovery ensued and the child presents every appearance of healthy babyhood.

The Effects of Typhoid Fever on the Nervous System.—Dr. C. C. Hersman of Pittsburg in this paper regarded as the most frequent causes of typhoid fever impure air, food, and water. The nervous system is usually the first attacked by the poison. Often, too, are the cardiac ganglion and nerve supply of the heart attacked. Meningitis is mentioned as a grave complication. Dr. Hersman had two such cases under his care within the past two years, one of which recovered. Friedlander of Berlin was quoted as giving 80 per cent. mortality in typhoid meningitis. Tubercular predisposition in children was considered a fruitful source of typhoid meningitis.

The Value and Importance of Teaching the Fundamental Branches of Medicine from the Standpoint of Their Practical Application.—This point was emphasized by Dr. Gwilym G. Davis of Philadelphia. The student should be so taught that he will understand his subject rather than simply memorize isolated facts. Textbooks are too statistical and not sufficiently explanatory. Ques-

tions which require an understanding of the subject for their answer should be given and not catch questions. The day of the true pedagogue, it was believed, was at last dawning.

Ruptured Tubal Gestation and the Physician.—Dr. JOHN M. FISHER of Philadelphia, in a paper by this title, said that ectopic pregnancy was fraught with more immediate danger to the life of the individual than any other acute supravaginal disorder. None, however, it was stated, is more easy of diagnosis by the experienced gynecologist nor more easily dealt with. Prompt surgery, with but few exceptions, saves the patient. Almost always is the condition tubal. Causes and symptoms are given. The so-called conservative plans are not to be considered in successful treatment.

The Kidney Complications of Typhoid Fever.—Dr. JAMES ELY TALLEY of Philadelphia presented this paper. Albuminuria, acute parenchymatous nephritis, hemorrhagic nephritis, and suppurative nephritis were mentioned as complications. Œdema is rarely produced and if the patient lives the nephritis almost never becomes chronic. Hemorrhagic nephritis is defined as but an aggravated form of acute parenchymatous nephritis. The tendency is toward uræmia and the mortality is large. Suppurative nephritis occurs occasionally, and in these cases typhoid bacilli have been found frequently in the pus or kidney substance at post mortem. If chronic nephritis exists and typhoid intervenes, the mortality is over 90 per cent. Albuminuria and acute nephritis, it is stated, occur in the typhoid fever of children with about the same frequency as in adults.

A New Method of Performing Nephropexy.—Dr. HENRY BEYEA of Philadelphia in this paper described in full his method. The operation is indicated only where the pathologically mobile kidney produces a complexity of symptoms inducing persistent ill-health, and where the prescribed medical and mechanical treatment either fails to give relief, or is impracticable from the beginning.

Statistics of Typhoid Fever at the Philadelphia Hospital from January 1, 1897, to December 1, 1899.—Dr. HERMAN B. ALLYN in this paper gave in the whole number of one hundred and eighty-four cases a mortality of 16.86 per cent. This was governed largely by the character of the patients and the state of the disease at admission. The patients were of the neglected class. The causes of death, following Osler's classification, were: Asthenia, intercurrent affections, accidents of the lesion. In 88 per cent. of the last one hundred and thirteen cases the Gruber-Widal serum reaction was in accord with the final clinical diagnosis.

Dr. HOWARD FUSSEL of Philadelphia explained the value of the Tallquist Hæmoglobin Scale to the general practitioner.

Dr. THOMAS L. COLEY of Philadelphia read a paper entitled "Amyotrophic Lateral Sclerosis, with the Report of a Case."

Fracture of the Neck of the Femur.—Dr. CHARLES E. THOMSON of Scranton in this paper reported a case and exhibited an *x*-ray and specimen. The patient was sixty-two years of age and sustained a fracture in 1899; bedridden three months. Shortening amounted to two and one-half inches, and there was much pain in the hip. The operation was fully described. A solid silver nail three-sixteenths of an inch in diameter and two and one-half inches long was driven through the neck and into the femur. One year after, shortening was three-fourths of an inch, with 90 degrees free and painless motion. Death, six months later, occurred from intercurrent disease. The specimen showed firm bony union.

The Pathology, Symptomatology, and Treatment of Uræmia.—Dr. DAVID RIESMAN of Philadelphia read a valuable paper devoted to the portrayal of certain less common forms of uræmia—uræmic hemiplegia, and uræmic aphasia with mental confusion and insanity. Bleeding and sweating were emphasized in the treatment. The patient is put into a hot bath of 110° for ten minutes, and then into a hot pack for twenty minutes.

The Etiology of Acute Dysentery.—Dr. SIMON FLEXNER of Philadelphia spoke briefly upon this subject. He said that reports of bacteriological work in the tropics, Japan, Germany, and in this country upon the etiology of acute dysentery agree that there is present a septic organism, quite peculiar and not found in the body under normal conditions, which seems to be present uniformly when cases of acute dysentery arise. It would appear that the sporadic cases have the same origin as the acute dysentery, which is of particular importance in the consideration of epidemics. The microorganism that has been discovered is that bearing more or less resemblance to the bacillus of typhoid fever. It occurs in the intestines and can be obtained from the dejecta. It does not occur in health or in other diseases. Moreover, the blood serum will give a reaction similar to the Widal reaction. Dr. Flexner thinks it probable that, as a result of this work, the septic organism of acute dysentery has been observed. It is possible by the use of this organism to produce serum which may be curative.

Dr. Flexner's paper closed the scientific business. The new President, Dr. F. P. BALL of Lock Haven, was introduced by the retiring President, Dr. Davis, and welcomed with a few happy remarks. After a brief address by Dr. Ball, Dr. ALEXANDER CRAIG of Columbia offered a resolution of thanks to all those participating in the arrangements for the pleasure and success of the meeting. The fifty-first annual meeting of the Medical Society of the State of Pennsylvania was then declared adjourned.

In the evening of the same day a special lantern-slide demonstration was given. Dr. John G. Clark of Philadelphia exhibited "The Life History of the Ovary." Dr. Richard M. Pearce of Philadelphia exhibited some of the histologic changes in diphtheria, selected from the illustrations in "The Bacteriology and Pathology of Diphtheria: a Study of 220 Fatal Cases," by W. T. Councilman, F. B. Mallory, and R. M. Pearce. The points demonstrated concerned the membrane, lesions in the lung, the heart, spleen, and lymph nodes, and the kidneys. Drs. George G. Ross and M. I. Wilbert of Philadelphia gave an exhibition of "Skiagraphy in Supposed Sprains." Dr. Jay F. Schamberg of Philadelphia gave a representation of "The Various Types of Smallpox, with Remarks upon Differential Diagnosis." Dr. M. K Kassabian, in charge of the Röntgen Ray Laboratory and Instructor in Electro-Therapeutics in the Medico-Chirurgical College, gave an illustration of "Some Medical Uses of the *x*-Ray." Dr. Kassabian spoke of the present knowledge in connection with the Rontgen rays, and of its diagnostic value in the detection of pathological conditions in the lung, pleura, heart, aorta, diaphragm, liver, stomach; also, in the examination of calculi and in affections of joints. He did not wish to be understood that former means of diagnosis should be disregarded, but to emphasize the fact that a new chapter had been opened in the diagnosis of diseases with the Röntgen Rays, and that the physician should resort to the latter in obscure cases.

An exhibition of "The Kromskop" was given by Mr. F. E. Ives of Philadelphia.

The Transformation of a Hypoacid Tuberculous Area into a Resistent Hyperacid and Arthritic Area.—Samuel Bernheim concludes from his study of the subject that tuberculous organisms are hypoacid and demineralized, while arthritic organisms are the direct opposite. To convert a tuberculous patient into an arthritic one, therefore, we should hyperacidify, mineralize, and phosphatize. The methods to be used are air, rest, and feeding, as hygienic measures, and the administration of the phosphate of creosote as a medicinal measure. This will cure the tuberculosis.—*Bulletin Médical de Québec.*

Therapeutic Hints.

Torpid Liver.—

℞ Pulv. rhei . . . gr. ij.
Pulv. ipecac. . gr. ¼.
Sodii bicarb . . gr. v.
Tinct. nuc. vom ♏ v.
Ol. menth. pip. . . . . ♏ 1/20.
M. ft. tab. No. i.

—*Roosevelt Hospital.*

Cramps, Colic, and Diarrhœa.—

℞ Morphin. muriat. . . . gr. 1/12.
Ex. cannabis indic. . . gr. ⅛.
Nitroglycerin . . . . gr. 1/100.
Ext. hyoscyami. . . gr. ¼.
Oleoresin. capsici . . . gr. 1/10.
Ol. menth. pip. . . . ♏ 1/20.
For one tablet or capsule.

Ivy Poisoning.—

℞ Ichthyol 50.0
Aquæ . . . . . ad 100.0
or,
℞ Bromini . . . . . gr. xv.
Olei olivæ . . . . . ℥i.
M. S. Apply.

—Brown.

℞ Acidi carbolici . . . . . ʒi.
Glycerini . . . . . .
Zinci oxidi . . . . . āā ℥ss.
Liq. calcis . . . . . q. s. ad O. i.
M. S. Apply.

—Grindon.

℞ Zinci sulphatis . . . . . ʒi.
Aquæ . . . . . q. s. ℥ij.
M. S. Apply.

—Hardaway.

Indigestion.—

℞ Acidi carbolici . . . . . gtt. vi.
Tinct. gelsemii (U. S. P.) . . . . . .
Glycerini . . . . . .
Vini colchici . . . . . .
Tinct. opii camph . . . . . āā ℥ss.
Elix. simplicis . . . . . fl. ℥i.
M. Sig. ʒi. before each meal.

—J. M. Carter.

Ulcers of the Leg.—

℞ Pulv. camphoræ 2
Zinc. oxid 15
Lard . . . . . q. s. 100

℞ Pulv. camphoræ 2
Solve in ol. oliv. 50
Add zinc. oxid 40-50
M. Apply twice daily.

—O. Schulze.

Hæmorrhoids.—

℞ Chrysarobini . . . . . gr. 1⅛
Iodoformi . . . . . gr. 8/100
Ext. belladonnæ . . . . . gr. 1/65
Olei theobrom . . . . . gr. xxx.
Ft. suppos. No. i.
S. Two or three daily.
or,
℞ Chrysarobini . . . . . gr. xxijss.
Iodoformi . . . . . gr. vijss.
Ext. belladonnæ . . . . . gr. xv.
Petrolati . . . . . gr. ccc.
M. ft. ungt.

—Pounne.

Vomiting of Pertussis.—

℞ Mentholi . . . . . gr. i.
Sacchari . . . . . gr. xxi.
M. ft. chart No. vi.
Sig. One q. 2 h.

—Baginsky.

Headache.—

℞ Acetanilid . . . . . ℥ss.
Spt. chloroformi . . . . . .
Spt. camphoræ . . . . . āā ʒij.
Sodii salicyl . . . . . ʒiss.
Aquæ . . . . . ad ℥vi.
M. Sig. Ounce every four hours till relieved.

—H. L. Smith.

Rheumatism.—

℞ Methyl. salicyl. 25
Guaiacol 5
Ol. terebinth. 5
Lanolin 15
Petrolati 25
M. ft. ungt.

—Maurange.

Croton Oil in one-sixth or one-eighth minim dose is a valuable purgative, without disagreeable effects.—Bond.

Guaiacol in local application is said, by a French writer, to remove pleuritic effusion and cure variocele and varix hydrocele.

Calcium Carbide acts in inoperable uterine carcinoma, by reason of the quicklime liberated by contact with water.—J. C. Chase.

Tapeworm.—Give a tea made from the flowers of mignonette, while fasting, and follow by a full dose of castor oil.—*La France Médicale.*

Iris Versicolor or irisin will cure sick-headaches, especially when it is accompanied by a sensation in the roof of the mouth as if it had a coating of cold grease.—Peraud.

Salicylates.—In consequence of the extraordinary activity of the kidneys in childhood, the salicylates may be given them in proportionately larger doses. A child of six years, for example, may be given without harm the dose of an adult.—*Peoria Medical Journal.*

Cystitis.—Treatment is the same, in the main, as for iritis, but mydriatics must be used with more caution. In some cases they may be harmful. If the pupil dilates freely suspend their use. If the tension of the eyeball becomes noticeably elevated the mydriatic should be stopped at once.—Edward Jackson.

Try Hyoscyamus in coma vigil; aconite and ipecac to abort croup; one in twenty solution of permanganate of potassium in toothache; strong hot coffee in uterine inertia; guaiacol as a local sedative; nitroglycerin in post-partum hemorrhage; potassium nitrate in snake bite; eupatorium for hiccough; polytrichium in ascites and anasarca; strychnine in colic.—*The Medical Summary.*

Constipation.—Green vegetables should be taken; fruit, especially apples (cellulose excites peristalsis), and marmalade are excellent for breakfast. Belladonna and nux vomica possess little value.

℞ Aloes socotrin . . . . . gr. i., ii., or iii.
Ferri sulph . . . . . gr. ¼.
Extract. hyoscyami . . . . . gr. i.
Ft. pil. t. p. i. n.

The quantity of aloes requires readjustment, general reduction. Sometimes when a patient is impatient, one must give a drug and turn to adjuvants later. This should be done also in cases of atonic condition with dilated and loaded bowels. Salts and senna, caraway seeds, raisins, and figs are frequently very useful.—Sir James Sawyer.

Phosphorus.—When a person has swallowed a poison which is soluble in a fatty substance, as is phosphorus, milk hastens the development of disturbances. This is the case in some of the rat and vermin poisons with which many individuals attempt to commit suicide. In such, milk should not be used, but such substances as favor oxidation, such as turpentine, for example.—*Peoria Medical Journal.*

Adolescent Heart Strain is due to a want of muscular power of the cardiac muscles only, especially the musculi papillaries whose weakened condition permits of the regurgitant murmurs heard at the apex. The bruit present at the base is secondary to anæmia of the general system. Treatment should consist of rest in bed, seclusion, the administration of digitalis pushed until one has the physiological effects, and strychnine, preferably in the form of the tincture of nux vomica on account of its stimulating and appetizing properties.—Albert Martin, in *The New Zealand Medical Journal.*

Surgical Suggestions.

Foreign Body in the Ear.—Almost any object can be removed by syringing. A strong piston syringe is often required, but a high grade bulb syringe may answer. In obstinate cases put the canal on a stretch by pulling the ear firmly upward and outward while the stream is being forcibly injected.

Chloroform Anæsthesia.—A good guide to the condition of the circulation can be obtained from watching the color of the lips. A flagging circulation is early indicated by them. Patients, while on the operating table, die from one of three causes: (1) anæsthesia: (2) operation; (3) some accident. If death is due to the anæsthetic, it is due to an overdose, and this, in a very large proportion of cases, I believe, can and should be guarded against. The pupils give the first indication of danger. They dilate from one of two causes: (1) operating during incomplete anæsthesia; (2) the patient is getting an overdose. They dilate before respiration or the pulse give any indication of threatening trouble. Immediately I notice them commencing to dilate I remove the mask and let the patient have plenty of fresh air. So far, no satisfactory remedy for post-anæsthesia vomiting has been discovered. In the few cases I have been enabled to give oxygen with chloroform I have been greatly pleased, not only with the way in which the patient took it, but the vomiting was either nil or else very slight. The degree of anæsthesia in which we should leave our patients is a fruitful source of discussion. My practice is as follows: Dental operations.—Slight corneal reflex, post nasal, just enough to keep the patient quiet. Lung operations.—Slight corneal reflex, dilatation of cervix and urethra complete. All abdominal operations complete. Brain operations and operations on tongue and jaw.—Slight corneal reflex.—W. B. Vance, *Australian Medical Gazette.*

Surgical Hints.—Never give purgatives to children who have swallowed foreign bodies, for the reason that it is better that these should travel in company with fecal masses than by themselves.

Small boys brought to the surgeon with a very swollen penis nearly always have buried deep in a sulcus, and often invisible excepting by strict search, a ligature of some sort or a ring which must be removed.

In bad cases of burns or other severe and painful injuries, it is advantageous to give chloroform for the first dressing, or, at least, to give a hypodermic injection of morphine. This diminishes the pain and fear, and consequently lessens the shock.

The parents of children with hypertrophied tonsils often object to operation because they think the latter may interfere with the child's voice. This fear is groundless. Explain to the parents that the voice will suffer more from the child's continued bad health than from anything else.

In children with prolapse of the rectum it will often be enough to prescribe the daily use of laxatives; to see that the bowels are moved only while the patient is lying down over a bed-pan, and to strap the buttocks tightly together, during the intervals between defecations, with a wide strap of adhesive plaster.

Diagnostic Aids.—Pruritus of the anus is frequently one of the early symptoms of prostatic disease. Sciatic neuralgia in females is often the result of ovaritis. Clubbed finger-tips are common in tuberculous and other wasting diseases. Morning sickness and loss of appetite for breakfast are common forerunners of consumption. Enlarged lymph-nodes of the neck in a child may be due to hypertrophied tonsils or to adenoid vegetations.—*Pennsylvania Medical Journal*, August, 1901.

Medical Items.

The Discovery of the Bacillus of Leprosy.—Dr. H. P. Lie, the present Director of the Leprosy Hospitals of Bergen, contributes an interesting biographical sketch of Dr. Gerhard Henrik Armauer Hansen to *Lepra*. Dr. Hansen was born in Bergen in 1841, and received his early education in the Cathedral College of that town. After passing his medical examinations, he became a resident in the Rigshospital of Christiania, and later spent some time as medical officer to the great Lofoten fisheries. In 1868 he became Assistant Medical Officer to the Bergen Leper Hospital, of which Dr. Daniel C. Danielssen was director. It was under the influence of this enthusiastic teacher and acute observer that Armauer Hansen began his life-long study of leprosy. His first investigation was to work out the significance of the so-called globi, or leprous cells, of Virchow. These bodies had been already referred to in 1840 by Danielssen, who thought they were characteristic of the disease. This idea he afterward gave up, and came to the conclusion they were the results of an involution process, that is, fatty degeneration. Hansen was not satisfied with the latter explanation; he thought that Danielssen's first idea was more likely the right one. This led him to investigate the matter, and in 1869 he published his results in a Norwegian periodical. At this time Hansen spent a year at various universities, but on his return to Norway he again applied himself to the difficulties which surrounded the etiology of leprosy. Various views were held at that time on this point. As a result of his observations and investigations, he published in 1872 an important paper, which gave rise to much discussion in Norwegian medical circles. His researches pointed to the contagious and specific nature of the malady. The Medical Society of Christiania voted a sum of money for him to continue his research. In the course of his journeyings through the country he came across instances of the disease which were more readily explained by contagion than by any other theory. An account of his additional investigation was published in the *Norsk Magasin for Lægevidenskaben*. Unfortunately, in 1874, this important contribution to the subject was but little known outside of Norway. His views confirmed those of Drognat-Landré, who had worked at leprosy in Surinam, and published a book entitled *La Contagion seule cause de la Lèpre* (Paris, 1869). This led Hansen to reinvestigate the peculiar bodies (globi-brown corpuscles) previously referred to, for he held that if the disease is contagious there must be some specific virus at work. His labors were rewarded by the discovery, in unstained preparations, of bacilli. These were ultimately stained, and are what we know them to be, the bacilli of leprosy. His discovery, be it noted, was made in 1873, that is about ten years before the bacillus tuberculosis was made known to the world by Koch. For years, Hansen has repeatedly tried to cultivate and inoculate the bacillus lepræ, which is also deservedly known as Hansen's bacillus, but up to the present fruitlessly.—*British Medical Journal.*

Marriage of the Deaf.—Professor E. A. Fay has examined the records of 4,500 marriages of the deaf, and he discovers that, while taking the marriages of deaf persons as a whole, nearly 9 per cent. of the offspring are deaf, as contrasted with less than $\frac{1}{10}$ of 1 per cent. of deaf children as a result of the marriages of normal persons, a very different and much more favorable result is obtained if it be found that the deaf parents had no trace of previous deafness in their families. Marriage of deaf persons without deaf relatives is no more likely to result in deaf children than any marriage in the community at large, while marriage of hearing persons who have deaf relatives is just as likely to result in deaf children as the marriage of the deaf."—*Medical Review of Reviews.*

The "Human Monkey" of Java.—Professor Häckel's latest publication contains some curious information

about the "human monkey" of Java. An interesting specimen of the young gibbon was watched by Professor Häckel at his own house in Java. The species is found only in this island and is properly called *Hylobates leuciscus*. The natives call it "oa" on account of the characteristic sound it utters. When standing it is scarcely taller than a child of six. The head is comparatively small, and the waist is slender. The legs are short and the arms much longer. The face is more human than that of the orang-outang. Professor Hackel says: "Its physiognomy reminded me of the manager of an insolvent bank pondering with wrinkled brow over the results of a crash. Distrust of the 'oa' toward all white Europeans is very noticeable. On the other hand, he was on terms of intimate friendship with the Malays in our household, especially with the small children. He never crawled on all fours when tired of running, but stretched on the grass beneath the tropical sun, with one arm under his head. When I held tasty food just out of his reach he cried like a naughty child, 'huite, huite,' a sound altogether different from 'oa, oa,' with which he expressed various emotions. He had a third and more shrill sound when he was suddenly frightened. The speech of these human monkeys has not many different sounds, but they are modulated and altered in tone and strength with a number of repetitions. The animals also use many gestures, motions with their hands, and grimaces, which are so expressive in manner that a careful observer can detect their different wishes and various emotions. My specimen liked sweet wine. He grasped a cup in both hands and drank like a child. He peeled bananas and oranges just as we were accustomed to do, holding the fruit in his left hand. Most of the Malays do not regard the gibbon and orang-outang as brutes. They believe the former are bewitched men and the latter criminals who have been changed to monkeys as a punishment. Others think they are men in the course of metempsychosis."—*The Sun.*

An Investigation of Danyz's Virus.—Dr. M. J. Rosenau of the Marine Hospital Service has recently published an interesting bulletin recording the result of investigations carried on under his direction, with a view to discover the effect of the pathogenic microbe from which Danyz's virus is derived, as a destroyer of rats. Danyz's article on the subject appeared in the *Annales de l'Institut Pasteur* in April, 1900, a translation of which was given in the *Public Health Reports* for May 25, 1900. It goes without saying that if a really effectual means of destroying rats on a large scale can be worked out, plague will be, if not extirpated, at least checked to a very appreciable extent. Consequently, experiments of the nature of these undertaken by Dr. Rosenau, under the auspices of the Marine Hospital Service, possess an immense practical value. So far as the investigations concerning Danyz's virus are concerned, the conclusions arrived at by the workers of the Marine Hospital Service Laboratory can hardly be termed very encouraging. Its virulence has been raised and specialized by artificial means in the laboratory, so that it has become fatal for rats by ingestion. This artificial virulence is not very stable. It may be maintained under special conditions a few months, but the virulence is apt to fall off, especially on exposure to light and air. The effect upon rats depends somewhat on the amount ingested. Large amounts are quickly fatal. Small quantities are uncertain. Rats that survive the ingestion of the virus are rendered immune. In many respects, it resembles a chemical poison, with the great advantage that it is harmless to man and beast. However, it has the disadvantage of rendering animals immune by the ingestion of amounts that are insufficient to kill. The virus may, therefore, be used as one of the means in the fight against rats; but it is far from being a sure means of exterminating these rodents in a particular place.

Fresh-Air Work in New York City.—The fresh-air work of this summer has been especially active. Of the larger agencies, says *Charities*, the Association for Improving the Condition of the Poor sends women and children for day excursions, and convalescent and ailing mothers and children for an average stay of two weeks to its summer home at Coney Island. The Charity Organization Society co-operates closely, providing an allotted number of persons on each day excursion, and referring those needing a stay of two weeks to the Association for Improving the Condition of the Poor. The St. John's Guild provides day excursions for sick or ailing children on its two floating hospitals, and furnishes extended treatment for children suffering from non-contagious diseases at its hospital on Staten Island. The fresh-air work of the Children's Aid Society benefits especially the children attending the various industrial schools of the society. Boys are sent to a large farm at Kensico, N. Y., and girls to a home at Bath Beach, where also the society maintains a home for convalescent or ailing women and children. The St. Vincent de Paul Society last year established a home at Baychester, N. Y., where parties of one hundred children are accommodated for twelve-day outings. The parties are made up through the various church conferences. The St. Vincent de Paul Society no longer secures through its agents, as in former years, two-week stays for tenement children in private homes in the country. A few parties, however, are arranged by correspondence, and sent through New York State and Pennsylvania, the Charity Organization Society providing Catholic children, and the *Tribune* Fresh-Air Fund the cost of transportation.

Formaldehyde Gas for Destroying Mosquitos.—Dr. M. J. Rosenau declares, in a recent issue of *Public Health Reports*, that experiments undertaken by him have shown that formaldehyde gas is an efficient insecticide so far as the mosquito is concerned. The experiments were all made upon the *Culex pungens*, and it was found that an exposure of three hours was invariably sufficient to kill all the mosquitos of this variety in a confined space, provided the gas was used in amounts usually employed for disinfection.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended October 5:

		Cases.	Deaths.
SMALLPOX—UNITED STATES.			
California, San Francisco	Sept. 14-21	1	
Indiana, Michigan City	Sept. 24-Oct 1	4	
Kentucky, Lexington	Sept. 21-28	1	
Massachusetts, Boston	Sept. 21-28	2	1
Michigan, Detroit	Sept. 22-29	1	
Nebraska, Omaha	Sept. 14-21	1	
New Jersey, Newark	Sept. 21-28	6	5
New York, Elmira	Sept. 21-28	4	
New York	Sept. 21-28	5	2
Pennsylvania, Philadelphia	Sept. 21-28	29	3
Ohio, Youngstown	Sept. 21-28	1	
Utah, Salt Lake City	Sept. 14-28	2	
Washington, Tacoma	Sept. 15-22	1	
SMALLPOX—INSULAR.			
Philippine Islands, Manila	Aug. 3-10	1	
SMALLPOX—FOREIGN.			
Austria, Budapest	Sept. 2-9	2	1
Belgium, Antwerp	Sept 7-14	1	56
Brazil, Pernambuco	Aug 8-15		
Rio de Janeiro	Aug. 4-18		114
Columbia, Panama	Sept. 16-23	15	
Great Britain, London	Aug. 24-Sept. 7	166	15
Italy, Naples	Sept. 7-14	57	6
Russia, Moscow	Sept 7-14	2	1
Spain, Madrid	June 17-July 15		6
PLAGUE—INSULAR.			
Philippine Islands, Manila	Aug 3-10	6	3
PLAGUE—FOREIGN			
Australia, Brisbane	June 1-30		3
Brazil, Rio de Janeiro	Aug. 4-18		5
China, Canton	Aug 5	Diminishing	
Italy, Naples	Sept 7-30	15	4
YELLOW FEVER.			
Brazil, Pernambuco	Aug. 8-15		1
Rio de Janeiro	Aug. 4-18		2
Cuba, Havana	Sept 4-21	3	2
Santiago	Sept 20	6	1
Mexico, Vera Cruz	Sept 14-21	5	2
CHOLERA.			
Java, Batavia	Aug. 3-17	5	3

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Original Articles.

THE CASE OF PRESIDENT McKINLEY.

THE following report has received the approval of, and is issued by, the undersigned, the medical staff attending the late President, William McKinley.

P. M. RIXEY.
MATTHEW D. MANN.
HERMAN MYNTER.
ROSWELL PARK.
EUGENE WASDIN.
CHARLES MCBURNEY.
CHARLES G. STOCKTON.

October 12, 1901.

Surgical History.—President William McKinley was shot, by Leon F. Czolgosz, in the Temple of Music, at the Pan-American Exposition, Buffalo, N. Y., at about 7 minutes past 4 on the afternoon of Friday, September 6, 1901. Two shots were fired. One bullet struck near the upper part of the sternum, and the other in the left hypochondriac region. The President was immediately conveyed to the Emergency Hospital on the Exposition grounds by the motor ambulance, where he arrived at 4.18. Dr. G. McK. Hall and Mr. Edward C. Mann, medical student, of the house staff were in charge of the ambulance, Medical Student T. F. Ellis being the driver.

On arriving at the hospital, President McKinley was at once placed upon the table in the operating room and undressed. During the removal of his clothing a bullet fell out and was picked up by Mr. Ellis. Dr. Hall placed a temporary antiseptic dressing over the wounds, and Mr. Mann ordered a nurse to administer 0.01 gm. of morphine and 0.002 gm. of strychnine hypodermically.

Dr. Herman Mynter, who had been telephoned from police headquarters to report immediately at the Exposition Hospital, was the first surgeon to arrive, at 4.45 o'clock. At that time Drs. P. W. Van Peyma and Joseph Fowler of Buffalo and Dr. Edward Wallace Lee of St. Louis were present. Dr. Mynter brought with him Dr. Eugene Wasdin of the United States Marine Hospital Service.

Dr. Mynter inspected the President's wounds, and immediately saw their serious nature. He told the President that it would be necessary to operate, and at once set about making preparations, aided by the house staff and nurses and Dr. Nelson W. Wilson, Sanitary Officer of the Exposition, who at that time assumed charge of the hospital in the absence of Dr. Roswell Park, the Medical Director of the Exposition. The President's pulse on the arrival of Dr. Mynter was 84; he had no particular pain in the abdomen, and no apparent loss of liver dulness. He was evidently slightly under the influence of the morphine.

Dr. Matthew D. Mann arrived at the hospital at 5.10 P.M., having been telephoned for by Mr. John C. Milburn. He was followed, five minutes later, by Dr. John Parmenter.

An examination was at once made, followed by a short consultation between Drs. Mann, Mynter, and Wasdin, which resulted in the decision to operate at once. The necessity for the operation was explained to President McKinley, and he gave his full consent. Immediate operation was decided upon because of the danger of possible continued internal hemorrhage and of the escape of gastric or intestinal contents into the peritoneal cavity, and because the President's pulse was getting weaker. Moreover, the daylight was rapidly failing. Dr. Roswell Park, who, by virtue of his office, had he been present would have performed the operation, was at Niagara Falls, and although a special train had been sent for him, it was uncertain when he would arrive.

Dr. Mann was selected to do the operation, with Dr. Mynter as his associate, by the common consent of the physicians present and at the request of Mr. Milburn, President of the Pan-American Exposition, who stated that he had been requested by President McKinley to select his medical attendants. Dr. Mann selected Drs. Lee and Parmenter as assistants.

At 5.20 Dr. Mann directed the administration of ether to President McKinley, and requested Dr. Wasdin to administer it. Ether was chosen as being, on the whole, the safer anæsthetic. While the anæsthetic was being given, the surgeons who were to take part in the operation prepared their hands and arms by thoroughly scrubbing with soap and water and immersing them in a solution of bichloride of mercury.

The operation began at 5.29. Dr. Mann stood upon the right-hand side of the patient, with Dr. Parmenter on his right-hand side. Dr. Mynter stood upon the left-hand side of the patient, and on his right was Dr. Lee. To Drs. Parmenter and Lee were assigned the duties of sponging and the care of the instruments. Dr. P. M. Rixey, U. S. N., President McKinley's family physician, having been detailed by the President to accompany Mrs. McKinley to the Milburn home, did not arrive until 5.30, when he gave very efficient service by guiding the rays of the sun to the seat of the operation by aid of a hand mirror, and later by arranging an electric light. Dr. Roswell Park arrived just as the operation on the stomach was completed, and gave his aid as consultant. Mr. E. C. Mann had charge of the needles, sutures, and ligatures. Mr. Simpson, medical student, was at the instrument tray.

The nurses, under the charge of Miss A. C. Walters, superintendent of the hospital, were Miss M. E. Morris and Miss A. D. Barnes, with hands sterilized: Miss Rose Baron, Miss M. A. Shannon, and Miss L. C. Dorchester, assistants, and Miss Katharine Simmons attending the anæsthetizer.

Besides those immediately engaged in the operation, there were present Drs. P. W. Van Peyma, Joseph Fowler, D. W. Harrington, and Charles G. Stockton of Buffalo, and Dr. W. D. Storer of Chicago.

The Operation.—President McKinley took the ether well, and was entirely under its influence in nine minutes after the beginning of the anæsthetization. The abdomen was carefully shaved and scrubbed with green soap, and then washed with alcohol and ether and the bichloride solution.

Inspection showed two wounds made by the bul-

lets. The upper one was between the second and third ribs, a little to the right of the sternum. The use of a probe showed that the skin had not been penetrated, but that the bullet had probably struck a button or some object in the clothing which had deflected it. The lower wound made by the other bullet—a 32 caliber—was on a line drawn from the nipple to the umbilicus. It was about half way between these points, and about 5 cm. to the left of the median line. A probe showed that this wound extended deeply into the abdominal walls, and that the direction was somewhat downward and outward.

An incision was made from the edge of the ribs downward, passing through the bullet wound and nearly parallel with the long axis of the body. A deep layer of fat was opened, and followed by incision of the fascia and muscles to the peritoneum. After cutting through the skin, a piece of cloth, undoubtedly a bit of the President's clothing, was removed from the track of the bullet, a short distance below the skin.

On opening the peritoneum, the finger was introduced and the anterior wall of the stomach palpated. An opening was discovered which would not quite admit the index finger. This opening was located near the greater curvature of the stomach, and about 2 cm. from the attachment of the omentum; its edges were clean cut and did not appear to be much injured.

The stomach was drawn up into the operation wound, and the perforation very slightly enlarged. The finger was then introduced and the contents of the stomach palpated. This was done to see if the stomach contained food, and also with the hope that possibly the bullet might be in the stomach. The stomach was found to be half-full of liquid food, but no evidence of the ball was discovered. In pulling up the stomach a small amount of liquid contents escaped, together with a good deal of gas. The tissues around the wound were carefully irrigated with hot salt solution and dried with gauze pads. The perforation in the anterior stomach wall was then closed with a double row of silk suture (Czerny-Lembert). The sutures were not interrupted with each stitch, but four stitches were introduced before the ends were tied. The loop was then cut off and the suture continued. About eight stitches were used in each row. The silk used was fine black silk, the needle being a straight, round sewing needle.

In order to examine the posterior wall of the stomach it was necessary to enlarge the incision, which now reached about 15 cm. in length. The omentum and transverse colon were pulled well out of the abdomen. The omentum was enormously thickened with fat and very rigid. In order to reach the back wall of the stomach, it was necessary to divide about 4 inches of the gastrocolic omentum, the cut ends being tied with strong black silk in two masses on each side. In this way the stomach could be drawn up into the operation wound, and the bullet wound in its posterior wall reached. This opening was somewhat larger than that in the anterior wall of the stomach, and had frayed and blood-infiltrated edges. Its exact location was impossible to determine, but it appeared to be near the larger curvature.

This opening was closed in the same way as the anterior wound, but with great difficulty, as the opening was down at the bottom of a deep pocket. A short curved surgical needle was necessary here. Little or no gastric contents appeared around this opening, but after it had been closed the parts were carefully irrigated with hot salt solution.

The operation on the stomach being now finished, Dr. Mann introduced his arm so as to palpate carefully all the deep structures behind the stomach. No trace of the bullet or of the further track of the bullet could be found. As the introduction of the hand in this way seemed to have a bad influence on the President's pulse, prolonged search for further injury done by the bullet or for the bullet itself was desisted from. The folds of the intestine which had been below the stomach were inspected for injury, but none was found. The entire gut was not removed from the abdomen for inspection, as the location of the wound seemed to exclude its injury. To have made a satisfactory search for wounds in the President's back, it would have been necessary to have entirely eviscerated him. As he was already suffering from shock, this was not considered justifiable, and might have caused his death on the operating table.

Before closing the abdominal wound, Dr. Mann asked each of the surgeons present, whether he was entirely satisfied that everything had been done which should be done, and whether he had any further suggestions to make. Each replied that he was satisfied. The question of drainage was also discussed. Dr. Mynter was in favor of a Mikulicz drain being placed down behind the stomach-wall. Dr. Mann, with the concurrence of the other surgeons, decided against this, as being unnecessary.

As the last step in the operation, the tissues around the bullet track in the abdominal wall were trimmed in order to remove any tissue which might be infected. The abdominal wound was then closed with seven through-and-through silkwormgut sutures drawn only moderately tight, the superior layer of the fascia of the rectus muscle being joined with buried catgut. The edges of the skin were brought together by fine catgut sutures. Where the bullet had entered there was slight gaping of the tissues, but it was not thought advisable to close this tightly, as it might allow of some drainage. The wound was then washed with hydrogen dioxid and covered with aristol powder and dressed with sterilized gauze and cotton, which were held in place with adhesive straps. Over all was put an abdominal bandage.

The President bore the operation very well. The time from the beginning of the administration of the anæsthetic until its discontinuance was exactly an hour and thirty-one minutes; the operation was completed at 6.50 P.M., having lasted from the time of the first incision, an hour and twenty-one minutes. At the beginning of the operation, President McKinley's pulse was 84. At 5.38, 0.002 gm. of strychnine was administered hypodermically. At 5.55 the respiration was 32 and the pulse 84—both good in character. At 6.09 the pulse was 88. At 6.20 it was 102, fair in character; respiration 30. At 6.22, 1.50 gm. of brandy was administered hypodermically. At 6.48 the pulse was 124, the tension good but quick, respiration 36. At 7.01, after the bandage was applied, the pulse was 122 and the respiration 32. At 7.17, 0.004 gm. of morphine was administered hypodermically.

At 7.32 the patient was removed from the hospital in the ambulance. Dr. Rixey asked Drs. Park and Wasdin to go in the ambulance, as his duty called him to go at once to inform Mrs. McKinley of her husband's condition and to prepare a room for his reception. Drs. Mann and Mynter, with friends of the President, followed in carriages immediately after. President McKinley had not then recovered from the anæsthetic. He bore the journey to Mr. Milburn's house exceedingly well, but it was found necessary to give him a small hypodermic injection of morphine during the transit, as he was becoming very restless. On arrival at the house of Mr. Milburn, 1168 Delaware Avenue, he was removed from

the ambulance on the stretcher and carried to a room in the northwest corner of the house, where a hospital bed had been prepared for him.

Remarks on the Operation by Matthew D. Mann, M.D. The difficulties of the operation were very great, owing partly to the want of retractors and to the failing light. The setting sun shone directly into the room, but not into the wound. The windows were low and covered with awnings. After Dr. Rixey aided us with a hand mirror, the light was better. Toward the end of the time a movable electric light with reflector was put in use. The greatest difficulty was the great size of President McKinley's abdomen and the amount of fat present. This necessitated working at the bottom of a deep hole, especially when suturing the posterior wall of the stomach.

The operation was rendered possible and greatly facilitated by a good operating table and the other appliances of a hospital, and by the presence of many trained nurses and assistants. Still, the hospital was only equipped for minor emergency work, and had but a moderate supply of instruments. Unfortunately, when called I was not told what I was wanted for, and went to the Exposition grounds entirely unprepared. Dr. Mynter had his large pocket-case, the contents of which were of great use.

As has already been noted, further search for the bullet was rendered inadvisable by the President's condition. The autopsy shows that it could not have been found, and that the injuries inflicted by the bullet after it passed through the stomach were of such a nature as to render impossible and unnecessary any further surgical procedure. A bullet after it ceases to move does little harm. We were often asked why, after the operation, we did not use the *x*-ray to find the bullet. There were several reasons for this. In the first place, there were at no time any signs that the bullet was doing harm. To have used the *x*-ray simply to have satisfied our curiosity would not have been warrantable, as it would have greatly disturbed and annoyed the patient, and would have subjected him also to a certain risk. Had there been signs of abscess-formation, then the rays could and would have been used.

My reason for not draining was that there was nothing to drain. There had been no bleeding nor oozing; there was nothing to make any discharge or secretion; the parts were presumably free from infection, and were carefully washed with salt solution. As there was no peritonitis and the abdomen was found post mortem to be sterile, we may safely conclude that no drainage could have been provided which would have accomplished anything. My experience teaches me never to drain unless there is a very decided indication for it, as a drain may do harm as well as good.

In conclusion, I wish to thank all the gentlemen who so kindly and skilfully assisted me. They were all surgeons of large experience in abdominal surgery, and their aid and advice were most valuable. Especially I wish to acknowledge my great obligation to my associate, Dr. Mynter. Not only was he an assistant, but he was much more, and helped me greatly by his skill and, as a consultant, with his good judgment and extensive knowledge of abdominal work. Although called first, he waived his claim, and generously placed the case in my hands, willingly assuming his share of the responsibility.

The anæsthetic was most carefully administered by Dr. Wasdin, and the knowledge that he had charge of this very important duty relieved me of any anxiety on that score.

In the eventful week that followed the operation, Dr. Park and Dr. McBurney were towers of strength in helping to decide the many difficult questions which came up.

Dr. Rixey was in constant charge of the sick-room, aided later by Dr. Wasdin, who was detailed for this special duty. Both were unremitting in their care, and faithful to the end.

Dr. Stockton helped us in the last three days with the highest skill and best judgment.

Never, I am sure, under like circumstances, was there a more harmonious or better-agreed band of consultants. That our best endeavors failed was, I believe, no fault of ours; but it must be an ever-living and keen regret to each one of us, that we were not allowed the privilege of saving so noble a man, so attractive a patient, and so useful a life.

The After-Treatment.—When put to bed the President was in fair condition: Pulse, 127; temperature, 100.6°; respiration, 30. The nurses on duty were Miss K. R. Simmons and Miss A. D. Barnes from the Emergency Hospital. Soon after his arrival, at 8.25, he was given morphine, 0.016 gm., hypodermically. There was slight nausea. The pulse soon improved. During the evening the patient slept at intervals, vomiting occasionally, but rallied satisfactorily. A slight discoloration of the dressings was noted at 10.45. There was occasional and slight pain. Ninety c.c. of urine was voided, and an enema of salt solution given and retained.

Second Day, Saturday September 7.

After midnight the patient slept a good deal; he was free from pain and quite comfortable.

At 6 A.M., the temperature was 102°; pulse, 110; respiration, 24.

Gas in large quantities was expelled from the bowels. A saline enema was given as before. Miss Simmons and Miss Barnes were replaced by Miss Maud Mohan and Miss Jane Connolly. Miss E. Hunt of San Francisco, Cal., Mrs. McKinley's nurse, also rendered assistance, and Miss Grace Mackenzie of Baltimore, Md., arrived September 9, and was detailed for regular duty. P. A. Eliot, J. Hodgins, and Ernest Vollmeyer of the U. S. A. Hospital Corps were detailed as orderlies.

During the forenoon, 0.01 gm. of morphine was administered hypodermically.

At 1.15 P.M., a saline enema of 500 c.c. was given. As the pulse was rising, 0.06 gm. of fluid extract of digitalis was injected hypodermically.

The President rested quietly until 6.30 P.M., when he complained of intense pain in the pit of the stomach, and was given 0.008 gm. morphine sulphate hypodermically. He was very restless, but after being sponged, rested again.

At 6.30 P.M., the pulse was 130; temperature, 102.5°; respiration, 29.

During the day the digitalis, morphine, and saline enemas were kept up at regular intervals; 4 gm. of somatose was added to the water at 10.30 P.M. At 11.15 P.M. the President passed from the bowels 240 c.c. of a greenish colored fluid and some particles of fecal matter.

The total amount of urine for 24 hours was 270 c.c.

First Uranalysis, by Dr. H. G. Matzinger.

Quantity	30 c.c.
Color	dark amber
Reaction	strongly acid
Urea	0.028 gm. per 1 c.c of urine
Albumin	a trace
Phosphates and chlorides	normal
Sugar	none
Indican	very small amount

Microscopic Examination.—The sediment obtained by centrifuge shows a great amount of large and small epithelial cells with some leukocytes and occasional red cells. There is a comparatively large number of hyaline casts, principally small, with some finely granular ones; also an

occasional fibrinous one. The amount of sediment is large for the quantity of urine submitted. There were no crystals in the sediment.

Third Day, Sunday, September 8.

During the early morning the President slept a good deal, but was restless, and at times confused and a little chilly. On the whole, he passed a fairly good night.

He expelled a little gas and brown fluid from the rectum. The digitalis was continued, and at 7.45 A.M. 0.002 gm. of strychnine was given hypodermically. At 8.20 A.M. he was clear and bright, with the pulse strong and of good character.

The wound was dressed at 8.30, and found in a very satisfactory condition. There was no indication of peritonitis. Pulse, 132; temperature, 102.8°; respiration, 24.

The dressing on the wound was changed because there was some exudation. The bullet track was syringed out with hydrogen dioxide. There was very little foaming, and there were no signs of pus.

At 10.40 A.M., following an enema of Epsom salts, glycerin, and water, he had a small stool with gas, and another at noon. He was less restless and slept a good deal.

At noon Dr. Charles McBurney joined the medical staff in consultation, having been summoned by Dr. Rixey.

Bulletin 14, 12 *m.*—The improvement in the President's condition has continued since the last bulletin. Pulse, 128; temperature, 101°; respiration, 27.

During the day he continued to improve; he slept four or five hours and his condition was satisfactory.

At 4.45 P.M., he was given a teaspoonful of water by the mouth; also an enema of sweet oil, soap, and water. He passed slightly colored fluid with some little fecal matter and mucus. After this he had a small quantity of water by the mouth, and at 6.20 P.M. a nutritive enema of egg, whiskey, and water, which was partly retained. Digitalis and strychnine were both given during the evening.

At 9 P.M., the President was resting comfortably. The pulse was 130; temperature, 101.6°; respiration, 30.

Four hundred and twenty c.c. of urine was passed during the day.

Second Uranalysis.

Quantity	450 c.c.
Color	amber, slightly turbid
Reaction	strongly acid
Specific gravity	1.026
Urea	0.038 gm. per 1 c.c. of urine
Albumin	mere trace
Sugar	none
Indican	abundant
Sulphates	increased
Phosphates	somewhat increased
Chlorides	somewhat increased

Microscopic Examination.—Microscopic examination of sediment obtained by centrifuge shows fewer organic elements. Some large and small epithelial cells and some leukocytes. Casts are not so abundant as yesterday and are *principally* of the small finely granular variety. There is a marked diminution in small renal epithelial cells.

Quite a quantity of large crystals of uric acid and bacteria are present.

Fourth Day, Monday, September 9.

The bulletin tells the story of the fourth day.

Bulletin 17, 6 *a.m.*—The President passed a somewhat restless night, sleeping fairly well. General condition unchanged. Pulse, 120; temperature, 101°; respiration, 28.

Bulletin 18, 9.20 *a.m.*—The President's condition is becoming more and more satisfactory. Untoward incidents are less likely to occur. Pulse, 122; temperature, 100.8°; respiration, 28.

Bulletin 19, 3 *p.m.*—The President's condition steadily improves and he is comfortable, without pain or unfavorable symptoms. Bowel and kidney functions normally performed. Pulse, 113; temperature, 101°; respiration, 26.

Bulletin 20, 9.30 *p.m.*—The President's condition continues favorable. Pulse, 112; temperature, 101°; respiration, 27.

Codeine was substituted for morphine, as the pain was less. Digitalis and strychnine were stopped. Nutritive enemas were given at 3.20 A.M., at 4.30 and 10 P.M. Hot water was taken quite freely by the mouth.

Attempts to get a good movement of the bowels were successful at noon, when he had a large light-brown, partly formed stool. This followed a small dose of calomel and a high enema of oxgall.

On the whole, the President's condition improved steadily during the day. He slept a good deal and was fairly comfortable. There was no pain on pressure over the abdomen.

Third Uranalysis.

Quantity received	540 c.c.
Color	amber, slightly turbid
Specific gravity	1.026
Albumin	a trace
Indican	not so abundant as yesterday
Urea	0.047 gm. per c.c. of urine
Chlorides and phosphates	about normal
Sulphates	still somewhat high
Sugar	none

Microscopic Examination.—Microscopic examination of sediment obtained by centrifuge shows a decrease in the amount of organic elements and an increase of amorphous urates, but fewer crystals of uric acid. Casts are fewer and only the small granular and large hyaline varieties. The proportion of casts is greater. There are very few epithelial cells, mostly of renal type. A large number of cylindroids are found.

Fifth Day, Tuesday, September 10.

Soon after midnight the President had a high enema of soap and water, which was expelled, together with some fecal matter. He took hot water frequently, and slept a good deal.

Bulletin 21, 5.20 *a.m.*—The President has passed the most comfortable night since the attempt on his life. Pulse, 118; temperature, 100.4°; respiration, 28.

On awaking he felt very comfortable, and his mind was clear and cheerful. The nutritive enemas were kept up, and water given by the mouth. Had two small stools during the day. The only medicine given was one hypodermic of codeine phosphate, 0.015 gm.

In the evening the dressings were examined, and as there was considerable staining from the discharge, it was thought best to remove four stitches and separate the edges of the wound. A little slough was observed near the bullet track, covering a space nearly an inch wide, the thickness of the flaps. The separation seemed to extend down to the muscle. The surfaces, except those mentioned, looked healthy, but not granulating. It was supposed that the infection of the wound occurred either from the bullet or from the piece of clothing carried into the wound at the time of the shooting. The parts were thoroughly washed with hydrogen dioxide and packed lightly with gauze, and held together with adhesive straps.

Sixth Day. Wednesday, September 11.

Bulletin 26, 9 *a.m.*—The President rested comfortably during the night. Decided benefit has followed the dressing of the wound made last night. His stomach tolerates the beef juice well, and it is taken with great satisfaction. His condition this morning is excellent. Pulse, 116; temperature, 100.2°.

Bulletin 27, 3.30 *p.m.*—The President continues to gain, and the wound is becoming more healthy. The nourishment taken into the stomach is being gradually increased. Pulse, 120; temperature, 100.2°.

Bulletin 28, 10 *p.m.*—The President's condition continues favorable. Blood count corroborates clinical evidence of the absence of any blood poisoning. He is able

to take more nourishment and relish it. Pulse, 120; temperature, 100.4°.

The blood count made by Dr. Wasdin in the evening was as follows:

Leucocytes	6,752
Red cells	3,920,000

A little after midnight Wednesday morning, the patient was given 4 c.c. of beef juice, the first food taken by the stomach. It seemed to be very acceptable. Nutritive enema was given at 2 A.M.; later there was a yellow stool.

From 4 to 8 c.c. of beef juice was given every one to two hours during the day. The rectum was becoming irritable, and did not retain the nutritive enemas well.

At 10 A.M. the remaining stitches were removed, the wound separated and dressed. It seemed to be doing well. Most of the sloughing tissue had separated.

The patient slept much during the day, and expressed himself as feeling very comfortable. The only medicine administered was one hypodermic of strychnine.

In the evening he was changed to a fresh bed. Nutritive enemas were continued.

Urine was passed much more freely—750 c.c. in twenty-four hours.

Fourth Uranalysis.

Quantity	82 c.c.
Color	amber, clear
Specific gravity	1.027
Reaction	strongly acid
Albumin	a trace
Indican	abundant
Urea	0.04 gm. per 1 c.c. of urine
E. phosphates and chlorides	normal
Sulphates	still a little high

Microscopic Examination.—Microscopic examination of sediment obtained by centrifuge shows a marked diminution in amount of organic elements, but a great increase in uric-acid crystals.

There are very few epithelial cells—mostly of renal type.

There are fewer casts—small and large hyaline—some finely granular.

Cylindroids are more abundant.

Seventh Day, Thursday, September 12.

The President slept a good deal during the night, and awoke in the morning feeling better. The beef juice was continued and increased, and a little chicken broth added to the dietary. He also had a little whiskey and water.

At 8.30 A.M. he had chicken broth, a very small piece of toast and a small cup of coffee. He did not care for the toast, and ate scarcely any of it.

The wound was dressed and washed with a weak solution of iodine and then with hydrogen dioxide. He was given 30 c.c. of castor oil at 9.20 A.M.

The President now seemed at his best and his condition to warrant the favorable prognosis given out. The time for peritonitis and sepsis had passed. The bowels had moved and gas passed freely, showing that there was no obstruction. The tongue was clear, and the appetite increasing; and he seemed to be able to digest food. There was no pain nor tenderness in the abdomen, and he was able to turn easily and to sleep on his side. The urine was steadily increasing. His spirits were good and his mind clear, while his pulse, though frequent, was strong and of good quality, and the temperature low.

The analysis of the urine gave no uneasiness, as the amount of urea was fair; there was no albumin worth considering, and the casts were rapidly diminishing. There were no more of them than are found in a large percentage of cases following a long operation under ether. The excess of indican was taken to mean merely some intestinal indigestion, and to be of no serious import. The only symptom to cause any uneasiness was the frequency of the pulse. Still anxiety on this score was relieved by knowing that the President had naturally a rapid pulse, and that it was easily excited. The open wound was not considered important. It looked healthy, and, although it would take a long time to heal, in itself it was evidently causing no harm, nor was it likely to.

Dr. McBurney left Buffalo for his home in the morning, having arranged to return at once if his presence was desired.

Toward noon it was noticed that the character of the pulse was not quite so good. Infusion of digitalis, 8 c.c., was ordered, and strychnine, 0.002 gm.

It was thought probable that there was some intestinal toxæmia, as there had been no free movement from the bowel since food had been begun, the oil having failed to act. Gradually the pulse went to 130, and grew weaker.

Dr. Charles G. Stockton was added to the medical staff in consultation. At 7 P.M. the President was given 0.20 gm. of calomel.

Bulletin 32, 8.30 *p.m.*—The President's condition this evening is not quite so good. His food has not agreed with him, and has been stopped. Excretion has not yet been properly established. The kidneys are acting well. His pulse is not satisfactory, but has improved in the last two hours. The wound is doing well. He is resting quietly. Temperature, 100.2°; pulse, 128.

At 9.30 P.M. a second dose of 30 c.c. of castor oil was given, followed by a high enema of oxgall. This resulted in a large, dark semifluid stool, which seemed to exhaust him somewhat. Stimulants were given freely. No more beef juice or food was given. The pulse grew rapidly worse, but at midnight there seemed some improvement, as bulletin 3 shows. At 11 P.M. 420 c.c. of normal salt solution was given subcutaneously.

Bulletin 33, 12 *m.*—All unfavorable symptoms in the President's condition have improved since the last bulletin. Pulse, 120; temperature, 100.2°.

Fifth Uranalysis.

Quantity	132 c.c.
Color	light amber, very turbid
Specific gravity	1.025
Reaction	acid
Albumin	mere trace, if any
Indican	less
Urea	0.044 gm. per 1 c.c. of urine
Sulphates	about normal
E. phosphates	much increased
Chlorides	normal

Microscopic Examination.—Microscopic examination of sediment obtained by centrifuge shows fewer organic elements than the last examination. There is less uric acid and a large amount of amorphous phosphates. Renal casts, about as in the last examination, with very few cylindroids.

Eighth Day, Friday, September 13.

At midnight the pulse was fairly good, 132. Strychnine and whiskey were given at intervals, and hypodermics of camphorated oil.

Bulletin 34, 2.50 *a.m.*—The President's condition is very serious, and gives rise to the gravest apprehension. His bowels have moved well, but his heart does not respond properly to stimulation. He is conscious. The skin is warm, and the pulse small, regular, easily compressible, 126; respiration, 30; temperature, 100°.

The wound had been dressed regularly in the manner described three times a day. At 9 A.M. the dressing was changed, and a mixture of balsam of Peru and glycerin put in on gauze after the douching.

Stimulants were continued as before, but more freely. Coffee, 45 c.c., and clam broth, 60 c.c., were given; also liquid peptonoids.

At 8.30, 1.50 gm. of adrenalin was given hypodermically, and repeated at 9.40.

At 10 A.M., nearly two pints of normal salt solu-

tion was given under the skin, and one pint containing adrenalin at 6 P.M. Nitroglycerin and camphor were also injected, at various times, together with brandy and strychnine.

Stimulants as detailed above were used freely all day.

3.30 P.M. Pulse growing weaker.

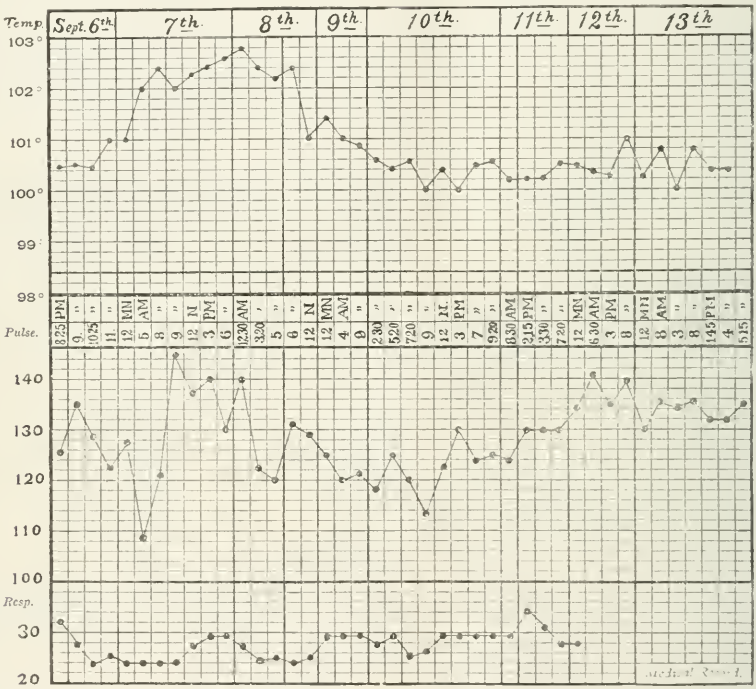
5.00 P.M. Oxygen given and continued for some hours.

6.30 P.M. Last bulletin, No. 39.

Bulletin 39, 6.30 *p.m.*—The President's physicians report that his condition is most serious in spite of vigorous stimulation. The depression continues and is profound. Unless it can be relieved, the end is only a question of time.

At 6.35 P.M., and again at 7.40, morphine was given hypodermically, as he was very restless and seemed to be suffering.

9.00 P.M. Heart sounds very feeble.



The President continued to sink, becoming weaker and weaker.

At 10.00 P.M., the oxygen was discontinued. The heart sounds were very feeble and consciousness lost.

The President died at 2.15 A.M., September 14.

Drs. E. J. Janeway and W. W. Johnston, who, at the request of Dr. Rixey, had been summoned in consultation, arrived too late, but were present at the autopsy. Dr. McBurney also returned on Friday afternoon.

Sixth Urinalysis.

Color	amber, turbid, with phosphates
Quantity	252 c.c.
Reaction	acid
Specific gravity	1.023
Albumin	mere trace, if any
Urea	0.047 gm per 1 c.c. urine
Indican	a trace
E. phosphates	increased
Chlorides	normal
Sulphates	a little high

Microscopic Examination.—Microscopic examination of sediment obtained by centrifuge, before and after clearing, shows no change from yesterday's sample. Casts, hyaline and granular, both large and small, comparatively few. Cylindroids, a few. Crystals, large amount of uric acid, some sodium urate, and in the untreated specimen a large amount of amorphous deposit, principally of phosphates. There are a few epithelial cells, small, granular. Occasional red cells and leukocytes.

REPORT ON THE AUTOPSY.[1]

BY HARVEY R. GAYLORD, M.D.,

Pathologist to the New York State Pathological Laboratory

Ordinary signs of death: ecchymosis in dependent portions of the body. Rigor mortis well marked. Upon the surface of the chest, to the right of the midsternal line, a spot 1 cm. in diameter, dark-red in color, with a slight crust formation covering it, 5.5 cm. from the suprasternal notch; from the right nipple, 10 cm.; from the line of the right nipple, 8.25 cm. Surrounding this spot, at which point there is an evident dissolution of the continuity of the skin, is a discolored area of oval shape extending upward and to the right. In its greatest length it is 11 cm.; and in its greatest width 6 cm. It extends upward in the direction of the right shoulder. The skin within this area is discolored, greenish-yellow and mottled.

The surface of the abdomen is covered with a surgical dressing, which extends down to the umbilicus and upward to just below the nipples. The innermost layer of cotton is covered or stained with balsam of Peru and blood. On removing this dressing, a wound, parallel to, and somewhat to the left of, the median line, is exposed, inserted in which are two layers of gauze, likewise impregnated with balsam of Peru. The wound is 14.5 cm. in length, and is open down to the abdominal muscles. The layer of abdominal fat is 3.75 cm. in thickness. The appearance of the fat is good, a bright yellow in color. No evidence of necrosis or sloughing. In the left margin of the surgical wound, lying 1 cm. to the right of a line drawn from the umbilicus to the left nipple, 15.5 cm. from the nipple and 16.5 cm. from the umbilicus, is a partly healed indentation of the skin, and an excavation of the fat immediately beneath it (this is the site of the entry of the bullet), extending down to the peritoneal surface. On making the median incision, starting from the suprasternal notch and extending to a point just below the

[1] The autopsy was performed by Drs. Gaylord and Matzinger.

symphysis, the subcutaneous fat is exposed, which is of bright yellow color and normal appearance except in an area which corresponds superficially to the area of discoloration described as surrounding the wound upon the chest wall. This area marks the site of a hemorrhage into the subcutaneous fat. The remainder of the subcutaneous fat is firm and measures 4.75 cm. in thickness on the abdominal wall. On opening the sheath of the right rectus muscle, it is seen to be of dark-red color. (Culture taken from ecchymotic tissue under the upper bullet hole and from between the folds of the small intestine. Three tubes from each locality on agar and gelatin.)

On opening the abdominal cavity, the parietal surface of the peritoneum is exposed, and is found to be covered with a slight amount of bloody fluid; is perfectly smooth and not injected. The great omentum extends downward to a point midway between the umbilicus and the symphysis. It is thick, firm; its inferior border is colored by coming in contact with the intestines. Below the umbilicus a few folds of intestines are exposed. These are likewise covered with discolored blood, after the removal of which the peritoneal surface is found to be shiny. On the inner aspect of the abdominal wound the omentum is found to be slightly adherent to the parietal peritoneum, and can be readily separated with the hand from the edge of the wound. At this point the omentum is somewhat injected. This adhesion to the omentum is found to extend entirely around the abdominal wound. The parietal peritoneum immediately adjacent to the inner aspect of the abdominal wound is ecchymotic.

On removing the subcutaneous fat and muscles from the thoracic wall, the point which marks the dissolution of continuity of the skin upon the surface is found to lie directly over the margin of the sternum and to the right side between the second and third ribs. There is no evidence of ecchymosis or injury to the tissues or muscles beneath the subcutaneous fat. On making an incision through the subcutaneous fat, directly through the wound upon the chest, a small cavity is exposed about the size of a pea, just beneath the skin, which is filled with fluid blood. The subcutaneous tissue underlying the area of discoloration on the surface of the chest wall shows hemorrhagic infiltration.

On removing the sternum, the lungs are exposed, and do not extend far forward. A large amount of pericardial fat is exposed. Pleural surface on both sides is smooth. There are no adhesions on either side within the pleural cavities. The diaphragm on the right side extends upward to a point opposite the third rib in the mammary line. No perceptible amount of fluid in either pleural cavity. On opening the pericardial cavity, the surface of the pericardium is found to be smooth and pale. The pericardium contains approximately 6 cc. of straw-colored, slightly turbid fluid. (Some taken for examination.)

On exposing the heart, it is found covered with a well-developed panniculus. The heart measures, from the base to the apex, on the superficial aspect, 10.5 cm. The right ventricle is apparently empty. The heart feels soft and flaccid. On opening the left ventricle, a small amount of dark-red blood is found. The muscle of the left ventriclear wall is 1.5 cm. in thickness; dark reddish-brown in color; presents a shiny surface. The average thickness of the pericardial fat is 3.5 mm. (Cultures made from the auricle.) The left auricle contains but a small amount of dark currant-colored blood. The mitral valve admits three fingers. The right ventricle, when incised in the anterior line, is found to be extremely soft; the muscular structure is 2 mm. in thickness. The panniculus measures 7 mm. The muscle is dark red in color; very shiny, and the pericardial fat invades the muscular wall at many points.

On opening the right auricle, it is found to be filled and distended by a large currant-colored clot, which extends into the vessels. The tricuspid orifice admits readily three fingers. The coronary arteries are patulous and soft; no evidence of thickening.

Lungs are gray color, and contain a moderate amount of coal-dust pigment. Slight amount of frothy fluid escapes from the bronchi; but the pulmonary tissue is crepitant and free from exudate.

On unfolding the folds of intestine, there is no evidence of adhesion until a point just beneath the mesocolon is reached, when, on removing a fold of small intestine, a few spoonfuls of greenish-gray thick fluid flows into the peritoneal cavity.

On the anterior gastric wall is an area to which a fold of the gastrocolic omentum is lightly adherent On breaking the adhesion there is found a wound about midway between the gastric orifices, 3.5 cm. in length, parallel with the greater curvature of the stomach, 1.5 cm. from the line of omental attachment. This wound is held intact by silk sutures. There is no evidence of adhesion at any other point on the anterior wall. The gastric wall surrounding the wound just mentioned for a distance of 2 cm. to 3 cm. is discolored, dark greenish gray in appearance, and easily torn. On exposing the posterior wall of the stomach from above, along its greater curvature, the omentum is found to be slightly adherent, a line of silk ligatures along the greater curvature of the stomach marking the site where the omentum had been removed. On throwing the omentum downward, the posterior gastric wall is exposed. On the posterior wall, a distance of 2 cm. from the line of omental attachment, is a wound approximately 2 cm. long, held intact by silk sutures. The gastric wall surrounding this wound is discolored. On the surface of the mesocolon, which is posterior to the gastric wall at this point, is a corresponding area of discoloration, the portion coming directly in contact with the wound in the gastric wall being of dull gray color. The remainder of the surface of the posterior wall of the stomach is smooth and shiny. Beyond the surgical wound in the posterior wall of the stomach is found an opening in the retroperitoneal fat, large enough to admit two fingers. This opening communicates with a track which extends downward and backward as far as the finger can reach The tissues surrounding this track are necrotic. On removing the descending portion of the colon, a large irregular cavity is exposed, the walls of which are covered with gray, slimy material, and in which are found fragments of necrotic tissue. Just at the superior margin of the kidney is located a definite opening, which forms the bottom of the track traced from the stomach. On stripping the left kidney from its capsule, it is found that the superior portion of the capsule is continuous with the cavity. The weight of the left kidney is 5 oz. 1 gm. The kidney is readily stripped from its capsule; is dark red; the stellate veins are prominent, and along its greater curvature are numerous dark red depressions. On the superior aspect of the kidney is a protrusion of the cortex, dark red in color, and in this protrusion is a laceration 2 cm. long, extending across the superior border, approximately at right angles to the periphery of the kidney and from before backward. On incising the kidney, the cortex and medulla are not easily distinguishable from one another; both are of rose-red color, the cortex measuring approximately 6 mm. in thickness. The vessels in the pyramids of Ferrein are very prominent. Beneath the protruding portion of the surface the cortex is dark red in color. This discoloration extends downward in pyramidal form into the medulla. The laceration of the surface marks the apex of the protrusion of the kidney substance. Between the spleen and the superior aspect of the kidney is a necrotic tract which extends down and backward, and ends in a blind pocket. The tract which included the superior aspect of the kidney can be traced into the perinephritic fat to a point just above the surface of the muscles of the back.

The necrotic cavity which connects the wound on the posterior wall of the stomach and the opening adjacent to the kidney capsule is walled off by the mesocolon, and is found to involve an area of the pancreas, approximately 45 mm. in diameter and extending about half-through the organ. This organ at its center forms part of the necrotic cavity. Through its body are found numerous minute hemorrhages and areas of gray softening, the size of a pea or smaller. These are less frequent in the head portion of the pancreas.

A careful examination of the track leading down toward the dorsal muscles fails to reveal the presence of any foreign body. After passing into the fat, the direct character of the track ceases; and its direction can be traced no further. The adjoining fat and the muscles of the back were carefully palpated and incised, without disclosing a wound or the presence of a foreign body. The diaphragm was carefully dissected away, and the posterior portion of the thoracic wall likewise carefully examined. All fat and organs which were removed, including the intestine, were likewise examined and palpated, without result.

The great amount of fat in the abdominal cavity and surrounding the kidney rendered the search extremely difficult.

The right kidney is imbedded in a dense mass of fat; capsule strips freely; it weighs 5 oz.; measures 11.5 cm.; substance is soft; cortex is 6 mm. in thickness; rose-red in color; cut surface slightly dulled. There are a few depressions of the surface, and the stellate veins are prominent.

The liver is dark-red in color; the gall-bladder distended. The organ was not removed.

The autopsy continued for a longer period than was anticipated by those who had charge of the President's body, and we were requested to desist seeking for the bullet and terminate the autopsy. As we were satisfied that nothing could be gained

by locating the bullet, which had apparently set up no reaction, search for it was discontinued.

Anatomic Diagnosis.—Gunshot wound of both walls of the stomach and the superior aspect of the left kidney; extensive necrosis of the substance of the pancreas; necrosis of the gastric wall in the neighborhood of both wounds; fatty degeneration, infiltration, and brown atrophy of the heart muscle; slight cloudy swelling of the epithelium of the kidneys.

A matter of no inconsiderable embarrassment to us arose in the objection to our removing sufficient portions of the tissues for examination. We were able to secure only two small fragments of the stomach wall; tissue from around the wound upon the chest wall; a portion of fat from the wall of the necrotic cavity· a small piece of each kidney, that of the left kidney including the portion involved by the original wound; and pieces of heart-muscle from the right and left ventricles. The microscopic examination of these tissues follows:

The piece of retroperitoneal fat, where it forms part of the necrotic cavity, is seen on section to be covered with a thick gray deposit, which has an average thickness of from 4 mm. to 6 mm. Beneath this, and separating it from the fat, is a well-defined area of hemorrhage from 1 mm. to 2 mm. in thickness. The appearance of this piece of tissue is characteristic of the fat tissue surrounding the entire cavity. A section made perpendicular to the surface and stained with hematoxylin-eosin shows the following characteristics: Under low power there is no evidence of round-celled infiltration between the fat cell or of fat necroses. The surface of the tissue which, in the microscopic specimen, was covered by a layer of grayish material, proves, under low power, to consist of a partly organized fibrinous deposit. At the base of this deposit is evidence of an extensive hemorrhage, marked by deposits of pigment. The surface of the membrane is of rough and irregular appearance, and contains a large number of round cells with deeply stained nuclei. Under high power the organization of the membrane may be traced from the base toward the surface. The portion immediately adjacent to the fat tissue consists of a network of fibrin inclosing large numbers of partly preserved red blood corpuscles. In many areas the red blood corpuscles are broken down and extensive deposits of pigment are found. Extending into the fibrin structure of the membrane are numerous typical fibroblasts and round cells. In some regions, pigment is evidently deposited in the bodies of large branching and spindle cells. Here and there, included in the membrane, are the remains of fat cells, and toward the surface of the membrane a large number of round cells scattered through the interstices of the membrane. There are but few polymorphonuclear leukocytes. Here and there in the membrane are fragments of isolated fibrous connective tissue with irregular contours and an appearance suggesting that they are fragments of tissue which have been displaced by violence and included in the fibrin deposit. The fibrin in the superficial layers of the membrane is formed in hyaline clumps. The organization along the base of the deposit is comparatively uniform.

Sections stained with methylene blue, carbol-thionin, and Gram's method were carefully examined for the presence of bacteria, with negative results. Even upon the surface of the membrane there are no evidences of bacteria.

The section of the left kidney, including the triangular area of hemorrhage described in the macroscopic specimen, reveals the following appearances: (Section hardened in formalin, stained with hæmatoxylin-eosin.) Examined macroscopically, section represents a portion of a kidney cortex made perpendicular to the surface of the cortex, and including an area of hemorrhage into the substance of the cortex 1 cm. in length, measured from the capsular surface downward, and presenting a width of from 5 mm. to 6 mm. The capsular surface has apparently been torn.

Under low power the margins of the preparation are found to consist of well-preserved kidney structure. There is a slight amount of thickening of the interstitial tissue, and occasional groups of tubules are affected by beginning cloudy swelling. The glomeruli are large, and present a perfectly normal appearance. As we approach toward the center of the preparation, occasional glomeruli are met with in which the capillary loops are engorged and the adjacent tubules contain red blood-corpuscles. A short distance further, the kidney structure becomes entirely necrotic. Here and there the remains of tubules may be made out, and these are infiltrated with cells. The necrotic area presents a rough, net-like structure. As we approach toward the surface of the kidney, we find that the necrosis becomes more marked. There is the merest suggestion of kidney structure, its place being taken by disintegrated red blood-cells and leukocytes, embedded in a well-defined fibrinous network. There is great distortion of the kidney structure about the periphery of the necrotic area. In this region a considerable amount of pigment is also found in the necrotic tissues.

Under high power, the characteristics of the necrotic tissues may be better observed. The kidney structure is broken up and torn into irregular fragments, infiltrated by red blood corpuscles and leukocytes. In the portion of the necrotic mass beneath the capsule, the kidney structure is practically obliterated, and is replaced by a network of fibrin, which includes large numbers of red blood-cells and leukocytes. Scattered through the entire necrotic area are frequent deposits of pigment.

In the deeper portions of the necrotic area, the margins of the fibrin deposit are invaded by fibroblasts from the connective-tissue structure of the kidney. The organization in these areas is, however, slight.

Sections stained with methylene-blue and Gram's method and carefully examined under oil immersion, fail to reveal the presence of any organisms. In preparations stained with methylene-blue, the deposits of pigment may be readily observed. Section of the same tissue hardened in Hermann's solution and examined for fat, shows the presence of numerous fat droplets within the epithelium of the tubules which are adjacent to the area of necrosis. In the portions of the preparation more widely distant from the area of necrosis, no fat is present.

Section of the right kidney hardened in formalin and stained with hematoxylin-eosin reveals the presence of areas in which slight parenchymatous degeneration of the epithelium in the uriniferous tubules may be noted. These areas are not extensive, and are confined to single groups of tubules. The interstitial connective tissue of the organ seems to be slightly increased in amount, but there is no well-defined round-celled infiltration. An occasional hyal ne glomerulus is to be met with in these cases surrounded by increased connective tissue. The epithelium of the kidney tubules, aside from these in which the parenchymatous degeneration is present, is well preserved. The nuclei are well stained; protoplasm, finely granu ar.

A fragment of the stomach wall taken from the immediate neighborhood of the anterior wound is in a condition of complete necrosis. The nuclei of the cells are scarcely demonstrable. The epithelial surface is recognized with difficulty. At its base are apparently a few round cells. Examination of the blood-vessels reveals nothing characteristic. There is apparently no evidence of thrombosis. A section made through the gastric wall at some distance from the wound reveals the well-preserved muscular structure of the gastric wall, which presents no characteristic alterations. Superficial portions of the epithelium have apparently been affected by post-mortem digestion. However, in one portion of the preparation, the epithelium is intact, and shows distinct evidence of marked round-celled infiltration between the glandular structures. The blood-vessels contained blood corpuscles with the usual number of leukocytes.

The fragments of heart-muscle which were removed from the right and left ventricular walls were examined in the fresh state, and exhibited a well-defined fatty degeneration of the muscle fibers, and in the case of the right ventricular wall an extensive infiltration between the muscle fibers, of fat, was apparent. Sections from these fragments of muscle hardened in Hermann's solution are taken for examination. A fragment of muscle from the right ventricular wall was removed at a point where the fat penetrated deeply into the muscular structure, the ventricular wall at this point showing an average thickness of 2.5 mm. Under low power, the muscle fibers are separated into bundles by masses and rows of deeply stained fat cells. The muscle fibers are seen to contain groups of dark brown granules lying in the long axes of the cells. Under high power, these are resolved into extensive groups of dark brown pigment arranged around the nuclei. The muscle fibers are slender, the cross and longitudinal striation is well defined. Examined near the margin of the preparation, where the osmic-acid fixation has been successful, all of the muscle fibers are found to contain minute black spherical bodies, extending diffusely through all the muscle fibers about the entire margin of the preparation. These fine fat droplets are present in sufficient amount to speak of an extensive diffuse fatty degeneration of the muscle fibers. Where the large fat cells have separated the muscle fibers, these are found to be more a trophic than those in the central portions of the larger bundles.

The examination of the section through the healed bullet wound on the chest walls reveals nothing of importance The dissolution of continuity is filled in by granulation tissue, and there is evidence of beginning restoration of the epithelium from the margins. Stains for bacteria give negative results.

In summing up the macroscopic and microscopic findings of the autopsy, the following may be stated: The original injuries to the stomach-wall had been repaired by suture, and this repair seems to have been effective. The stitches were in place, and the openings in the stomach-wall effectually closed. Firm adhesions were formed upon the anterior and posterior walls of the stomach, which reinforced these sutures. The necroses surrounding the wounds in the stomach do not seem to be the result of any well-defined cause. It is highly probable that they were practically terminal in their nature, and that the condition developed as a result of lowered vitality. In this connection there is no evidence to indicate that the removal of the omentum from the greater curvature and the close proximity of both of these wounds to this point had any effect in bringing about the necrosis of the gastric wall, although circulatory disturbances may have been a factor. The fact that the necrotic tissue had not been affected by digestion strongly indicates that the necrosis was developed but shortly before death. The excavation in the fat behind the stomach must be largely attributed to the action of the missile. This may have been the result of unusual rotation of a nearly spent ball, or the result of simple concussion from the ball passing into a mass of soft tissues, Such effects are not unknown. The fact that the ball grazed the superior aspect of the left kidney shown by the microscopic investigation of that organ, indicates the direction of the missile, which passed in a line from the inferior border of the stomach to the tract in the fat immediately superior to the kidney. There was evidence that the left adrenal gland was injured.

The injury to the pancreas must be attributed to indirect, rather than direct, action of the missile. The fact that the wall of the cavity is lined by fibrin, well advanced in organization, indicates that the injury to the tissues was produced at the time of the shooting. The absence of bacteria from the tissues indicates that the wound was not infected at the time of the shooting, and that the closure of the posterior gastric wound was effectual. The necrosis of the pancreas seems to us of great importance. The fact that there were no fat necroses in the neighborhood of this organ indicates that there was no leakage of pancreatic fluid into the surrounding tissues. It is possible that there was a leakage of pancreatic fluid into the cavity behind the stomach, as the contents of this cavity consisted of a thick, grayish fluid, containing fragments of connective tissue. In this case the wall of fibrin would have been sufficient to prevent the pancreatic fluid from coming in contact with the adjacent fat. The extensive necrosis of the pancreas would seem to be an important factor in the cause of death, although it has never been definitely shown how much destruction of this organ is necessary to produce death. There are experiments upon animals on record, in which the animals seem to have died as a result of not very extensive lesions of this organ. One experiment of this nature reported by Flexner (*Journal of Experimental Medicine*, Vol. II) is of interest. The fact that concussion and slight injuries of the pancreas may be a factor in the development of necrosis is indicated by the researches of Chiari (*Zeitschrift für Heilkunde*, Vol. XVII, 1896, and *Prager med. Wochenschr.*, 1900, No. 14), who has observed (although a comparatively rare condition) extensive areas of softening and necrosis of the pancreas, especially of the posterior central portion which lies directly over the bodies of the vertebra, where the organ is most exposed to pressure or the effects of concussion. The wound in the kidney is of slight importance, except as indicating the direction taken by the missile. The changes in the heart, as shown by the macroscopic inspection and the microscropic examination, indicate that the condition of this organ was an important factor. The extensive brown atrophy and diffuse fatty degeneration of the muscle, but especially the extent to which the pericardial fat had invaded the atrophic muscle fibers of the right ventricular wall, sufficiently explain the rapid pulse and lack of response of this organ to stimulation during life.

REPORT ON THE BACTERIOLOGIC EXAMINATION.

BY HERMAN G. MATZINGER, M.D.,

Bacteriologist to the New York State Pathological Laboratory.

It is obvious that the short space of time which has elapsed since the death of the President has hardly been sufficient to prepare a complete and thorough bacteriologic report. This report contains all the observations which have been made up to this time:

On September 11, during the life of the President, cultures were made by Dr. Wasdin from the base of the abdominal wound and from the dressings removed at the same time. These were submitted to me for examination, and showed the presence of the ordinary pus organisms: Staphylococcus pyogenes aureus and S. cereus albus, with a gas-forming bacillus which, in pure anærobic culture on glucose gelatin, forms small, pearly, translucent colonies, with no liquefaction. In litmus milk it produces acid, but no coagulation. Morphologically, it is apparently a capsulated, short bacillus, which takes stains poorly, and which does not stain by Gram's method. Inoculated into the ear vein of a rabbit, which was killed immediately afterward, it produced, after twenty-four hours in the body of the rabbit, a marked accumulation of gas in the organs, and again grew out in pure culture. As yet the organism is not fully identified.

None of these cultures showed streptococci. A bacterium which appears to be one of the proteus group was, however, isolated, which does not stain by Gram, and appears in varying forms, sometimes small oval, and again quite rod-shaped and in short chains. Sometimes it is surrounded with a slimy covering, which remains clear like a capsule when the organism is stained. On slanting agar, it produces a whitish, slimy growth, which gradually runs to the bottom of the slant and produces an odor of decomposition. On gelatin, it grows very slowly with slight and slow indication of liquefaction. In litmus milk, it produces acid and rapid coagulation.

At the time of the autopsy, September 14, inoculations were made by myself. From the base of the wound there was again obtained a number of pus organisms, principally a white staphylococcus and the bacterium described above, but no streptococci. Cultures made from the peritoneal surface of the intestines were entirely negative. Cultures made from the under surface of the omentum near the colon were entirely negative, both with and without oxygen. Cultures from the blood of the right auricle were likewise negative. A very careful and extensive search for microorganisms in the contents of the necrotic cavity behind the stomach reveals nothing but a short stumpy bacterium which, as far as the work has been carried at present, appears to belong to the proteus group, and is very like Proteus hominis capsulatus, described by Bordoni and Uffreduzzi.

Morphologically it is not uniform, and sometimes appears almost encapsulated, being surrounded by material that does not stain; is quite refractory to Gram, and produces an odor of decomposition as it grows. It does not liquefy gelatin rapidly and grows slowly, as a glistening white elevated surface growth which slowly sinks; but on agar in the thermostat it grows very rapidly as a moist, grayish-white, translucent mass. Colonies on gelatin plates have a clean circumference, are granular and quite refractive. In litmus milk it produces acid and rapid coagulation. Animal experiments are still incomplete, and cannot be published at this time.

It must be stated that there is occasion for suspecting that this may be a contamination, either from the outer wound or elsewhere, because, quite unavoidably, the technic of obtaining the material and cultures from the necrotic cavity was not absolutely correct.

Cultures made from the small area of the broken-down tissue under the chest wound at the time of the autopsy

grew what appears to be Staphylococcus epidermidis albus, described by Dr. Welch.

The slimy, gray, necrotic material from the cavity above the transverse mesocolon behind the stomach was carefully examined microscopically, with the result that very few microorganisms were found in the fresh state, and no recognizable tissue elements of any kind, no leukocytes or pus-corpuscles, but an abundance of crystals which appeared more like fatty acid than fat crystals. It contained no free hydrochloric acid, and was alkaline in reaction. Experiments as to its digestive power were negative. About 2 cc. of this material was injected into the space behind the stomach of a dog (still living), with no results except quite an elevated temperature for three or four days. Other animal experiments are also still incomplete.

It might be well to state here that the bacteriologic examination of the chambers and barrel of the weapon used, as well as the empty shells and cartridges, ordered by the District Attorney, was entirely negative, except that from a loaded cartridge there was grown an ordinary staphylococcus and a mould. The chemical examination of the balance of the loaded cartridges, made by Dr. Hill, chemist, was also negative.

The absence of known pathogenic bacteria, particularly in the necrotic cavity, warrants the conclusion that bacterial infection was not a factor in the production of the conditions found at the autopsy.

FAILURE OF THE KNIFE IN THE TREATMENT OF CANCER.

By ROBERT REYBURN, A.M., M.D.,

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For many years the writer advocated the thorough removal of all cancerous tumors by the knife. In the recent years of his professional career, however, the discouraging fact of the almost invariable return of these tumors, after being operated upon, has greatly modified his views as to the benefits to be derived from these operations.

The following opinions of authorities will show that other surgeons have had similar experiences: Dr. J. M. Baldy of Philadelphia, in a paper read at the last meeting of the American Medical Association, says that only 5 per cent. of the patients operated upon for cancer of the cervix uteri are cured. He further states that the statistics of the operations at Johns Hopkins Hospital give the same result.[1] In an abstract of the views of P. G. Unna on the subject of cutaneous cancer,[2] we find that he recommends the use of the Paquelin cautery as a substitute for the knife. This is generally used superficially, singeing the parts only. He states that he has observed a checking of the malignant process, and the appearance of granulation tissue. Herzfield[3] says that abdominal hysterectomy for uterine cancer is a failure, for the cellular tissue and lymph glands cannot be removed. Vaginal hysterectomy, he says, is only palliative in 50 per cent. of the cases operated upon; it is, however, absolutely without danger, and in the remaining cases lasting results are obtained.

At the Ninth German Congress of Gynecology, held at Giessen May 29-31, 1901, Professor W. A. Freund said that he was able to report only two cases of cancer of the uterus permanently cured by surgical operation in twenty-three years of experience. He learned by inquiry in the various clinics of Germany that the average mortality, after abdominal extirpation with removal of the larger portion of the parametrium and the glands, is $24\frac{6}{10}$ per cent., and with a record of $46\frac{6}{10}$ per cent. of recurrences during the first year.[4]

Dr. Cyrus A. Kirkley[5] at the last meeting of the American Gynecological Society, May 30 to June 1, 1901, said that the only indication for abdominal hysterectomy was when the cancer was strictly confined to the cervix and body of the uterus, or to the body alone. Electro-cauterization, as practised by Dr. Byrne, was given the preference over all other methods of operating.

In an editorial[6] note occurs the following: "Carcinoma of the uterus and its treatment has been the subject of thorough discussion in the American and German gynecological societies during the past few weeks. All the reports in regard to the treatment and recurrence are most melancholy and unsatisfactory."

An article by Dr. C. Trunecek[7] on the mechanism of the arsenical treatment of malignant tumors is commented on as follows: "He now announces that carcinoma or sarcoma cells are directly necrosed by the action of the arsenic, and their protoplasm is coagulated. The stroma cells become degenerated and exudation follows, which in turn produces further changes in the tumor cells. Inflammation with demarkation is the result of the application of arsenic to the surrounding sound tissue. It gradually passes into a suppurative stage, terminating in the throwing off of the entire necrosed tumor as a foreign body. In short, the organism reacts to the arsenical tumor as to a foreign body, and throws it off. The tumor when left alone does not induce any reaction of this nature; the organism makes no effort to defend itself against it, and is in turn destroyed by it."

The universal use by all surgeons of the principles of aseptic surgery has rendered the operations for cancer so comparatively safe that surgeons have been tempted to prevent the recurrence of these tumors by extending the field of their operations. So extensive are the mutilations now recommended by some authors for the removal of cancerous tumors, especially of the uterus and its appendages, that it would seem doubtful whether we ought not to describe the operation as one of the removal of the patient from the tumor rather than that as one of the removal of the tumor from the patient.

What does this show? It seems to me that it is a virtual confession of the failure of the knife in the cure of these cases, in that we are extending more and more our incisions into the apparently healthy tissues, in order to prevent this recurrence. Admitting, therefore, for the sake of argument, that the use of the knife has been a failure in these cases, what is the reason for it?

After a prolonged study of this subject the following explanation has suggested itself to me as seemingly conclusive on this point. When we make an incision into any part of the body for the removal of a malignant growth, we at once divide and lay wide open for infection every vein and lymphatic vessel in the part operated upon. No matter what we may believe to be the contagium of cancer, the fact remains the same. Dr. Lambert Lack of England believes that cancer is produced by an abnormal development taking place in normal or healthy epithelium, when invading the lymph spaces of the body.

[1] *Journal American Medical Association*, June 8, 1901, pp. 1650 and 1664.

[2] *Ibid.*, July 6, 1901, p. 60.

[3] *Medical News*, June 15, 1901, p. 950.

[4] *Journal American Medical Association*, July 6, 1901, p. 47.

[5] *American Medicine*, June 8, 1901, p. 431.

[6] *Ibid.*, July 13, 1901, p. 46.

[7] *Journal American Medical Association*, July 6, 1901, p. 74.

In confirmation of this theory, he adduces the results of his experiments with rabbits and other animals. In a number of cases by introducing healthy epithelium into the abdominal cavities of rabbits, he succeeded in developing cancerous tumors.[8]

Dr. Konstantinowitch[9] succeeded in producing growths not dissimilar from granuloma, and containing epithelioid and giant cells, by inserting spores of lycopodium under the skin. Dr. Harvey Gaylord and others assert, on the other hand, that cancer is produced by the growth in the body of a living organism—a protozoon.

Whatever theory we may adopt as to the causation of cancer, there are two facts in its history that seem to be now generally admitted. The first of these is that it is probably always local in its early stages, and the second is that its origin is due to an injury or local irritation of the part affected. If we believe that the recurrence of cancer in cases operated upon is due to infection through the medium of the divided veins and lymph channels, the question arises, Can we supplement the knife, or substitute for it any other plan for removing these tumors that will prevent this systemic infection?

It is the belief of the writer that this can be done by adding to, or substituting for, the knife the electric cautery, the thermo-cautery, or, in a limited number of cases, the use of arsenic or chloride of zinc for the removal of the morbid growths. The marvelously successful results of Dr. John Byrne of Brooklyn in the treatment of uterine cancer show clearly that the removal of uterine cancer by the electric cautery is, by far, the best method of treatment.

In his first series of 367 cases published in 1889, Dr. Byrne shows the unparalleled result of not having a single death occurring during this vast series of operations. He shows another significant fact, namely, that the average length of life of patients, after being operated upon in this manner, far exceeds that found in those operated upon by the knife. The manner in which the statistics of the results of operations by the knife for uterine cancer are given in our textbooks and medical journals makes it very difficult to form an intelligent opinion; but after careful examination of many of them it is the deliberate opinion of the writer that the average length of life of the patients who have undergone hysterectomy, partial or complete, for this disease is no greater than that of those who have not been operated upon. The average length of life of patients (untreated) with uterine cancer is from two to two-and-a-half years, and it is very doubtful whether any long series of cases can be shown in which the average length of life has been to any appreciable extent increased by hysterectomy.

For this reason, therefore, I would advocate the entire abandonment of hysterectomy, partial or complete, for patients afflicted with cancer of the uterus. It seems to be clearly shown by Dr. Byrne that the operation recommended by him is far superior to hysterectomy; and now let us try to study out the reasons for it. The first reason for the superiority of this operation is that it is absolutely aseptic. While we do not expect sepsis in modern surgical operations, yet in a limited number of these cases sepsis does, unfortunately, occur, and this danger is entirely eliminated by the use of the electric cautery. A very significant fact is noted by Dr. Byrne in his history of these operations, and this is that, when the disease does recur in these cases, it rarely occurs in the cicatrices produced by the action of the electric cautery on the tissues.

[8] Medical Record, Sept. 2, 1899, p. 345.

[9] *Philadelphia Medical Journal*, June 8, 1901, p. 1067.

What does this show? It certainly seems to prove that the vitality of the contagium (whatever it may be) has been destroyed and rendered harmless. Not only is this the case, but the destructive action of the cautery has caused a layer of lymph to be thrown around the cancer cells, which probably protects the healthy tissues, and prevents the future absorption of the cancerous materials into the system. This protective power of a layer or zone of lymph surrounding pathogenic microorganisms is often a source of protection to the body in disease.

Take, for instance, the phenomena found in lupus. Lupus is generally admitted to be a disease of the skin produced by the invasion of the tubercle bacillus. Yet, how different is the history of a case of lupus from that of a case of pulmonary tuberculosis. Cases of lupus are often chronic in character, and may exist for many years without seriously impairing the health of the patient. The writer had a patient under his care who had suffered from this disease for ten years, and was still able to do manual labor. The irritation produced by the tubercle bacilli at the site of the lupus (of the face and neck) had produced a layer of lymph around the tuberculous nodules, and, encasing them, had prevented systemic infection. The same conditions are found to exist in the tuberculous glands, so-called strumous glands of the neck, in scrofulous persons. These tuberculous deposits may remain latent for an indefinite length of time without any apparent injury to the body. If, however, they commence to break down and show a tendency to suppurate, then—the protective layer of lymph which had prevented the absorption of the bacilli or their toxins being removed—absorption may take place, and general tuberculosis result.

The objection may be urged against Dr. Byrne's method of operating that it is not applicable for the removal of cancers of the breast, or of large cancerous tumors occurring in other parts of the body. If the theory advocated in this paper be correct, then it would seem eminently proper that in such cases the electric cautery or thermo-cautery should follow the knife. In other words, immediately after the tumor has been removed in the usual manner by the knife, and the surface of the wound of operation has become thoroughly dried, and all hemorrhage being arrested, the seat of operation should be thoroughly seared by the electric or thermo-cautery.

The beneficial effects in preventing recurrence resulting from the use of arsenic and chloride of zinc for the removal of superficial cancers are also applications of the same principles advocated in the above paper. The arsenic and chloride of zinc produce layers of lymph under and around the former seat of the cancer, which prevent further infection. Finally, the writer would remark that, having only recently taken up this method of treatment, the time is as yet too short for him to give, from his own experience, any statistics that would be of value. He can only say that so far the results are exceptionally good, and he hopes that others besides himself will take up this method of treatment for cancer, and especially for cases of cancer of the uterus.

Some Coughs Produced Outside the Chest.—W. N. Robertson has found the cause of cough often referable to other organs than those in the chest. His experience includes coughs due to intestinal and gastric parasites, foreign bodies in the ear, enlarged turbinates, hysteria, enlarged tonsils and uvula, tumor of the epiglottis, fleshy bands in the pharynx, etc. Contrary to experience of most practitioners, he has not found enlarged lingual tonsil to be a cause of cough.—*Australasian Medical Gazette.*

REPORT OF THE SUMMER WORK OF THE MILK COMMISSION OF THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

By HENRY DWIGHT CHAPIN, M.D., Chairman.

It may be of interest to the members of the society briefly to rehearse the incidents leading up to the formation of a milk commission before speaking of its work. A year and a half ago an evening was devoted to a discussion of the milk problem, especially in connection with large cities. A number of experts were present, including the Chief of the Dairy Division of the United States Department of Agriculture. The subject seemed one of such importance, and so much interest was aroused, that the society determined to form a commission that should study the best methods of improving the milk supply of New York. The time seemed ripe for such a movement, as the interest aroused and the success of the work have since proven. Moreover, the Medical Society of the County of New York, as the public and legal representative of the medical profession, and the guardian of the city's health, seemed the proper body to undertake such a work.

The first meeting of the commission was devoted to a discussion of the problem and how it might best be approached. The milk that is put into a large city must be gathered from diverse and distant sources, transported many miles, and finally distributed, after many vicissitudes and changes, to the customer, who himself keeps it a certain length of time, under possibly unfavorable conditions, before its use. When we consider that all this happens to a vital fluid that is unstable in its composition, that is sensitive to many unavoidable factors, such as temperature, atmospheric effects, shaking, and, above all, to dirt and dirty utensils, the complexity of the question may be appreciated. Heretofore most of the work done in a public study of a city's milk supply has concerned itself principally with the chemical ingredients of milk, more particularly the amount of butter fat it contains.

One of the members of the commission, having studied this subject for several years, found that the milk of New York, especially as supplied by the best dealers, runs fairly high in butter fat. While the law requires 3 per cent., an examination of over twenty samples from diverse sources showed an average of about 4 per cent. to be present, and not infrequently 5 per cent. is reached by the best dairies. Further examination showed that much was to be desired in point of cleanliness of the milk. Milk is an exceedingly good culture medium for the growth of bacteria of all kinds, and modern studies show that the presence and numbers of bacteria form a good gauge of the general condition of the milk, and the care with which it has been handled. The proper preservation of milk is also involved, as it is well known that the deterioration of milk from acid changes is due to bacterial growth. Ordinary bacteria that contaminate and grow luxuriously in milk come from the dirt that follows a careless handling of the milk anywhere from its first production to its delivery. It seemed well to the commission to establish an advanced standard of clean milk for the ordinary dealer, and the index of cleanliness would be established by a bacterial count. In other words, a bacterial standard would be applied as a gauge of the condition of milk. As this work was to be entirely voluntary, as far as the dealers were concerned, it was decided to invite them to a conference with the commission, and learn their ideas as to the feasibility of the undertaking. Accordingly, 180 invitations were sent out to dealers in Manhattan and The Bronx, this including all those of any financial importance, as shown by their commercial ratings. The meeting was held on November 16 at the Academy of Medicine, and about fifty dealers were present. They were invited to give their views freely as to whether part of their milk could not be put out according to an advanced standard for the benefit of infants, invalids, or any who desired a superior article. While many practical difficulties were urged, the general sense of the meeting seemed to be that with some extra care and expense many improvements could be made, under proper guidance, in putting out a strictly clean milk. Encouraged by this expression of opinion, as well as by the good will and spirit shown by the dealers, the commission determined to call a second meeting of those who were willing to have their milk examined and certified by the commission. In the meantime a series of suggestions adapted from the dairy rules of the United States Department of Agriculture were combined in a circular, together with a tentative standard adopted by the commission. The final paragraph explains the latter as follows:

"The Milk Commission of the New York County Medical Society agrees to guarantee or certify the milk of all dealers desiring such certificate. A special label will be furnished for this purpose. The standard required to obtain this endorsement will be that the acidity must not be higher than 2 per cent., and that the milk must not contain more than 30,000 germs, or bacteria of any kind, to the cubic centimeter. This will be tentatively adopted as a standard of clean milk, as bacteria get into the milk through lack of cleanliness during the milking and careless handling of the milk after the milking, and hence is a good clue to the care bestowed in the production and general handling of milk. The milk, before testing, must be in its natural state, not having been heated and without the addition of coloring matter or preservatives. The butter fat must reach 3.5 per cent. Examination must be made by the experts retained by the commission, with a frequency at their option, according to the season and the general condition of the milk under inspection, and at least once a month. The commission reserves the right to change its standard, in any reasonable manner, upon due notice being given to the dealer. The expense of the examination will be met by the dealer. All reports of examinations will be strictly confidential between the commission and the individual dealer."

About fifteen dealers attended the second meeting, which was understood to include all who were at that time willing to work with the commission. A report was then made to the Comitia Minora, who authorized the continuance of the work along these lines. The first examination was made March 4, for certification, the count showing 58 500 with butter fat 3 per cent. It may be of interest here to see how the better grades of milk in New York run in bacteria. The following tests furnished by Dr. Park will show the amount of bacterial contamination of milk put into New York, during a winter and a summer day. The first was taken November 19, 1900, being a mild winter day; temperature during the afternoon was 70°, and of the night 50° F. Samples of milk taken from carts received directly from cars gave an average temperature of about 52° F., the range being from 50° to 58°. The number in the six samples ran as follows: 56,000; 128,000; 35,000; 256,000; 13,600; 2,880,000. For a summer day, June 29, 1901, was taken, the day temperature being 90° F., and the night temperature 78° F. Six samples taken at random show as follows: 520,000; 30,000,000; 3,530,000; 12,000,000 216,000,000; 9,600,000.

Some idea of the extent of the bacteriological work upon milk done for the commission will be appreciated by stating that from March 4 to the present date, 800 separate bacteriological examinations have been made. This laborious undertaking has been accomplished by Dr. Sarah Belcher, to

whose zeal and enthusiasm much of the success of the work is due. The commission is also greatly indebted to Dr. Park for valuable oversight and advice, and to the Rockefeller Institute for Medical Research for its co-operation in allowing Dr. Belcher to render these services as part of the work of the institute. Bacterial tests have been made in the Research Laboratory of the Department of Health. After visits to a number of farms and dairies, it was aimed to classify the various sources of contamination, so that each one might be separately inspected and eliminated as the cause of trouble, or corrected, if found at fault. In order to reduce to practical results these bacterial researches, the following factors were considered and carefully studied:

1. Condition of barn.
2. Condition of cows.
3. The milkers.
4. Condition of utensils.
5. Processes of cooling.
6. Transportation.
7. Condition of cans or bottles when returned from city.

1. Condition of Barn.—Dirt and dust that are usually so abundant in an average barn readily get into the stream of milk or pail, and form a fruitful source of bacterial contamination. The common sources of dust are the hay-loft overhead, cobwebs on walls and ceiling, loose boards, dirty windows, floors of dirt, unclean manure-gutters, excessive bedding, storage of grain or feed in the barn, the rations, such as piles of hay placed near the milking, and the storage of farm or other utensils in the barn that soon become covered with dust. A dirty barn quickly raises the bacteria in milk there collected. Thus, on June 8, a cow was milked in such a barn and an examination of the milk showed 120,000 bacteria to c.c. At the same day and hour, another cow in the same apparent condition was milked in the adjoining pasture, away from the dust of the barn, the milk here showing only 26,000. This experiment repeated twenty times in various localities, always gave similar results. There is invariably a large increase of bacteria in milk collected in a dirty barn. Even when a barn has been cleaned up, some source of dust may be overlooked and cause trouble. Thus, on June 15, premises were examined after the barn had been cleaned, as well as the cows. Twelve cows standing in a row in the barn all showed a low bacterial count in the milk separately examined, except the one at the end, which showed 1,000,000. This cow stood next to a pile of dry feed, which was the only factor to account for the contamination. Here was explained an aberration in the milk of this barn that we could not at first understand, as everything had been cleaned according to directions, but this little detail was overlooked. Many visits and experiments have thus shown contamination that can easily be avoided if the source is discovered.

2. Condition of Cow.—Much dirt that gets into milk comes directly from the cow. When the cow is being milked the udder is pulled down, which loosens dandruff, hairs, and dirt from all the adjacent parts. Particular sources of impurity that are apt to be overlooked in cleaning a cow are the folds between the udder and the flanks and dirt on the tail. Fifty bacterial tests were made in direct relation to the cow. The following will serve as an example, in which clean barns and milkers figured in connection with dirty cows. Four dirty cows under above conditions gave an average count of 90,000. Four other cows from the same herd, in the same barn, were carefully cleaned and then milked by the same man, giving an average count of only 2,000.

3. The Milker.—A fruitful source of dirt is directly attributed to the milker. The dirt may come from the hair, hands, especially when chapped and scaly, finger nails, tobacco, or clothing. It was found that the milk from certain men always gave a high bacterial count that could invariably be traced to some of the above-mentioned sources. It is better to have the milkers clean-shaven, and, when milking, they should be clad in white duck suits or blue overalls that are frequently washed. Young single men make the best milkers, as they are less apt than married men to carry infection from the home. The details of their living admit of better oversight.

4. The Utensils.—These include pails, strainers, condition of creamery or dairy room, aerators, stationary vats, portable vats, and bottles or cans. It is sometimes difficult to find which of these factors is at fault, but the condition of the pail or strainer is very important, as, when they were found at all dirty, the bacterial count was always high. Thus, in a case where an ordinary pail and strainer was used, the count was 80,000. On the same day, from the same barn and cows, a sterilized pail and strainer being substituted, the count dropped to 5,000. All utensils must be strictly clean, and, if possible, steamed or sterilized. It was found that cleanliness depended both upon apparatus and proper methods of cleaning. 1. In every utensil all seams must be well soldered, to avoid hiding places for traces of dirt and coagulated milk. 2. Cold or lukewarm water must first be used, to avoid coagulation of particles of milk, then a cleansing with hot water, with soap or soda, and a final rinsing with hot water. After washing, cans or bottles should be turned bottom up on racks, and, if possible, steamed or sterilized. The following interesting experiment was made: Two samples were taken from the same can of milk—one from the top showing a count of 5,000, while the one from the bottom gave 80,000. As the can had been standing in ice, the lower part was cooler. The milk had also been strained, and creaming had not taken place, hence the conclusion was that the bottom of the can was not clean, and had contaminated the milk near at hand. On the whole, it was found that the simpler the pail the better; one that can be milked into quickly and cleaned easily is the best. The plain open pail gave the best results. It was found that metal strainers attached to pails were undesirable, owing to difficulty in keeping them clean. Particles of dirt that might be removed later by straining are broken up by the force of the stream of milk and thus disseminated through the milk. Thus, samples of pails having strainers uniformly gave a higher bacterial count than when strainers were not used, other conditions being as nearly as possible the same. The best general strainers are absorbent cotton, cheesecloth, or Turkish toweling attached to the receiving cans by clothespins. If a metal strainer is then used, it should be as simple as possible, and the wire mesh must be carefully cleaned with a stiff brush. If an aerator or vats of any kind are used, they must be cleaned, and, when possible, steamed or sterilized. All joints and seams must be smooth, and the faucets and pipes likewise frequently steamed or sterilized. By requiring more apparatus to be kept clean, aeration, as ordinarily practised, increases the danger of bacterial contamination. The following experiment was made on July 22: It was found that samples of milk from pail and strainer on a certain farm averaged 3,000. After aeration by the farmer, according to his usual method, the samples gave a bacterial count of 1,404,000. Here, a man with clean cows, barns, and milkers was contaminating the milk by faulty utensils. In the hands of men

understanding the importance of strict cleanliness, the aerators are not a source of danger, but if the aerato · is not strictly clean and in proper surroundings, the ordinary farmer may lose more than he gains by its use. Dirty ice, flies, floating dust, pipes, and faucets are sources of bacterial contamination. It has been found that with a clean barn, clean cow, and clean milker, the ordinary so-called "cow odor" is not present.

5. Process of Cooling.—This we have found to be one of the most important factors in the production of uncontaminated milk. The whole future condition of the milk depends a good deal upon its handling during the first forty-five minutes The sooner it is brought to a temperature at or below 45° F., at which point the growth of bacteria is greatly inhibited, the better. Many inspections of premises that were clean enough to produce a clean milk gave disappointing results when the milk was allowed to stand for more than an hour without being cooled. Where the milk was brought below 45° F. within twenty or thirty minutes, a low bacterial count *always* resulted, other conditions being right. In an experiment made July 25, tests were made of milk collected from clean cows in a clean barn, the average count from the pail being 7,000. It was then cooled not lower than 60° F., by a slow process, and after two hours it was still standing at 60° F., when a bacterial count gave 89,000. Five days later, the milk, under apparently similar conditions, was cooled down to 45° F. within ten minutes from milking, and then showed a count of only 12,000. This experiment has been repeated at six different farms, in various localities, with similar results. We have found the temperature of springs during the summer to vary from 45° F. to 70° F., with an average of about 55° F. Hence, this method of cooling is uncertain and defective unless ice is added to the spring. Ice is always necessary to the farmer who is handling milk. When springs are used, the surroundings must be kept clean and the water uncontaminated at its source.

6. Transportation.—As soon as the milk is put into bottles or cans, it must at once be surrounded by ice. If they are kept standing in a vat, the temperature of the water must be, at least, 40° F., as the milk will then be a few degrees higher. This temperature must be maintained by ice, until the car is reached, if the milk is in bottles; if in cans, by means of jackets. The ordinary freight car should not be used. We have found that refrigerator cars, with doors at the end kept closed, are necessary. The cars should be loaded and unloaded from the center. The railroads can co-operate in this important work by supplying refrigerator cars and ice. When the dealer removes the milk from the car, it should be re-iced on the platform or at the depot, and kept iced until delivered.

7. Much contamination can be avoided if the consumer would properly cleanse the bottles before returning them. They should be washed promptly, and never used for any other purpose We have found cases where drugs dirt, and even urine has been found in them. In houses with contagious diseases, no bottles should be returned but broken and thrown away. In apartment houses, it is usually customary to collect the bottles in the basement where they are afterward sorted out by the dealers. All kinds of impurity thus get in, making it frequently impossible thoroughly to cleanse these bottles. Thousands of bottles every year are collected by Italians from the dumps and returned to the Bottle Association, which sorts them out, washes, and returns them to the owners.

In our inspection of creameries, it was found that thousands of Croton bugs were returned in bottles and boxes. The cans are also often returned with portions of decomposing milk remaining in them; the boxes containing the bottles may be mouldy, with parts of the wood rotten from being smeared with decomposing milk, and so forth. The railroads should be requested never to receive bottles, boxes, or cans containing any fluid milk. We found that boxes and cans are often thrown off from the train by the roadside, where they may be left for hours, exposed to the sun. Utensils subjected to this treatment are only fit to be used again after sterilization, and farmers usually have no such facilities; the creameries may have, but seldom use them.

The various data here recounted are the results of a summer study of the milk question. The information is the result of thirty visits made to various farms and dairies, some at a distance of 180 miles. Each of these visits consumed, at least, one day, and some several days, so that a thorough study of the matter could be made. In the work of the commission, the individual farm or dairy, and not the milk company, has been regarded as the unit for study and investigation. It was found necessary to work in this manner, in order to get good results; in some cases, several visits were made to a given plant. As an example, a large plant was visited on August 11; the farm was visited during milking time. The notes show that the cows were fairly clean, the barn was defective, showing hay protruding from the ceiling and covered with cobwebs and dirt. Windows dirty. The barn had a southern exposure, so that the sun increased the heat. The manure gutter was not clean; the bedding of shavings had not been removed. Various articles were stored in the barn, such as feed, farming utensils, and the clothing of the men. The cows were getting full rations of hay; the animals were hot and restless, and covered with flies, which necessitated a constant moving of the tail. No means were supplied for keeping the cow standing during milking. The milk was strained in the barn, and with a wire strainer, which was seen to be bent and rusty. The dairy-room was hot and sunny, showing dust and flies. The milk was passed over an aerator, in which the temperature of the water was found to be 60° F. The receiving vat and stationary vats were not covered, so that flies and dirt got in. The bottles were standing in ice-water at 50° F. A fair sample of milk produced under these conditions and tested at once showed a bacterial count of 455,000.

Suggestions as described in the paper above were offered, and four days later a second visit was made. As the result of specific directions in the barn the walls were whitewashed, windows cleaned, and green shades had been placed at the windows having a southern exposure. The floor was cleaned, and the bedding had been removed; the manure gutter was also clean, and land-plaster had been sprinkled on the floor and manure gutter. All storage of feed and utensils had been removed. The cows were getting scant grain rations so that there was not a large pile of hay before the animal that would fill the air with dust and induce movements of the body. The cows were well cleaned. The barn was cooler, and hence the animals were not so restless. The milk was not strained in the barn, but removed at once to the dairy. The dairy-room was clean, dark, and cool, with receiving and stationary vats covered with cheesecloth. The temperature of the water in the aerator was 40° F. The bottles were standing in ice-water at 38° F. A fair sample of milk thus produced showed a count of only 3,600 to the c.c. This is not an exceptional condition, as a similar experience was repeated at four different times and places. This shows that an

elaborate and expensive plant is not necessary to put out clean milk. What is needed is intelligent attention to detail. A small as well as a large producer can furnish clean milk. The following example will illustrate an experience with a small dealer, the visit being made September 5. Notes as follows: The cows, barn, and man were fairly clean. Utensils fair. No aerator and no steam. Ice was being used sparingly. Milk drawn under these conditions was placed in water at 70° F., then taken to the creamery for bottling and sent to the city. An examination here showed a count of 89,000. Various suggestions were offered, and the second visit made in eight days. Result—cows and barn well cleaned, the milk strained through absorbent cotton, and cheesecloth attached by clothespins to a forty-quart can which was kept standing in a box surrounded by ice. This can had previously been steamed for twenty minutes at the creamery. The can was then taken to the creamery and placed in a vat of ice-water, at a temperature of 40° F. In three hours the temperature of the milk stood at 44° F. It was then bottled and sent to the city. A sample of this milk showed a count of 5,400, as the result of the few simple changes suggested. Even a creamery is not necessary for a small dealer to put out milk up to the standard of the commission. As an example, milk was sent from a small farmer, where cooling to 40° F. was practised within fifteen minutes after milking. This milk was sent to the city in forty-quart cans, surrounded by jackets. Samples taken on the platform in New York at 3 A.M. showed a count of only 3,000.

All the visits made to these farms were educational. The whole family, including wife and children, became interested and co-operated in the work. The attention of neighbors was also attracted to the improvements, which were often imitated, and formed the subject of evening discussion at the village grocery store.

The commission has no special method to advise, but asks a hearty co-operation from every one concerned in handling the milk. The methods must vary with each plant. In general, it may be said that the following three heads include the essential conditions: First, strict cleanliness, which includes the barns, yards, cows, milkers, and all utensils. Bacteria which get into the milk by means of dirt are thus thoroughly excluded. Second, rapid and sufficient cooling of the milk. The few bacteria that do get in are thus prevented from growing. Third, thorough icing around the milk until it reaches the consumer. The production of toxins from the growth of bacteria is thus retarded.

In every case the dealer has been able to reach the standard of the commission without expensive apparatus, by following the indicated details. The one thing always necessary is plenty of ice. At the same time, great labor has been done by farmers and dairymen, as the result of suggestions by the commission. New plumbing has been put in, new dairy-rooms have been built, floors have been cemented, ceilings made tight, and time and endeavor have not been spared. One dealer was so impressed with the subject of right conditions, that a special new barn was put up in order to meet them. Two others are planning new barns that will insure hygienic conditions. Even where the milk has not reached the standard for certifying, great advances have been made, and the general output improved. Eight dealers are now putting out some of their milk up to the standard of the commission. They are as follows: Slawson Bros., Briar Cliff Farms, T. W. Decker & Sons, Mrs. Van Zandt, Sheffield Farms, Harlem (Mr. Tuthill), Century Co., Locust Farms, and Mr. Keller. Many others are making changes and applying for a certification, who will doubtless pass the test of the commission.

In spite of the summer having been the hottest in thirty-one years, all those who have been certified have kept up to the standard under most trying conditions. The thanks of the commission, and of the community at large, are due to these dealers who have shown great interest in this work, and have not spared labor or sacrifice in keeping up to the standard. The milk of each dealer has been examined about twice a month during the summer, and labels furnished that can be placed in the mouth of the bottle as a proof of certification. The bottle for examination is collected from the dealer in the morning, placed in a bag surrounded by ice, and at once taken to the laboratory. If the milk shows a test close to the limit established by the commission, a second examination is made in a few days. In the meantime, an effort is made to find out the source of the trouble, in order that it may be corrected.

The commission feels gratified at the interest excited in this movement on the part of the farmers, milk dealers, the daily press, and the dairy journals. It is hoped by this movement to inaugurate a general improvement in the production and handling of milk destined for large cities.

Commission: Henry Dwight Chapin, M.D.
Walter Lester Carr, M.D.
Abraham Jacobi, M.D.
Joseph E. Winters, M.D.

LABORATORY AID IN SURGICAL TECHNIQUE.*

By George B. Broad, M.D.,
Syracuse, N. Y.

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Wound infection is a matter of such grave moment that I feel I need no apology for presenting a few facts learned in the laboratory bearing upon this all-important subject.

It has occurred to every one engaged in surgical work to any extent to have now and then a case of suppuration, where apparently the utmost care was used in preparation and during the surgical procedure. Suppuration cannot occur without infection from some source, and to trace this source has been my endeavor.

My first work along this line dates back to 1897, when a series of experiments with hands known to be infected was undertaken. Prior to that time, rubber gloves had not been generally used, and the operator was sometimes compelled to work in virulent pus, both during the operation and at subsequent dressings. These hands by culture-testing were known to be infected by the staphylococcus pyogenes aureus. Then began a systematic effort to rid the hands of this infection. Strong antiseptics were used, and culture-tests made after their use, to note the effect of antiseptics on hands known to be infected.

First bichloride of mercury was used in strengths of 1-2000 and 1-4000, the hands being first scrubbed with green soap and water. The hands were soaked in bichloride of the above strengths for periods varying from five to fifteen minutes. In every instance after these washings, culture-testing always developed the staphylococcus.

After two weeks' work with bichloride, the infection still persisting, this was dropped and the permanganate-oxalic-acid method tried. This method was used for

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two weeks, cultures being taken after the washings. Here, as with the bichloride method, finger scrapings and pieces of skin in culture media always developed the staphylococcus aureus.

Formalin was next used in strengths varying from 1 to 4 per cent. With it results were at first more gratifying. No growth would appear until about forty-eight hours, when the bouillon would begin slowly to cloud. But with the formalin, as with the other antiseptics, at no time did the growth of the microorganism fail to appear. Then followed scrubbings with green soap and water, no antiseptics being used, but still the microbes developed. Then followed a rest of several weeks, our victim going out of town. On his return, culture-testings still proved that the staphylococcus pyogenes aureus was present, but guinea-pig inoculations showed it to be of lessened virulence. Disgusted with our findings, the subject refused further experiment.

Here was an infection which extended over a period of three months and persisted in spite of strong antiseptics. How much longer it remained I do not know. I think we have a right to say that the unprotected hands can be, and often are, a source of infection to our patients, even though washed in strong antiseptic solutions. The culture medium used was bouillon and agar-agar.

The possibility of silk being sometimes the cause of infection led to some work with it, to see just when it was rendered sterile by boiling. Different sizes of silk from one up to twenty were first infected with a pure culture of the staphylococcus pyogenes aureus. This organism was chosen because by far the larger number of cases of suppuration are due to its presence.

The silk was boiled up to seventy minutes, pieces being removed under aseptic precautions every five minutes. The water was brought to a boil before the silk was dropped in, temperature 212° F., without pressure. We found, as might be expected, the larger the silk, the longer the time required to render it sterile.

Number 20 silk was boiled sixty minutes before becoming sterile; No. 16, forty-five; No. 12, forty; No. 8, thirty-eight; No. 6, thirty-five; No. 4, thirty minutes, and all below No. 4 was boiled twenty-five minutes, except No. 1, in which no growth was obtained after eighteen minutes' boiling.

I admit this is a pretty hard test, for some silk may not be badly infected, and perhaps no silk would be as badly infected as was the silk used for these tests. Still, I know of no other ground on which to work, for we must assume that silk is infected unless we know otherwise, and must sterilize on this assumption.

Silkworm gut as a means of infection was next considered. The silkworm was used as it came from the factory. Work was done also with silkworm gut, which had been infected with the staphylococcus aureus. No growth could be obtained from either after forty-five minutes' boiling. We had previously, as routine, boiled our silkworm gut five or six hours for two or three consecutive days. This long boiling may be necessary with some silkworm to render it sterile, still I know of no pyogenic microorganisms that can withstand anything like that amount of boiling. Certainly, in an experimental way no growth could be obtained after silkworm had been boiled for the time above stated. I am strongly inclined to believe that much of the infection laid at the door of silkworm gut is really an infection from the skin of the patient, or may even be a post-operative infection.

The sterilization of catgut is a question of extreme importance. During 1896 and 1897 most of the catgut with which we worked was prepared by the bichloride method. The gut, after the fat had been dissolved out, was put in a 1-100 alcoholic solution of bichloride and preserved in alcohol or glycerin alcohol. This method was a fairly good one, and it was exceptional that any infection was found on culture-testing.

Formalin was next used in catgut preparation in strengths varying from 2 to 8 per cent., following somewhat closely the method of Vollmer and Kossman, who made strong claims for this method. With me it was not satisfactory. I found I could sterilize the smaller gut, as numbers 0, 1 and 2, but anything larger than No. 2 was uncertain.

I have had some experience with the ammonium-sulphate method as described by Elsberg. This method is based on the chemical fact that animal tissue can be boiled in a solution of ammonium sulphate without disintegrating, which fact is true. The catgut would not disintegrate, but its strength with me was much impaired. It could, of course, be rendered perfectly sterile by boiling. The method which seems to me the most perfect is the sterilization of catgut by dry heat. The gut, after the fat is dissolved, is placed in parchment or bond envelopes, doubly sealed. These envelopes when sealed are subjected to a heat of 300° F., or practically 150° C., for three hours, and on the following day to the same heat for one hour, to kill any spore which may have resisted.

Culture-tests have shown that catgut prepared in this way is absolutely sterile. When this heat is maintained in a proper oven, asbestos-lined, to prevent strong radiation, we have a gut which is strong, sterile, and in every way desirable. These facts are borne out by clinical experience. It has been used by Dr. A. B. Miller of Syracuse as well as myself for the past two years in both hospital and private practice without a single case of suppuration in the line of suture from its use. It seems to me in this method we approach nearest the ideal, for we can produce a gut strong and absolutely sterile by the simplest and best of all agents, viz., heat, without the use of a single chemical. It is also convenient and can be carried in the surgeon's grip without fear of contamination.

Rubber gloves and their sterilization were next undertaken. Rubber gloves were first infected with the staphylococcus aureus. These gloves were boiled and portions of them removed under strict asepsis, at intervals of five minutes up to thirty minutes. Rubber boiled fifteen minutes gave a growth, while rubber boiled eighteen minutes was sterile.

One other source of infection which may or may not be of much practical importance is the expired air. A few limited experiments have convinced me that bacteria are given out from mouth and nose. Whether these bacteria are given out during respiration or during speech is a matter of little moment to the surgeon. A crude mask was devised and worn for one hour, at the end of which time pieces of gauze through which the wearer had been compelled to breathe were removed. This gauze was contained in a little chamber held from the face so that any contamination from perspiration could be excluded. Examination of this gauze has always given a growth.

The bacterial growth from this gauze was made up largely of staphylococci, diplococci, and an occasional bacillus. My work along the line of expired air is so limited that it can count for but little as yet. Still, in this way we may be able to explain an occasional case of suppuration, when an assistant or observer has been present who was suffering at the time from some suppurative disease of the nose or mouth.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE OFFICIAL REPORT OF THE CASE OF PRESIDENT McKINLEY.

THE official report of the case of President McKinley, containing, as it does, detailed accounts of the operation, treatment, and autopsical findings, will be read with becoming interest by all who have so eagerly awaited the final expressions of opinion of the gentlemen in attendance. Much of what appears has already been anticipated by the full reports which came from time to time from the sick-room, either in the shape of bulletins and personal statements, and which were so widely published by the medical and secular press. Still, it is now a matter of history to print the story in its present connected and authoritative form As a description of a now famous case, it lacks nothing in completeness of detail, accuracy of statement, or frankness of opinion. As such it will stand on its merits as a notable contribution to medical literature.

While, doubtless, the account will be read from beginning to end with varying interest in the points discussed, it is safe to say that the elaborate and carefully prepared autopsical report will receive the greatest attention. There have been very many different opinions expressed among medical men generally as to the real cause of death, and it will be with great satisfaction that the accurately described details of the post-mortem examination can be studied with becoming thoroughness.

All discussion has, of course, centered on the cause of the gangrene in the bullet track. The suspicion that it might have been due to a poisoned ball was very quickly and properly dispelled. In fact, we now have bacteriological proof that the wound was not at all infected primarily, but that a necrotic process developed later, and steadily progressed until the end. It cannot be positively demonstrated that the lesion of the pancreas had anything directly to do with the induction or continuance of this tissue change.

Doubtless, the theory that gangrene was induced by a lack of vital resistance in tissues involved will appeal to the greater number as being the most reasonable one. There were certainly many contributory causes to such an end. The patient was of sedentary habits, given to obesity, had a feeble heart action, and was aged beyond his years, with the usually deficient oxidation of his tissues.

We know that whenever a bullet passes through the living body it leaves a track of contusion, more or less well marked, according to the size or velocity of the projectile and the nature of the tissue which it traverses. If the patient survives the immediate injury, and recovery is a physiological possibility, the contused tissue undergoes one of two processes: If the bruise is not too severe and the patient's circulation is active, the tissue recovers. If not, it undergoes putrefaction or necrobiosis. Naturally, what in one patient with a good heart action and active vital processes would be a practically harmless contusion, in another with a weak and thin-walled organ would be exactly the opposite.

It is therefore not unreasonable to suppose that the necrosis tissue in the case of the President represented originally the contused tissue into which the enfeebled heart was unable to force the blood current so as to overcome the stagnation. This condition of affairs, associated with the feeble heart, again would explain the rapid pulse which was such a marked and ominous feature of the case, and which so sadly and effectually set at naught the optimistic predictions of some of the medical attendants.

THE MILK SUPPLY OF LARGE CITIES.

ONE might think, from the outcry raised on all sides by Koch's qualified pronouncement with regard to the communicability of bovine tuberculosis to the human subject, that consumption is the sole disease which can be transmitted by milk, and not, as is really the case, that various maladies are originated and spread by this means.

How many epidemics of typhoid fever, scarlet fever, and diphtheria, which have played sad havoc among communities, have been clearly traced to an impure milk supply? The commotion excited by the recrudescence of the theory brought forward by the German savant, at the British Congress on Tuberculosis, has unduly overshadowed this phase of the question, and the general public, unless instructed to the contrary, will be apt to imagine that the dangers arising from unclean milk have been grossly overestimated by the medical profession. The fact may be here plainly stated that milk in infected condition is possibly one of the most fertile causes of disease in a crowded population, and a standing menace to the health of the inhabitants of large cities.

It will be well for laymen to ponder over, and to grasp thoroughly, the truth of this proposition, and to bestir themselves in an effort to secure a milk supply as pure as possible.

On Monday, September 23, the Medical Society of the County of New York met at the Academy of Medicine, and heard a report from the Milk Commission appointed in January, 1900. Dr. Henry Dwight Chapin, one of the commissioners, whose communication appears in this issue, says that heretofore most of the work of milk commissioners has been taken up with the chemical problems; but, from a chemical point of view, they had found the milk good. The standard prescribed by the commission is that the acidity must not be higher than 3 per cent., and that the milk must not contain more than 30,000 bacteria of any kind per cubic centimeter. "The amount of bacteria in the milk used

in the city of New York is something alarming. Out of twenty samples, examined on a winter's day, November 19, the lowest contained 90,000 germs, and the highest 2,280,000, while on June 29, the thermometer standing at 90 degrees, out of twenty samples examined, the lowest contained 240,000, and the highest 516,000,000 per cubic centimeter."

Dr. William Hallock Park of New York had, in the *Journal of Hygiene* for July, an article on the same subject. He pointed out that nearly all the New York milk is transported to the city by railroads, most of it traveling a distance of 50 to 350 miles. The milk is delivered in the city about 2 A.M.; consequently, when it is shipped at a point distant 350 miles from New York, it must start on its journey as early as 8 A.M. on the previous day. Under existing conditions, most of the milk which reaches New York must, therefore, have been kept from twelve to thirty-six hours. Twelve hours more must elapse before the last of the milk is delivered. The problem, then, in New York, and in other cities of great size, is to furnish milk in a condition suitable for food, after it has been kept from twenty-four to twenty-eight hours.

The number of bacteria present in the milk of healthy cows depends, says Dr. Park, almost entirely on four things: (1) The original amount of germicidal substance in the milk. (2) The amount of bacterial contamination on or after milking. (3) The length of time which has elapsed since milking. (4) The temperature at which the milk has been kept.

Reviewing these postulates in detail, the measures to bring them into effect would seem to call for the following precautions: In the first instance, to insure as far as is feasible a supply of healthy animals. Next, to enforce stringent regulations as to the cleanliness, ventilation, and drainage of the sheds in which the animals are kept, the cleanliness of the persons employed in milking, and especially that scrupulous attention be paid to the thorough cleansing of the utensils used. Then it is essential that transportation of milk to the large centers of population should be much more rapid than now, and lastly, that the milk be subjected to a rapid and sufficient cooling process. If all these requirements could be fulfilled, there can be no doubt that a satisfactory milk supply would be the sequence. Of course, perfection cannot be hoped for, but much may be done by the enforcement of the rules sketched above.

Farmers should be compelled to house their beasts in sanitary buildings, to insist that their employees practise strict cleanliness in all the details of milking, and that dairy owners within a radius of one hundred miles from a city should be forced to send their afternoon milk on the train of that evening, and those farther off to send the morning's milk on the morning's train. The poor are far greater sufferers from the contaminated milk than the well-to-do, and the great mortality among the infants of the tenement districts in all large cities is principally due to this cause. The milk supply of New York City will bear comparison with that of any city of the world, but nevertheless, even here there is room for much improvement. It may, however, be anticipated that the labors of the Milk Commission will result in the providing of rich and poor alike with milk comparatively free from the germs of disease.

VIRCHOW.

On October 13 Virchow attained his eightieth birthday, sound in mind and body, earnest in purpose as of old, and honored with congratulations from the entire scientific world of medicine.

Seldom is it allotted to man in any sphere of high human endeavor to round out so triumphantly a career in which honor, fame, and distinguished worth vie with each other in proclaiming him a leader of his kind.

In his chosen branch of medical research he stands the pre-eminent master. His work on Cellular Pathology from the time of its first publication in 1858 until the present has been a leading textbook for every student of pathology.

Laying the foundation for the present accepted doctrines of the study of diseased processes, it has held its own along with all other advanced works on the healing art. Methods of investigation which have been elaborated since that time have simply fallen in line with the broad, comprehensive, and all-pervasive doctrines of the great teacher. Without such an impetus, humoral and tissue pathology would still hold sway and the real progress of to-day would have been impossible.

Even bacteriology, which appeared at first to militate against the theory of fundamental cell changes, now adds its testimony to the stability of Virchow's original views. Instead of causing disease as such, the various pathogenic germs merely provoke those cellular changes which in themselves constitute the true essence of all morbific changes. Thus Virchow's work not only placed the study of pathology on an entirely new basis, but has maintained it there for nearly half a century.

Not only in medicine has he won deserved distinction, but his researches in anthropology and archæology have made him an authority in each of these branches. Then, too, as if a busy life should not be made even more so, he adds to his other high qualifications those of a statesman, philanthropist, and sanitary reformer; and with a conscious power of right he has made his influence felt in every one of the varied directions in which it has been exerted. But his tasks were commenced early and long continued, and the harvest of his work is such as almost to bewilder us with its richness.

No wonder that scientific men everywhere hasten to do him honor and are thankful that he is still spared to them as the exponent of those higher principles and loftier motives which benefit humanity, broaden science, mitigate suffering, and heal the sick. Congratulations, then, to the Grand Old Master, and may his declining years be full of light and peace!

THE SEMI-ANNUAL MEETING OF THE STATE SOCIETY.

The experiment of holding a strictly and exclusively scientific meeting of the Medical Society of the State of New York in this city has been to all intents and purposes a very successful one. The business committee worked long and hard to secure good papers from representative men, and its efforts have been rewarded in a way that can leave no doubt as to the utility of a precedent now so auspiciously established. The results of the new plan also prove that enough of good material can be obtained from

the active members to occupy the attention of two semi-yearly sessions of the society. The large attendance of practitioners from distant and widely scattered districts of the State gives a practical endorsement to the movement, and is the strongest possible argument for its utility and continuance.

It is fair to say that the moral effect of such a measure will have a wide influence for good in instilling a more diffusive element of working force among the membership than can be attained by the hampering and distinctly local influences of Albany meetings.

From a purely scientific point of view it is a question which is the mountain and which is Mahomet. A half-yearly meeting in a great cosmopolitan center is at once a stimulus and an inspiration, giving breadth of view and directness of purpose which is next to impossible of attainment in a provincial town.

It is quite true that for purely legislative purposes there is an advantage in assembling once yearly in the Capital, but outside of such consideration there is no reason why not only Greater New York but other large cities throughout the State should not be visited in turn for purely scientific work. Then also the social element of these meetings is by no means an unimportant consideration with medical visitors, giving them opportunities for the formation of pleasant and profitable acquaintances with those leading men in different localities whose busy and exacting duties do not permit them to take long journeys for the mere gratification of reading a condensed and time-limited paper. All of these varied conditions properly fulfilled made the meeting in New York a markedly successful one.

INTERNATIONAL CONFERENCE OF AMERICAN STATES.

At the coming International Conference of American States, to be held in the City of Mexico, a plan, devised by Surgeon-General Wyman of the Marine Hospital Service, for the uniform sanitation of all North and South American ports, is to be submitted.

It is plain to see that an international agreement to this effect would be of the greatest importance to commerce and to public health, and would place the entire quarantine system of this continent on a reasonably consistent and firm footing.

The delegates from the United States, who for obvious reasons are intensely interested in the question, will formally present it to the Congress and urge the adoption of the necessary measures of uniformity of action.

Mexico, Central America, and South America will thus be asked to act in the matter of preventing the spread of infectious disease by a distinct international agreement of the health authorities of the respective countries.

The general plan provides for the sanitary improvement of harbors, sewerage and drainage, and the elimination of infection from buildings.

Some special preventive measures are to be instituted against the spread of yellow fever. In the latter respect, the American delegation will have much to suggest in the way of quarantine reforms which past experiences, especially during the late Spanish war, have made so instructive, so valuable, and so practical.

The general principles upon which yellow-fever quarantine are based are now so well understood that there will be little difficulty in arriving at some general understanding for a comprehensive working-plan.

The suggestion of Surgeon-General Wyman is to the effect that an international sanitary commission be appointed, consisting of five members, two of which shall be residents or citizens of the same republic, "one shall be learned in the law, one shall be a physician and sanitarian, one shall be a sanitary engineer, and one shall be a commercial representative." Thus, it will be seen that all the different State, commercial, and sanitary interests are to be duly considered in forming a consistent, impartial, and powerful board of control. This is as it should be, for it gives the best possible basis for the proper working of a comprehensive and beneficent scheme of protection against any and every form of contagious disease. There is certainly every argument in favor of adopting the plan proposed. Quarantine of this kind is useless unless it can be general.

News of the Week.

New Hospitals in New York City.—The State Board of Charities has approved of the incorporation of the following institutions in this city: The Jewish Hospital of Booklyn, to erect, establish, and maintain a hospital which shall afford medical and surgical aid to sick or disabled persons, without regard to their creed or nationality; the Cosmopolitan Hospital Society of New York City, to establish a hospital wherein the method of treating the sick shall be according to the Eclectic school or theory; the Deachonian Dispensary, to maintain in New York City a dispensary wherein poor persons, without regard to race, nationality, religion, or sex, may receive free medical treatment and attendance according to the Eclectic school or system of medicine.

The Health of the Army.—In his annual report to the Secretary of War, Surgeon-General Sternberg notes that the health of the army has been unusually good during the calendar year 1900. The admission rate to hospital for all causes, with a mean strength of 100,389 in 1900, was 2,311.81 per thousand of strength as compared with 2,178.06 in the previous year; but during the year 1899 only 39,280 men, out of a total of 105,546, were serving in the Philippines, while during the last year 66,882, of a total of 100,389, were thus serving. In the Philippine Islands, with a mean strength of 66,882, the admission rate was 2,621.96 as compared with 2,395.52 in the previous year, this increase being mainly due to disease among the volunteers, the ratio for which rose from 1,859.21 to 2,761.79. The regulars, on the other hand, showed a marked decrease in the ratio of admission for disease, which fell from 2,454.1 to 2,197.763. Two-thirds of the admissions for disease were caused by malarial fevers and diarrhœal diseases. The deaths from all causes amounted to 28.75 per thousand of strength as compared with 30.68 in the previous year. Disease occasioned 20.26 deaths, the principal cause of the fatalities being dysentery, which, with other intestinal diseases, gave a rate of 9.08. The rate from injury amounted to 8.49. The death rate in China was large, 47.76 per thousand of strength; 23.62 from disease, and 24.14 from injury. The health of the troops in Cuba during the year was excellent. As a result of American occupation, nearly

every city and town has had its sanitary conditions improved.

The Establishment of Psychophysiological Laboratories.—The Fifth International Congress of Criminal Anthropology, in its meeting at Amsterdam, September 9-14, 1901, passed a resolution in favor of the establishment of a psychophysical laboratory for the practical application of physiological psychology to sociological and abnormal or pathological data, especially as found in institutions for the criminal, pauper and defective classes, and in hospitals, and also as observed in schools and other institutions.

Dinner in Virchow's Honor.—About one hundred and twenty-five friends, pupils and admirers of Dr. Rudolph Virchow, the eminent German pathologist, assembled October 12 at Sherry's to celebrate, with a dinner, the eightieth birthday of Dr. Virchow. In observing the day in this manner the medical men of this city acted in common with the profession in many of the great cities of the world.

Dr. William Osler presided. The toast, "Dr. Virchow as a Pathologist," was responded to by Dr. William H. Welch of Johns Hopkins University. Dr. A. Jacobi spoke on the subject, "Dr. Virchow as a Citizen," and Dr. Andrew H. Smith gave "Personal Reminiscences of Dr. Virchow."

Among those present were: Dr. Frederick Shattuck, Dr. William H. Welch, Dr. A. Jacobi, Professors Dercum and Wilson of the University of Pennsylvania, Dr. J. D. Bryant, Dr. Andrew H. Smith, Dr. C. L. Dana, Dr. George F. Shrady, Dr. William Osler, Dr. John A. Wyeth, Professor William H. Thomson, Dr. Theobald Smith, Dr. Leonard Webber, Professor Bernard Sachs, Dr. E. G. Janeway, Professor Roche, Professor Henry Hunn, Dr. Carmalt, Dr. W. P. Northrop, Dr. Paul Munde, Dr. J. H. Musser, and Dr. Sayre.

At the celebration of Professor Virchow's birthday at the Pathological Institute, Berlin, on the same date, the Secretary of State, the Secretary for Foreign Affairs, the Prussian Ministers, the entire faculty of the College of Medicine of Berlin, and deputations from all the universities were present. Professor Virchow had an enthusiastic reception, and he held the attention of the audience for nearly two hours while he reviewed the progress and development of pathological science.

Medical Society of the Missouri Valley.—The fourteenth annual session of this society convened in St. Joseph on Thursday, September 19, President Treynor in the chair. After passing resolutions on the death of the President, the society adjourned to allow its members to attend the McKinley memorial services. On Thursday evening the society boarded a special train of Pullman sleepers for Eureka Springs, Ark., where the annual outing occurred, and the regular program carried over from St. Joseph was presented. On Friday evening a reception and ball were tendered the visitors by the local profession and citizens of Eureka Springs, and Saturday was devoted to sight-seeing in the mountains, several tallyho coaches and sixty saddle horses being provided for the purpose. After a sumptuous dinner on Saturday evening the members left for the return trip, arriving in St. Joseph on Sunday morning. Following is a list of officers elected for the year: *President*, R. E. Moore, Omaha; *First Vice-President*, A. D. Wilkinson, Lincoln; *Second Vice-President*, M. F. Weymann, St. Joseph; *Treasurer*, Donald Macrae, Council Bluffs; *Secretary*, Charles Wood Fassett, St. Joseph. The semi-annual meeting will be held in Lincoln in March, 1902.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the Navy, week ending October 12, 1901: October 4—Surgeon L. L. Von Wedekind, detached from the Puget Sound Naval Station and ordered home and to wait orders. Surgeon O. D. Norton, detached from the *Monadnock*, on reporting of relief, and ordered home and to wait orders. P. A. Surgeon D. H. Morgan, ordered to the *Philadelphia*. P. A. Surgeon A. W. Dunbar, detached from the Naval Hospital, Mare Island, Cal., and ordered to the Puget Sound Naval Station. P. A. Surgeon S. G. Evans, detached from the *Solace*, upon reporting of relief, and ordered home and to wait orders. P. A. Surgeon A. R. Alfred, detached from the Marine Barracks, Cavite, P. I., and ordered to the *Monadnock*. P. A. Surgeon J. M. Moore, detached from the *Franklin*, upon reporting of relief, and ordered to the *Indiana*. Assistant Surgeon C. G. Smith, detached from the *Alvarado* and ordered to the *Marietta*. Assistant Surgeon F. E. McCullough, detached from the *Philadelphia* and ordered to the Naval Hospital, Mare Island, Cal. Assistant Surgeon J. F. Murphy, detached from the *Indiana*, upon reporting of relief, and ordered to the *Solace* for temporary duty, and then to the Marine Barracks, Cavite Naval Station. Assistant Surgeon W. H. Bell, ordered to the *Franklin*. Assistant Surgeon D. N. Bebee, detached from the *Marietta*, upon reporting of relief, and ordered home and to wait orders. Assistant Surgeons A. M. Fauntleroy and L. W. Bishop, commissioned assistant surgeons from September 28, 1901. October 7—Surgeon C. F. Stokes, detached from the *Oregon* and ordered to the *Solace*. Surgeon G. A. Lung, detached from the Marine Barracks, Cavite Naval Station, on reporting of relief, and ordered home and to wait orders. Surgeon L. W. Spratling, commissioned surgeon from September 28, 1901; detached from the Naval Hospital, Cavite, P. I., on reporting of relief, and ordered home and to wait orders. P. A. Surgeon M. S. Guest, detached from the Naval Hospital, Philadelphia, Pa., and ordered to the *Solace*, October 17, for temporary duty, and ordered to the Cavite Naval Station, on arrival on the Asiatic Station. P. A. Surgeon A. Farenholt, ordered to the *Independence*. P. A. Surgeon M. K. Johnson, detached from duty at Guam, on reporting of relief, and ordered to the Marine Barracks, Cavite Naval Station. Assistant Surgeon C. D. Langhorne, ordered to the Naval Hospital, Naval Home, Philadelphia, Pa. Assistant Surgeon W. Seaman, detached from the *Independence*, on reporting of relief, and ordered to the *Solace* for temporary duty, and ordered to duty at Guam, on arrival at that place. Assistant Surgeon H. M. Tolfree, detached from the *Columbia* and ordered to the *Solace* for temporary duty, and ordered to duty at Guam, on arrival at that place. October 8—Assistant Surgeon J. B. Dennis, detached from the Naval Academy and ordered to the Naval Hospital, New York. Assistant Surgeon R. M. Young, detached from the New York Navy Yard and ordered to the *Columbia*. Assistant Surgeon R. M. Fauntleroy, ordered to the Navy Academy. October 9—Assistant Surgeon J. J. Snyder, detached from duty at Poloc, P. I., and ordered to the Naval Hospital, Cavite, P. I., for treatment. P. A. Surgeon J. A. Guthrie, detached from the *New York* and ordered to duty at Port Isabella, P. I. Assistant Surgeon R. K. McClanahan, detached from duty at Port Isabella, P. I., and ordered to duty at Poloc, P. I. Assistant Surgeon F. A. Asserson, detached from the *General Alava* and ordered to the *New York*. Assistant Surgeon F. L. Benton, detached from the *Brooklyn* and ordered home.

Demonstrator of Anatomy at the University of Pennsylvania.—Dr. Edward D. Holmes, for nineteen years connected with the medical department of the University of Pennsylvania as Instructor and Demonstrator of Anatomy, has resigned. He has been succeeded by Dr. Elijah Gregory.

A Health Board in Need of Money.—At a meeting of the Board of Health of Paterson, N. J., last week, it was stated that the board was in financial straits, and that there would probably not be enough money to carry it through the remaining six months of the fiscal year. The board decided to drop two auxiliary inspectors, giving the health office authority to employ them when urgently needed. One of these is a sanitary inspector of tenement houses, which need more attention in the winter than in the summer time.

of the late Collis P. Huntington in San Francisco,

Mrs. Huntington's Gift to Charity.—The mansion said to be the finest type in America of the Italian villa architecture, is to be given by the widow to some charity, probably a hospital.

Collection of Cigar Butts Forbidden.—Dr. John D. McGill of the Jersey City Board of Health has forbidden the collection of cigar and cigarette butts in the streets, and says that a health ordinance will be passed prohibiting traffic in these disgusting objects. The butts, with little preliminary cleansing, are chopped up and made over into cheap cigarettes.

Fire in a Hospital.—Fire was discovered one afternoon last week in the Paterson (N. J.) General Hospital. It was caused by defective insulation of an electric wire, and was extinguished before much damage was done. The ninety-five patients in the institution were all removed promptly, many of them being carried in blankets down the fire-escapes, by the nurses and orderlies, and were made comfortable in improvised beds on the lawn until the fire was put out.

Dr. Julius Galvani, Professor of Surgery in the University of Athens, died recently of heart disease. He was born in Zante in 1838, his father being an Italian, his mother a Greek. He studied medicine in Paris, and then returned to practise in his native town. Later, he moved to Athens, where he became chief of the surgical division of the Evangelismus Hospital. He was made professor in the university, but resigned at the end of a year for political reasons. Upon the death of Professor Aretæus, in 1893, he again took the chair of surgery and held it until his death.

A Latin-American League against Tuberculosis.—At the Latin-American Medical Congress, held in Santiago de Chile in January of the current year, a resolution was adopted providing for the establishment of an international commission for the prophylaxis of tuberculosis. This commission, charged with the duty of directing the combat against tuberculosis in the countries of Latin America, has for its President Dr. Emilio R. Coni of Argentina, and its Secretary, Dr. Lucio Córdova of Chile; its membership is made up of one representative from each of the countries of South and Central America, Mexico, and Cuba. Each member of the commission is charged with the organization of an autonomous league against tuberculosis in his own country, which is to send each year to the President and Secretary a brief report of the work it has accomplished. Among the objects which it is suggested that each league shall endeavor to secure are: Better homes for the poor, regulation of the hours of labor, the establishment of savings banks, a propaganda against alcoholism, obligatory instruction in hygiene in the public schools, declaration to the health authorities of all cases of tuberculosis, disinfection from time to time of every apartment occupied by a subject of pulmonary tuberculosis and always of one in which a death from this disease has occurred, isolation of the tuberculous in special hospitals or wards, the establishment of sanatoria, the organization of dispensaries for the treatment of respiratory diseases, the repression of bovine tuberculosis, and the sanitary supervision of all dairies and other places where milch cows are kept.

Typhoid Fever is prevailing extensively in St. Petersburg, one-fourth of all the patients in the public hospitals being sufferers from that disease.

Medical Strike in a Venice Hospital.—An account of a strike in the Civil Hospital in Venice is given in a recent issue of the *Pall Mall Gazette*. According to this story, the junior medical staff, twenty-seven in number, on September 23, sent an "ultimatum" to the Governors demanding a complete reorganization of the sanitary conditions of the hospital, an increase of their own salary, and an augmentation of their numbers. Failing a satisfactory reply by October 1, they threatened to strike in a body. The Governors, supported by the municipal and Government authorities, besides refusing any concession, have determined to replace all the signatories, who are at the same time held criminally responsible for leaving their posts before their successors are appointed.

A New York Health Commissioner Organizes a Medical Company.—Dr. William T. Jenkins of the New York City Board of Health has been in England for the past two months soliciting business for his medical company, a concern called the "Merchant Marine Hospital Service." In an interview in one of the English journals, he says he has made contracts with the owners of nearly a thousand British ships whereby he agrees to give all needed medical and surgical treatment to the crew during the stay of the vessel in any of thirteen designated ports on the Atlantic and Gulf coasts of the United States. The services of himself and his associates in this work he values at the rate of $15 for each ship, irrespective, apparently, of the number of the crew or the length of stay in port.

Medical Inspection of Schools in Orange.—Dr. D. Warren Poor has been appointed by the Orange (N. J.) Board of Education medical inspector of the public schools of the city. He is to visit each school daily and examine any pupil suspected by a teacher of having a contagious or infectious disease, and should the suspicion be well founded, the child will be sent home with a note advising that the family physician be called.

Alcoholism in the Army.—In his annual report to the Secretary of War, Surgeon-General Sternberg says that "the steady decrease of late years in the admissions for alcoholism among the men of the regular army is a matter for congratulation. Military officers may be said to be unanimous in their opinion that this was mainly the result of the establishment of the post-exchange or canteen at military posts. There is less drunkenness among troops in active service than in a command doing garrison duty in the times of peace."

College of Physicians of Philadelphia. Section on General Medicine.—At a stated meeting held October 14, Dr. J. A. Scott reported "a case of aneurysm of the aorta which ruptured into the pericardium" and showed the specimen. The patient had been a negro, twenty-eight years old, with a history of hard work, but with none of syphilis. There had on at least two occasions been hemorrhage in ad-

dition to the final fatal one, in conjunction with which tonic spasm occurred. On post-mortem examination the aneurism was found to be situated in the aorta just above, and practically involving, the sinus of Valsalva. Dr. Joseph Sailer read a paper entitled "A Case of Malignant Endocarditis and Brain Abscess with Unilateral Abscess." The case was an obscure one, but lumbar puncture and examination of the blood during life, as well as of the cerebral abscess after death, disclosed the presence of a micro-organism corresponding to the staphylococcus pyogenes aureus. A discussion took place as to what constituted Kernig's sign, the consensus of opinion being that it consisted in inability to extend the leg on the thigh beyond an angle of 90° or 120° when the thigh was already flexed on the abdomen at an angle of 90°, with the patient in either the sitting or the recumbent posture. The phenomenon was further thought to be dependent upon some peculiar form of cortical irritation. Dr. Alfred Stengel presented a communication on "Iodic Purpura," reporting a case presenting this manifestation following the administration of five grains of potassium iodid thrice daily for the relief of asthma. In this as well as in other cases in which symptoms of iodism were present, elevation of temperature was also observed. A discussion on "Methods of Keeping Case Records in Private Practice" was participated in by Drs. F. A. Packard, J. P. Crozer Griffith, Alfred Stengel, J. K. Mitchell, Judson Daland, J. Alison Scott, and John H. Musser.

Victuals and Vices.—At a Purity Congress held last week in Chicago, a medical delegate read a paper on diet. He held that much of the sensuality in the world was due to the use of animal food, and looked on the products of the vegetable kingdom as active agents of sexual morality. "The cook," he said, "often leads to more drunkenness and excess than the saloonkeeper. High seasoning and rich animal foods lead to indigestion and ill-health. Ill-health weakens the will and breaks down the moral character. Total depravity is often nothing but total indigestion."

A German Professor on Weak Woman.—Professor Möbius of the University of Leipsic has just published a work which is regarded as a defense of the German professors in their opposition to women students. He says that women are physiologically feeble-minded, being a little brighter than boys, but far less so than men. He says no woman has ever advanced the intellectual life of mankind and regards them as incapable of so doing. Their intelligence is receptive, he holds, rather than creative, imitative rather than original, and, even in their own special branches, such as cooking, sewing, and teaching, the discoverers of new methods are always men. He deplores the extension to women of the benefits of higher education, the results of which, he says, are barrenness and invalidism.

Pathological Society of Philadelphia.—At a stated meeting held October 10, the President, Dr. H. A. Packard, delivered his annual address. Dr. Chas. W. Burr was elected President for the ensuing year, Dr. J. Dutton Steele, Secretary; Dr. Thompson Westcott, Treasurer, and Dr. David Riesman, Recorder.

Politics and Spectacles.—Under the new franchise law in Maryland those who cannot read will be deprived of the ballot. In a study of their probable loss or gain through the workings of this law, the politicians have made the discovery that hundreds of voters of the poorer classes can read sufficiently well to ballot, but their sight is so defective that in the dimly lighted booths they will be unable to decipher the long lists of candidates on the ballot.

Accordingly, the managers of both parties have ordered many gross of spectacles of various magnifying powers, and they will have men at the different polling places to adjust the glasses to the eyes of the myopic or presbyopic voters.

Philadelphia Pediatric Society.—At a stated meeting held October 8, Dr. Alfred Hand, Jr., presented a paper entitled "A Cretinoid Child of Three Years." The patient was undersized and rachitic, deficient mentally, with a somewhat idiotic appearance and undue deposition of subcutaneous fat. The thyroid gland appeared deficient. Improvement followed administration of thyroid extract. Dr. J. H. McKee read a paper entitled "The Training of the Senses."

Bequests to Hospitals.—By the will of Thomas Elkinton, recently deceased, the sum of $5,000 is bequeathed, after the death of a widow and a sister, to the Jefferson Hospital, the Orthopedic Hospital, the Polyclinic Hospital, the University Hospital, and the Pennsylvania Hospital, each, the income from which is to be used in providing apparatus for deserving art-patients.

Advisory Board for the Pathological Institute of the State Hospitals.—The plan of reorganization of the Pathological Institute of the New York State Hospitals for the Insane undertaken by the State Commission in Lunacy is gradually taking shape.

In order to add to its efficiency, a great deal of careful thought was given to the matter of the appointment of an Advisory Board, whose duty it should be to aid in the development of the Institute, and the carrying on of its work on broad lines, and to assist the new Director soon to be appointed by its valuable advice. It is the aim of the reorganized Institute to carry on work in the sciences correlated with psychiatry much according to the original scheme, but with a few modifications calculated to meet more immediately the needs of the hospitals as expressed by the superintendents, and to meet some of the criticisms of the former plan. Original research in the various sciences having a bearing upon the subject of insanity will go on as before, but in addition thereto the Institute will be utilized to give special instruction in clinical psychiatry as well as methods of scientific research to the physicians on the staffs of the hospitals for the insane, and to young men about to take up an asylum career. In order to obtain this clinical experience, the institution needs to be combined with a hospital for the insane, and to bring this about it is for the present to be connected with one of the asylum's on Ward's Island, and until such time as a reception hospital for the insane can be established in Manhattan.

In selecting the members of the Advisory Board, the Lunacy Commission deemed it expedient to have the three University Medical Schools of New York City represented, viz., Columbia, Cornell, and Bellevue University. Furthermore, it was considered to accord to the chief sciences correlated with psychiatry representation upon the Advisory Board. These sciences are pathology, chemistry, psychology, and general biology. Inasmuch as the Pathological Institute was created for the utilization of the material of all the State Hospitals, and for the purpose of raising the standard of scientific study, treatment, and care of the insane under State care, it was thought best that these institutions should also have a voice upon the Advisory Board. A member to represent general clinical medicine and neurology was likewise selected.

Accordingly, the Commission in Lunacy has established an Advisory Board consisting of the following gentlemen: J. McKeen Cattell, Professor

of Psychology, Columbia University; James Ewing, Professor of Pathology, Medical Department of Cornell University; Christian A. Herter, Professor of Pathological Chemistry, Bellevue and University Medical College; Hermon C. Bumpus, Assistant to the President of the American Museum of Natural History, to represent the department of general biology; Henry Hun, Professor of the Diseases of the Nervous System, Albany Medical College, to represent neurology and general clinical medicine; Dr. Charles W. Pilgrim, Superintendent of the Hudson River State Hospital at Poughkeepsie, and Dr. A. E. Macdonald, Superintendent of the Manhattan State Hospital, East, to represent the State hospitals; Dr. Frederick Peterson, President of the Lunacy Commission, a member *ex-officio*.

All of the appointments to the Advisory Board are permanent except two. The two superintendents of asylums on the board were elected by the fourteen asylum superintendents of the State at a meeting held in Buffalo, September 28, for a term of two years only, thus permitting all of the asylums to be represented in rotation on the board.

All of the gentlemen selected have accepted their appointments. They serve the State without charge, willingly giving their time and services free for the cause of science, and to advance the interests of the insane.

The Population of the United States.—According to the census of 1900, the population of the country is 76,303,387, an increase since 1890 of 13,233,631, or 21 per cent. The excess of males over females is 1,815,097, the males outnumbering the females in all but eleven of the fifty-two States and Territories. These eleven States and the excess of females in each are as follows: New Hampshire, 830; Massachusetts, 70,398; Rhode Island, 7,524; New York, 39,334; New Jersey, 149; Maryland, 3,581; District of Columbia, 14,710; Virginia, 2,390; North Carolina, 16,456; South Carolina, 10,526; Georgia, 9,929. The excess of males in California is 156,009, in Minnesota, 113,586, in Texas 109,090, and in Pennsylvania 106,967. The excess of females in the Southern States is largely made up of negroes, of which race there are in the whole country 54,347 more females than males, North Carolina leading with an excess of 17,221, closely followed by Georgia, South Carolina, and Virginia, and the District of Columbia in the order named. A comparison of the relative increase of whites and negroes during the decade shows a slight falling off in the latter, the increase for the whites being 21.4 per cent. against 18.1 per cent. for the negroes. This relative decrease holds good in the Southern States as well as elsewhere, showing that the whites in that section have increased in greater proportion than those of negro descent.

Obituary Notes.—Dr. Alfred C. Lemberger of Louisville, Ky., died suddenly on October 11, of heart disease. He was a graduate of the Louisville Medical College in the class of 1893.

Dr. Hiram Tuttle of Tacoma, Wash., died suddenly at his home in that city on October 9. He was born in Iowa in 1844, and was graduated from the Medical Department of the University of California in 1869. He was the discoverer, a few years ago, of the explosive thorite, for the purchase of which Congress made an appropriation at its last session. He practised medicine in Tacoma for nine years, having settled there in 1889, retiring in 1898 in order to devote himself to the perfecting of his discovery.

Dr. Samuel Edward Stiles, a homœopathic practitioner of Brooklyn, died on October 9 at the age of sixty-seven years. He was a graduate of the Long Island College Hospital Medical College in the class of 1870. He was one of the incorporators of the New York State Genealogical and Biographical Society.

Dr. R. H. Nesbitt of Wheeling, W. Va., died on October 10, at the New York Hospital, of strangulation of the intestine. He was a graduate of the Medical Department of Columbia University in the class of 1899, and then served as interne in the New York Hospital. After completing his term at the hospital he went to Europe and had just returned when he was seized with his fatal illness.

Dr. Donald R. Hinckley was killed on October 14 by the accidental discharge of a revolver he was handling, during a visit at the house of his father in Northampton, Mass. Dr. Hinckley was a graduate in arts of Yale in 1892, and in medicine of Harvard in 1896. He was a resident of New Haven and an instructor in the Yale Medical School.

Dr. John B. Everhart died on October 8, at West Chester, Pa., at the age of seventy-four years. He was a graduate of Princeton and of the Medical Department of the University of Pennsylvania, but he never engaged actively in the practice of medicine. During the Civil War he was surgeon of the 97th Pennsylvania Volunteers.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

SMALLPOX—TYPHOID FEVER IN SOLDIERS' KITS—SHORT WATER SUPPLIES—NEW ANATOMICAL DEPARTMENT AT GLASGOW—JAMESON'S PORTRAIT—SMALLPOX SPREADING—OFFICIAL ACTION AND OPPOSITION—WATER SUPPLY IN THE NORTH—PAGET'S LIFE—COMING SESSION—RECENT DEATHS.

London, September 20, 1901.

The smallpox outbreak is not yet stamped out. On Saturday, two fresh cases were notified, bringing the number of admissions up to 134, since increased to 140, Maidstone has been alarmed and not without reason. It transpires that the patient I mentioned as having gone there and died was not suspected at first to be suffering from smallpox. He traveled in an ordinary way by rail, and then took a cab. He was afterward admitted to the hospital, and placed in the general ward. Precautions were taken there, but the railway compartment was not identified, and it is said the cab was next day used at a wedding.

A number of hop-pickers have gone down into Kent as usual to reap their little harvest, and one of them, with his child, has been admitted to the Malling Isolation Hospital with smallpox. In spite of active precautions, the danger there is considerable on account of the large number of pickers concentrated in shelters. Many are being vaccinated.

The stress of the epidemic is still in the parish of St. Pancras, and on Wednesday a meeting of the Guardians was held on the demand of the Local Government Board, which sent Dr. Sweeting to make representations. The doctor said that of 147 reported cases 100 had come from their parish, where the disease is still spreading. He called upon the Guardians to afford additional facilities for vaccination and accused them of being dominated by one individual member of the board who was an anti-vaccinationist. He told them that if they did not do their duty, they could be compelled by mandamus. He also told them they had no right to summon before them the parents who had neglected to have their children vaccinated. That was usurping magisterial authority. The vaccination officer must summon such people before a magistrate independently of the Guardians. This produced some effect, for the board decided to open a public vaccination station and appoint an assistant vaccinator and additional officers.

A case has been reported in the Borough of Southwark, in a common lodging house, where 100 men sleep who are daily employed in the market. In the dormitory, where the case occurred thirty beds were all occupied. The medical officer has had the dormitory closed, the beds burned, and the room disinfected.

The Local Government Board has issued a circular to

boards of guardians, after consulting with the law officers of the Crown, pointing out the proceedings to be taken with a view of procuring the vaccination of a child, and showing that certain supposed difficulties do not exist. They say, too, significantly, that when objection is taken to proceedings antagonistic to the views stated in the circular, the justices should be made aware of their opinion thus expressed, and of the fact that the opinion is based on the advice of the law officers of the Crown. It is well to find the Government Board thus alive on the matter.

As to the mortality, nine deaths from smallpox were registered last week in London, but none in the thirty-three great towns. The cases remaining under treatment numbered one hundred and thirty-five. There were sixty fresh ones admitted as against thirty, fifty-two, and thirty-one in the preceding three weeks.

Since 1885 the deaths from smallpox have not exceeded 100 in a year, except in 1893. Last year the cases of the disease were rather more numerous, and epidemiologists looked for a series of recurrences followed by a decline. An increase of severity, too, may be expected; but already some of the cases have been of the hemorrhagic type. Perhaps our greatest peril is the large number of unvaccinated children and their aggregation in schools. It is estimated that from 25 to 35 per cent. of the children born in London for the last few years are "unaccounted for" in this respect, and in some districts the percentage is much higher, as much as 60 and 70. Mild cases coming to school in such conditions are certainly a great danger. The anti-vaccinationists have a terrible responsibility, and the weak-kneed government that lessened protection to secure their votes may well reflect on their folly.

A case of typhoid has occurred which seems to have been traced to the wearing of clothes sent home from South Africa to the family of a soldier who died there of the disease. Of course, it is possible that this case might have been contracted otherwise. But it is equally possibly the inference has been correctly drawn, and it opens the question of the propriety of returning a dead soldier's kit to his family. Certainly, when he has died of infectious disease, precautions ought to be taken.

Manchester is threatened with a water famine. A few showers have encouraged the inhabitants, but a heavy downfall is necessary. The stock of water in the corporation reservoirs has fallen to about twenty-four days' consumption. The works at Thirlmere were expected to give a supply of 50,000,000 gallons daily, but as yet have only yielded 8,500,000, and new pipes are being laid as rapidly as possible. Since July 21, the water has been cut off from 8 P.M. to 5 A.M. It was then reckoned that enough for forty-nine days was secure. The hot and dry season has put up the consumption, and after sixty-six days the amount has fallen to a supply for twenty-four days; and the supply is so divided that a shortage in one part may be complete famine in another.

Nor are Manchester and its surroundings alone in their anxiety. Many parts of the country have been exercised about this aspect of the hot summer. From Wales, usually so well supplied, come complaints of discolored water due to the peaty soil of the gathering grounds and imperfect filtration on account of the drain on the storage reservoirs.

Lord Lister opened the new anatomical department of Glasgow University on the 12th inst. The new buildings include a laboratory and museum. For the latter, Professor Cleland has presented his anatomical collection. Lord Lister congratulated him on the accommodation now provided.

Surgeon-General Jameson, late Director-General of the Army Medical Department, is to have a further testimony of the esteem in which he is held. A committee has been formed to present him with his portrait, and if funds permit replicas will be presented to the R. A. M. C. messes of Aldershot and Netley.

LONDON, September 27, 1901.

SMALLPOX has steadily increased during the week, and several fresh centers have become infected. Yesterday added nine fresh cases; the previous three days having returned five, five, and eight. The fresh districts infected include Hackney, West Ham, Shoreditch, Woolwich, Bromley and Beckenham. Two villages in Norfolk have also been infected, each by a London visitor.

Altogether there have been 200 notifications during the outbreak. Of these, ninety-five were in St. Pancreas, where the disease first broke out, thirty-eight in St Marylebone, and sixteen in Holborn. The number of patients now under treatment in the hospitals is 172. As to the mortality, three deaths appear in the Registrar-General's returns for last week. The previous week there were nine. Altogether thirty-one deaths have been registered during the last thirteen weeks.

As to age, a return from St. Pancreas shows that one case was a child under five years; six were children between five and ten, and seventeen between ten and fifteen. Of the remainder, six patients were between fifteen and twenty-five, and thirty-five between twenty-five and sixty-five.

Some schools have been closed, and in others visitors have been excluded. Facilities for vaccination have been extended—not without raising the spleen of the anti's.

Permission to search for the unvaccinated among children attending board schools in any area affected by smallpox was on Monday conditionally, I may say grudgingly, granted at a meeting of the school board. The point was raised in the form of various communications from the local authorities and the Local Government Board, and two hours were wasted in disputation. A member actually proposed to refuse such permission, and to give an assurance that they would prevent the disease spreading in schools. A more sensible member proposed that unvaccinated children should be excluded from the schools until they had complied with the vaccination acts, but he found no seconder. What a revelation of the fitness of the board to have charge of the education of the people! Eventually, by nineteen to sixteen votes, permission was given to inspect the schools "with a view to advising the parents to allow their children to be vaccinated;" but this is to be conditional upon an application from the proper authorities, and upon the "issue by the school board of a circular to all parents asking if they have any objection to this examination, and in case of such objection in any particular case that no examination shall take place."

And so a board entrusted with the training of the children deliberately throws difficulties in the way of officers desirous of carrying out the law. No wonder lawlessness increases!

Some local authorities are giving better object-lessons. Thus in Hackney, which was among the places to provide free vaccination before the passing of the acts, they are now paying the inhabitants of some infected houses to isolate themselves by staying indoors and not sending their children to school. In Southwark, they have issued a circular stating the early symptoms of the disease, and advising any one ailing from them to consult the medical officer. An alderman has addressed a letter to the press advocating a similar action throughout London. In Camberwell the Guardians' Home refused the request of the school board to convey its resolution to their vaccination officers.

The Local Government Board is giving full support to the sensible and warning to the recalcitrant bodies. On Wednesday they issued three circulars to the sanitary authorities, boards of guardians, and borough councils, directing them on various points as to their duties in face of the prevalence of smallpox, and enjoining them to adopt every precaution, dwelling specially on vaccination and the advisability of house-to-house visitation in affected districts.

But do not imagine the anti's are abashed. They cry no surrender and carry on a guerrilla war against science, sense, and statistics. One of their methods is to urge people to seek certificates of exemption. Some magistrates, even when granting these, have warned the applicants of the risk they were incurring. Some have postponed the issue of a certificate a few days, and advised the applicant to consult his doctor.

A public meeting is being called by the anti-vacs, and they expect Dr. Collins will preside. He has long been heterodox about vaccination, and so had no difficulty in obtaining influence among the cranks. It is curious how a man who did pretty well as chairman of the County Council should have such a queer mental twist.

The water supply is continuing to give anxiety in the North of England. The scarcity is being felt over a wider area. Leeds and Bradford are economizing water. Dewsbury and Keighley are restricting the hours of the supply. At these and other towns, a fortnight's further dry weather would render the position acute. At Huddersfield, mills on the high level will have to cease work unless copious rains speedily fall. Some firms have had to suspend business at Heckmondwike for want of water, and other places will have to follow from necessary curtailment of the supply.

The publication of the "Memoirs and Letters of Sir James Paget" on Wednesday was a literary event which had been waited for with great interest in the profession. The early part is autobiographical and in the fascinating style of our late leader. The remainder is by his son Stephen and is largely built up on his father's letters.

Next week the schools will open with a flood of eloquence and good advice and a deluge of after-dinner speeches. For dinners are more and more displacing the

introductory lectures. The teachers are all back from their holidays and speculating as to the likelihood of a good entry.

Another octogenarian has passed away, Dr. Douglas, of Chesham, in his eighty-third year. Other recent deaths are: W. Luke Roberts, senior surgeon to Bradford Infirmary, on the 8th inst., in his fifty-sixth year; F. B. Archer, on the 20th, aged fifty-four; Lt.-Col. Moran, M.D., on the 20th; Dr. J. O. Bradbury, consulting surgeon Salford Royal Hospital, on the 5th inst., aged seventy-two.

Progress of Medical Science.

The Boston Medical and Surgical Journal, October 10, 1901.

A Case of Intussusception; Resection of Fifty-six Inches of Small Intestine; Recovery.—F. G. Balch reports the case of a girl of sixteen years, who, after a most injudicious repast, suffered from intussusception, which upon incision was found to be jejunum into ileum. There was free purulent fluid in the abdomen and the mass looked so bad that the intestine was resected and brought together by end-to-end anastomosis. There was considerable shock, with some delirium and restlessness, but recovery was good. The bowels moved regularly and the fifty-six inches of small intestines did not seem to be missed at all. Examination of the resected gut showed a polypus almost completely filling the lumen of the bowel, which was undoubtedly the cause of the intussusception.

Cretinism.—Charles S. Millet gives Osler's definition of cretinism as a "chronic disease of nutrition due to loss or impairment of function of the thyroid gland. It causes a retardation of development of the central nervous system, leading to a retention of an infantile state and to an extraordinary disproportion between the different parts of the body." The author describes the various symptoms in detail. Early and slight forms, he says, are often overlooked; the mental apathy, muscular weakness, stoppage of growth, dryness of skin, together with subnormal temperature, are enough to justify an experimental course of treatment with sheep's thyroid. This is best given in powder, as it dissolves rapidly on the tongue, and none is lost, even if the patient is unruly. It is best to begin with half a grain three times a day, and gradually to increase it. Whenever the temperature goes above 100°, or the child becomes very nervous and does not sleep, the remedy must be diminished or stopped for awhile. Later, when the nutritive changes are fully reestablished, a very moderate dose once or twice a week will be sufficient.

Hernia Reduced "En Bloc"; Operation and Relief of Internal Strangulation.—C. A. Porter reports a case in which the symptoms after reduction by taxis remained so severe that a diagnosis was made of reduction *en bloc* (the sac with its contents being pushed entirely beyond the inguinal canal into the submuscular space), and a rapid abdominal section was performed. On walling back the intestines, the distended ileum could be seen to enter a peritoneal opening opposite the internal ring, and collapsed and pale intestine emerged from the same aperture. Upon slight traction a short knuckle of intestine popped out, showing well a distinct sulcus where constriction had occurred. Gas immediately filled the previously collapsed portion, and the dark purple color changed to normal pink. The empty sac was found to lie in the subperitoneal tissue, entirely within the muscles and in no relation to the internal ring or inguinal canal. The case was then one of inguinal hernia, which, as there were no or only slight adhesions between the sac and surrounding tissues, had been converted by manipulation into the so-called "properitoneal or interstitial variety." On the left side the sac was found to be inverted, and to its tip a coil of intestine was firmly adherent. Both sacs were tied off and the abdomen was closed. The patient's condition did not warrant operation for radical cure. Recovery was uneventful, and a month later both hernial openings were operated on.

New York Medical Journal, October 12, 1901.

The Social Aspects of Dermatology.—In the fifth Lane Lecture, Malcolm Morris takes up the discussion of tuberculosis, scrofula, and lupus. Although admitting that the term scrofula has somewhat gone by, he finds it a useful one by which to designate a special delicacy of tissue, making it vulnerable beyond what is seen in the healthy state to injurious influences of all kinds. Scrofula may prepare the way for tuberculosis; or, rather, it is the soil, the bacillus the seed, and tuberculosis the harvest. Lupus vulgaris he regards as a chronic form of tuberculosis. Carcinoma may develop on a lupus lesion, and this fact must be borne in mind in making a prognosis. These secondary carcinomatous growths are apt to be especially malignant. Lupus may be transmitted by vaccination. It generally begins by direct inoculation of the tubercle bacillus in the cracks and fissures of the nose or mouth. Secondary tuberculosis of the lungs may develop from a primary lupus nodule in the skin. Tuberculides are characterized as lesions consisting of small extremely indolent granulomata tending to undergo central softening and death, and thus leaving scars.

A Case of Peliosis Rheumatica (Schoenlein's Disease).—Fairfax Irwin reports the case, which was that of a man of twenty-nine years, first seen three weeks after the initial symptoms—œdema of the hands and pain in the phalangeal and metacarpal joints—had manifested themselves. The same condition later attacked the feet and knees. Ptyalism developed with spongy gums, loose teeth, and ulcerations of the buccal mucosa, coincident with a purpuric eruption covering nearly the entire body. The patient recovered without incident. Diagnosis in such cases must be made between this condition and scurvy, purpura hæmorrhagica, and possibly syphilis. While there was some enlargement of the inguinal glands, syphilis was ruled out on account of the absence of chancre, and the rash was distinctly not syphilitic in appearance. The ptyalism was doubtless due to some medicine taken before the man fell sick, and which probably contained iodide of potassium and mercury. Scurvy was excluded, as there was no difficulty in regard to securing diet of fresh vegetables. The predominance of the œdema and the rheumatic symptoms led to a diagnosis of peliosis rheumatica rather than purpura.

The Growth of New Bone from Periosteum.—J. H. Branth gives the histories of one or two cases illustrative of the fact named in the title of his paper. He says that injuries to the periosteum will often cause a necrotic condition of the underlying bone of more or less depth until the inflammatory condition and its walls form a barrier against further invasion. Quietude and healing in the part do not set in until the dead matter is ousted from the body; the dead matter, having reached the surface of the bone, often finds an especial resistance in the periosteum, and, as a consequence, the periosteum, besides becoming involved in the inflammatory process, is then dissected up farther from the underlying bone by the pressure of the abscess matter. Now, more bone surface is denuded and deprived of one source of nutrition, that of the periosteum, and the pyogenic germs find less resistance in the half-starved living part, the *locus minoris resistentiæ*, and more or less of the bone is involved before the inflammatory process can make its way out through the periosteum, which latter has the greater vitality. In this way it may occur that, after necrosis of a part of a bone, the periosteum, having been lifted off the bone, may deposit osseous cells on its lower surface, and so build a bridge, as it were, over the necrotic substance for some distance, while at some small outlet the *débris* makes and finds its exit. The internal dead bone is the sequestrum and the newly formed bone is the involucrum. Such a condition will not permit healing until the sequestrum is removed, which Nature alone accomplishes by a slow disorganization into *débris* unti it is removed through the avenues of exit.

Journal of the American Medical Association, Oct. 12, 1901.

A Plea for the Backward Child.—C. F. Wahrer makes a plea for the so-called dull children, claiming that, while they are not so attractive to the teacher as are the brighter children, yet the after-history of the two classes often shows that the former achieve much more in life than the latter.

Some Suggestions Regarding a Department of School Hygiene.—L. K. Hunt makes a plea for greater interest on the part of the public in all that concerns public-school hygiene. This latter term now has a wide meaning, including reference to diseases common to school age, hygiene of instruction, personal hygiene of pupils, school grounds, physical education, buildings, including furnishings, ventilation, sewerage, heating, etc. All such matters should be entrusted to "men of mature judgment, but an age limit, say fifty-five, should exist. They should have a vital connection with the schools through having children therein. They should be men of assured executive ability through having succeeded in business. They should not be known as local politicians. These matters are emphasized, because the school board is the snag on which such reforms usually stick, and because physicians, through combination with other organizations of good citizens, can materially assist in the election of an effective school board." In other words, these matters should be taken out of the hands of teachers and entrusted to those who have more time and greater practical knowledge of the matters involved.

Speech as a Factor in the Diagnosis and Prognosis of the Backward Child.—G. Hudson Makuen concludes his

paper as follows: 1. It is not always possible to determine at a glance the cause of backwardness in children. 2. Backwardness in children is not always due to a central lesion, but may be the result of arrested cerebral development due to some abnormality of structure in the peripheral organs. 3. A very common cause of backwardness in children may be some abnormality of structure in the peripheral organs of speech. 4. So closely are the speech centers related to the ideational centers of the brain that any impairment of the one generally results in a corresponding impairment of the other. 5. The best method of arriving at even a proximately correct prognosis in cases of backward children is to apply the speech test, or, in other words, to ascertain by careful study and experiment to what extent the faculty of speech may be improved, and it will be found that in those who are susceptible to training in what may be called the refinements of speech are the ones for whom we may promise the best results, and that possibilities for general development will be proportional to the capacity for speech development.

Diagnosis of the Backward Child.—Among the practical points mentioned by A. W. Wilmarth are the following: Of the physical symptoms which are strongly indicative of lack of normal mental growth, the failure of articulate speech, where defect of the auditory apparatus, or that concerned in articulation does not exist, is the most conspicuous. In the absence of these physical defects, if the appearance of speech is delayed beyond the age of six years, it may be safely inferred that cerebral deficiency or lesion exists, and that some mental weakness surely accompanies the child's silence. Gait and posture are of some value, taken in connection with other symptoms. The former is apt to be slow and awkward, the latter stooping. The lately published observations of Wiley would tend to show that the sense of touch is generally less sensitive than in the average child. Sensibility to pain, especially in cases of marked dulness, is very frequently found, and would tend to indicate a lack of tone in the whole nervous system. Family history will render valuable aid. As all mental action has a physical basis, and as the physical formation of each individual is but the sum total of ancestral traits, we may expect parental weakness to exist, either active or latent, in the offspring. Again, while a fair memory by itself is no indication that mental weakness or delayed mental growth is not present, a failing memory, or one that fails to respond to training by any marked improvement, may be looked on as abnormal.

American Medicine, October 12, 1901.

Uric-Acid Fallacies.—Frank Billings declares that some of the fallacies of uric acid are: 1. That uric acid is toxic. 2. That it is a causative factor in any disease except gout. 3. That "uricacidæmia," meaning acid blood, exists. 4. That the chemical reaction of the blood may be altered by the use of medicinal quantities of the alkalies or by diet. 5. That uratic deposits may be dissolved out by the administration of alkalies. 6. That lithia is a uric-acid solvent of unusual potency. 7. That uric acid is an abnormal constituent of the urine. 8. That an excess of uric acid in the urine at one time or a deficiency at another time indicates an abnormal condition in reference to uric acid. 9. That rheumatism is due to uric acid. The writer adds that our present position in relation to uric acid consists not so much in positive knowledge as in the throwing aside of an accumulation of old theories and absurdities.

Kidney-Stone Diagnosis and Treatment.—Donald Macrae, Jr., speaks of the following aids to the diagnosis of probable stone in the kidney: General symptoms, local and reflex; examination of the urine, chemical, macroscopical, and microscopical with the centrifuge; percussion over the affected side; the ureteral catheter and sound; inspection of the bladder and ureteral orifices; the segregator. He then turns his attention to the discussion of the *x*-ray as a positive means of diagnosis, quoting from Dr. Leonard his routine technique. A plate sufficiently wide to cover both lumbar regions is used. The plate is protected from moisture and heat, and is placed beneath the patient supported by a heavy board. Both kidneys and ureter are examined at the same time. The tube is in the median line above the third lumbar vertebra and high enough so that its rays pass through the pelvis and cast a symmetrical shadow of the pelvic outlet on the plate below. A grounded piece of sheet aluminum or gold-leaf on cardboard is placed between the tube and the patient. As to treatment, the disease is surgical. If the trouble has been of short duration and the symptoms are not very urgent, nature should be given a chance. If the urine is strongly alkaline, however, even if the symptoms have not existed very long, operation is advisable. The writer believes that it is the duty of every surgeon to subject every case of an affection pointing to a pathological nephroureteral condition to the *x*-ray. There may be a few exceptions in cases of nephritis following the exanthematous diseases, but even here, if the condition continues, the possibility of secondary calculi must be thought of.

Philadelphia Medical Journal, October 12, 1901.

The Progressive Muscular Atrophies.—Edward E. Mayer enumerates the three general forms of progressive muscular atrophy that have been recognized; in one the muscular changes are primary—the myopathic form or progressive muscular dystrophy; in one they are secondary and due to changes in the anterior horns—the myelopathic or amyotrophic form, or spinal muscular atrophy; in the third the primary degeneration is in the peripheral nerves—the neurotic or neural type. Although this classification is simple and convenient, it is not always either clinically or pathologically true. There are transitional and mixed types. Of these the writer gives several examples, one of which is as follows: The patient was a boy of eighteen years who had extensive atrophy and paresis of a slowly progressive nature. The alterations were general, embracing chiefly the shoulder-girdle, pectorals, triceps and biceps, supinator longus, interossei, thenar and hypothenar muscles, erectores trunci, abdominal muscles, gluteals, gastrocnemius, and peroneals. The atrophy was symmetrical. There was fibrillary tremor. There was no reaction of degeneration. This disease, so far as could be learned, was not hereditary. There was no history or sign of true or pseudo-hypertrophy. This case must be regarded clinically as one of a mixed type, and more of a dystrophy than an atrophy.

A Case of Tuberculous Ulcer of the Stomach.—Erwin Fischer states that Petruschy's case is the only one besides his own which is reported in literature. Fischer's patient was a young lady, twenty-three years of age, with a suspicious family history of tuberculosis. She complained of fulness after eating, and of occasional pains in the epigastrium, and extreme weakness. There was no sign of disease of the respiratory organs excepting a slight roughness of the respiratory murmur over the right apex. There was HCl acidity, about 2 per cent. Treatment consisted in the administration of Carlsbad salt internally with hot local applications. The improvement was slight, and later nitrate of silver was administered. This seemed to aggravate the symptoms. Electricity was tried in vain. Some months later the patient began to lose flesh and suffered pain always after eating. The original treatment was given again with the same result. Tuberculin was then tried, of which the second and third injections (5 mg. each) produced typical general and local reaction. The local reaction was evidenced by increased pain in the gastric region, followed by nausea. The pulmonary symptoms were so slight that the lungs could scarcely be claimed as the seat of the primary lesion The regular treatment with tuberculin R was given, and the doses were gradually increased to 20 mg. The condition now is practically that of recovery. The treatment will have to be resumed again after a few months.

The Lancet, October 5, 1901.

A Case of Sudden Death Eight Days after Amputation of the Forearm.—P. N. Gerrard's patient was a Chinaman who had severe injuries of the right hand, which had become septic, and amputation was deemed advisable owing to extensive disorganization as far up as the wrist. Owing to infected lymphatics, the amputation wound also became infected, but it was drained and the patient seemed to be doing well. Death came very suddenly, almost without warning. The cause of death in this case, which at first sight was diagnosed pulmonary embolism, is peculiar from the fact that, notwithstanding very careful search, no clot or embolus was found in any part of the lungs. The fact that the patient did not complain of any palpitation or distress until a few minutes before dissolution, when he remarked before falling back in his bed that his "breathing was difficult," considered in connection with the finding of a clot (small in diameter) partly in the right auricle and extending into the ventricle, leads the author to the conclusion that the immediate cause of death was cardiac syncope consequent on the disturbance of an ante-mortem clot which had formed in the right auricle, as a result of septicæmia, from which at the date of his death he had recovered—or, in other words, he died from cardiac thrombosis. It furthermore raises the question as to the advisability of exhibiting alcohol freely in all cases in which operations cannot be done promptly, and in which septic absorption is probable, in order that no slowing of the circulation and consequently no deposition of fibrin may take place in the right auricle.

Morvan's Disease or Leprosy.—Morvan's disease has been regarded by many writers as a form of syringo-

myelia, while others regard it as nothing but leprosy modified by environment D. Douglas-Crawford records the history of a case of what he would regard as Morvan's disease. His patient was a man of twenty-seven years who had worked in a lime quarry. The local changes were somewhat suggestive of leprosy, but the nerves were not nodose, the reflexes were exaggerated, whitlows were limited to the fingers, and there was hydroarthrosis of one shoulder joint. The latter was considerably disorganized, the digits of both hands showed signs of mutilation, but the thumbs, the little fingers, and the right ring finger had not suffered. As regarded the nervous system, speech was slightly indistinct and slurred, but the taste was unimpaired. The patient could protrude his tongue, but could not move it laterally. The pupils reacted to light and accommodation; there was no limitation of the field of vision, and no nystagmus. There was right external strabismus of many years' standing. If the patient closed his eyes while standing up he toppled over. The muscles of the left thumb was slightly wasted. Sensation to pain, heat, and cold was greatly impaired over the skin of those digits which were supplied by the median nerve. The other skin areas were fairly normal. Tactile sensation was normal throughout both limbs; the muscular sense was unimpaired, but a tremor of the limbs was noticeable on attempts being made to use them. The knee-jerks were exaggerated, the plantar reflex was present, and ankle clonus was well marked. The gait was slightly spastic. Sensation to pain, heat, and cold was impaired over the outer sides of the upper thirds of both thighs and also over the dorsal surfaces of the feet. Sensation in the cervical region was normal except over the area supplied by the right small occipital nerve.

An Interesting Case of Compression.—E. J. O'Meara narrates the history of a man of twenty-six years who was struck over the head with a club. Twenty-seven hours after the injury he was admitted into the hospital in the following condition: Slow regular and heaving pulse, the pupils were dilated and non-responsive, there was retention of urine, paresis was more marked on the left side, and there was deep coma; no fracture could be made out, and the condition was considered one of subdural hemorrhage. Trephining over the anterior branch of the right middle meningeal artery revealed a large clot, but the artery was uninjured. A similar condition was noted when the posterior branch of the same artery was exposed, but the artery here was also intact. As the hemorrhage from the latter opening was profuse, the opening was enlarged and the finger passed backward toward the occipital region; it then became evident that the whole of the posterior part of the brain was compressed by a large clot. Five and a half ounces were scooped out with a spoon, the brain expanding as the blood was removed. Long strips of gauze were rapidly passed into the cranium between the dura and the bone, the ends being brought outside with the twofold object of acting as a drain for the hemorrhage and of minimizing as far as possible the danger of spreading œdema from a too rapid expansion of the compressed brain. Immediate and eventual results were excellent, the patient becoming as well as ever. The author records the case, as there are many interesting points, especially as regards the history and the extraordinary length of time before definite symptoms of compression appeared, and the absence of any very definite symptoms to enable the seat of injury to be localized. He has not been able to find on record any other case in which plugs have been successfully used in the extradural space with the objects of (1) acting as drains for the excessive hæmorrhage, it being impossible to localize or to reach the bleeding point, and (2) of exerting some pressure on the expanding brain. In this case the compression was so great, and extended over such a large area of the brain surface, that *a priori* it is very doubtful whether without some means of this kind the patient would have escaped the danger of spreading œdema.

British Medical Journal, October 5, 1901.

A Case of Erysipelas Treated with Antistreptococcus Serum.—H. W. Haydon reports the case of a man aged forty years who had an attack of cellulo-cutaneous erysipelas. He treated him with injections of antistreptococcus serum. After each injection the improvement was marked.

House-Flies and Disease.—Colin Campbell believes that flies play a far more important part in the spread of infectious diseases than is generally believed. He thinks that this may be the way in which diphtheria is often spread. He reports the case of a child who was infested with eggs and larvæ of the common house-fly.

Case of Complete Atresia Vaginæ and Absence of Uterus.—Leslie J. Milne describes this case. The patient was a woman aged thirty-four years. She consulted the writer for a slight dyspeptic attack. He discovered casually that she had never menstruated. Examination disclosed not only that the vaginal opening was entirely wanting, but that there was no uterus. There were only some rudiments of the appendages. Any intercourse she had had was through the urethra, and had been only very partial and painful.

Case of Membranous Dysmenorrhœa in a Multipara Associated with Membranous Colitis.—Godfrey Carter reports this case, the association of the two affections being undoubtedly accidental. The association is quite unusual. A striking feature of the case was that the patient was not sterile. The symptoms were abdominal pain and tenderness in the left iliac region, and in the course of the large bowel. Constipation was troublesome. When the intestinal attack was coincident with menstruation, the sufferings were severe. In the intervals between attacks, the patient looked fairly well.

Notes on Enteric Fever at the Imperial Yeomanry Hospital, Pretoria.—H. D. Rolleston declares that, although the typhoid fever met with in South Africa differs in some respects from the disease as it is seen in England, still the resemblances are so close that there is not the slightest doubt of their identity. A previous attack of the fever in another country, or even in South Africa itself, does not necessarily protect the individual from another attack in South Africa. Statistics seem to show that antityphoid inoculation does not absolutely protect against a future attack of the fever. When typhoid fever occurs in an inoculated person, there is, as a rule, an interval of at least six months before a second attack occurs. Inoculation protects against a fatal termination of the disease. The percentage of relapses is estimated at twenty-one. In some of the cases, the onset was quite sudden. Diarrhœa was decidedly exceptional. Constipation was the rule. In many cases there was a rapid pulse-rate during convalescence. Considerable hemorrhage of the bowels occurred in 8.7 per cent. Perforation occurred in only one case. Phlebitis was the commonest sequela. Neuritis was seldom seen. Epilepsy occurred in one patient. Insanity was rare. Bronchitis was rare. Pleurisy was not uncommon. Arthritic sequelæ were met with, as were myositis, periostitis, parotitis, orchitis, and epididymitis. There was one case of jaundice, and also one of multiple abscesses.

Medical News, October 12, 1901.

The Crowding of Consumptives into Municipal General Hospitals.—William Ridgely Stone sounds a timely warning on this subject. In one of the wards of a municipal hospital having the capacity of twenty-eight beds, over forty patients are placed. More than twenty of these are tuberculous. These patients are, as a rule, not intelligent enough to understand the danger to which their companions are constantly exposed. They will not use the sputum cups, but expectorate on the floor, on the bed clothes, or into the registers. This last-named receptacle seems to be a favorite one. The results need not be scribed. The writer goes on to relate the history of various patients who, admitted to the hospital for other troubles, have contracted this dread disease before they went to their homes.

Berliner klinische Wochenschrift, September 23, 1901.

Oxygen Inhalation.—E. Aron has for eight years been making observations on the effect of oxygen inhalations in health and various forms of disease in which dyspnœa is a prominent factor. These investigations, as well as experiments on animals, lead him to believe that there is no advantage to be derived from the use of oxygen inhalations except in cases of carbonic-oxide or anilin-oil poisoning, and in diseases resulting from the action of rarefied air.

The Stretching of the Kyphos in Pott's Disease.—Jacques Joseph advocates forcible extension of the deformed spine in this condition, and describes a specimen of Virchow's and a case of his own to demonstrate the manner in which the bony gap left after the operation is filled in. This takes place by a gradual descent of the upper part of the trunk, thus wholly compensating for the defect without the formation of more than a few millimeters of new bone. The apparatus devised by the author consists of a brace provided with a screw and pad to fit over the boss of the kyphos, by means of which graduated pressure can be made. The advantages of this device over the plaster jacket are that (1) extension and fixation are accomplished successively and not synchronously; (2) the pressure may be accurately graduated, and the spinal column can therefore be brought more exactly into the desired position; (3) changes in position may be effected without the manufacture of a new corset; (4) the extension takes

place very gently; (5) the formation of pressure sores may be more carefully guarded against, and when such occur they immediately present themselves to view.

The Etiology of Lymphatic Leukæmia.—W. Türk considers Löwit's theory of the parasitic origin of lymphatic leukæmia, and describes some observations he has made which explain the appearances figured by the latter. The hæmamœba leukæmiæ parva intranuclearis of Löwit is a small rounded or oval body occurring especially in degenerated leucocytes, and from one-sixth to one-half the diameter of a red blood cell. Usually only one or two forms are found in a single cell, and the center of the organism is apt to be lighter than the periphery. In order to demonstrate it, a rather uncertain staining method is necessary. After fixation by heat, the smears are stained with a strongly alkaline and polychrome solution of methylene blue, and heated while in the fluid for about fifteen minutes. They are then washed and decolorized with a $\frac{5}{10}$ per-cent. solution of muriatic acid (which is the most uncertain step in the process), and are counterstained with a $\frac{1}{2}$-per-cent. watery solution of eosin. Türk repeated Löwit's observations, and then tried to find similar bodies in other conditions. By producing artificial disintegration of the leucocytes by pressure, he was able to demonstrate the same appearances in the blood in three cases of chlorosis, and so assumes that they are nuclear bodies. They do not respond to any stain except to methylenazur, a substance formed from methylene blue by treatment with hot alkali, and hence the Nocht-Romanowski stain for malaria is well adapted to show them, though they appear only when liberated from the cell body by its rupture.

Münchener medicinische Wochenschrift, Sept. 24, 1901.

Pruritus Senilis Linguæ.—E. Baumgarten describes a case of senile pruritus, which first manifested itself in the tongue and was treated without relief for some time before the true nature of the trouble became evident, through the occurrence of itching elsewhere. This condition is so rare that the diagnosis is justifiable only after all other possibilities have been inquired into and excluded. There are many systemic conditions capable of producing subjective symptoms in the tongue without visible lesion, but nearly all of these may be relieved by appropriate treatment, while true pruritus is not amenable to remedial measures. The more important of such causal conditions are affections of the stomach, intestines, liver, kidney, and spleen, all circulatory disturbances, and trouble with the pelvic viscera, especially in women about the climacteric.

Tamponade of the Abdominal Cavity with Air for the Checking of Dangerous Intestinal Hemorrhage.—G. Kelling's experiments on dogs lead him to conclude that by inflating the abdominal cavity with air it is possible to check hemorrhage from the stomach and intestines, originating in ulcerations, cirrhosis of the liver, etc. It was determined that a pressure of fifty millimeters of mercury was sufficient to overcome the resistance of the vessels, and also that such a degree of tension could be produced in the abdomen without danger. By combining endoscopy of the abdomen with injuries done to the viscera after inflation of the peritoneal cavity, it was seen that under such circumstances hemorrhage was very slight, while it immediately became severe as soon as the air was allowed to escape. The author has not yet been able to give the method a trial in man, but describes an apparatus consisting of a trocar, air filter, mercury manometer, and bulb for inflation, suitable for practical use.

A Case of Perforative Peritonitis Cured by Operation.—Brunotte's patient was a man of thirty-six years, who was kicked in the abdomen by a horse. He continued at work for three-quarters of an hour, at the end of which time he collapsed. During the next few days his symptoms presented the picture of a perforative peritonitis, but operation was steadily refused until the fourth day, when the patient was almost *in articulo mortis*. In spite of the shock of transportation for a distance of over five miles to the hospital, the laparotomy was recovered from, although it was found necessary to remove most of the sutures on the second day, owing to the great tension caused by the abdominal distention. On opening the abdomen, a considerable amount of fetid pus was evacuated, and after as thorough a toilet as possible, the wound was partly closed and drained with gauze, but no attempt was made to find or close the perforation. A fecal fistula persisted and gave great trouble, owing to an exceedingly offensive diarrhœa, but finally closed spontaneously, and the patient was discharged seventeen days after admission.

Deutsche medicinische Wochenschrift, September 26, 1901.

Three New Cases of Pure Hereditary Ataxia.—E. Weber reports three cases of this affection which he considers above criticism. Three children in one family, aged respectively eighteen, thirteen, and seven at the age of six developed typical symptoms of the malady consisting of ataxia of the legs, Westphal's sign, scoliosis, and chorea-like unrest. At the time of observation, the three individuals presented three stages of the disease, corresponding to the length of time of involvement. The eldest was in the last or paralytic stage, the next showed the disease fully developed, while in the last it was still in the early stages.

A Case of Tuberculous Arthritis of the Knee and Its Treatment with Tuberculin R.—Brunzlow was able to effect what appears to have been a permanent cure in a tuberculous knee affecting a boy of a markedly phthisical habitus. The following rules are laid down as a result of this experience: 1. Pronounced reactions are to be avoided in the use of Tuberculin R. 2. Even moderate elevations of temperature over the average prevailing before the injections were begun are to be regarded as reactions. 3. These manifestations must be allowed to subside fully before the next injection is made, as otherwise the system may be overcharged with toxin. 4. In the course of the treatment, reactions may be produced through rapid increase of dosage or the quick succession of slowly increasing amounts; under the latter conditions, the temperature rise is apt to be slight, but persistent. 5. Successful immunization is indicated by a permanent increase in body weight, which frequently takes place with surprising rapidity; systematic observations of the weight are therefore essential.

The Treatment of Dysentery.—A. Plehn's method is as follows: As soon as the disease has been diagnosticated, or is even suspected, the patient is given two tablespoonfuls of castor oil. This at once removes a large amount of infectious material and cleanses the intestinal canal. On the next morning the calomel treatment is begun. Every hour a tablet of $\frac{1}{2}$ gr. of calomel is given until twelve tablets have been taken, when a pause is made till the next morning. The same plan is carried out on the second and third days, after which 8 gr. of subnitrate of bismuth are given at hourly intervals for twelve doses daily until recovery results. During the calomel course, and for several days longer, the mouth receives careful attention. After each dose of the drug, the mouth is rinsed with a wash of rhatany or salicylic acid, and any beginning tendency to salivation is combated by scrubbing the gums with swabs saturated with the above solutions. If these precautions are taken, the treatment rarely needs to be interrupted, and stomatitis occurs only in very unusual cases of idiosyncrasy. Any tendency to constipation, which sometimes occurs even before the calomel stage is over, should be met by the use of castor oil or enemas of salicylic-acid solution, while in the later days of the treatment, mineral waters may advantageously be employed. An important accessory is the proper regulation of the diet, which should consist wholly of fluids.

French Journals.

Lecithin of the Egg; Its Therapeutic Employment.—According to Coulombe, lecithin exists in all the tissues, especially in those endowed with great vitality. From a therapeutic point of view, it is not toxic, and it is assimilated as a whole in ordinary doses. Its action consists in increasing the number of red corpuscles; in increasing, in certain cases at least, hæmoglobin; in increasing urea and diminishing uric acid; in stimulating the appetite. Its employment is indicated in anæmia, in all troubles of nutrition, in wasting diseases, and in neurasthenia. It may be administered hypodermically or by the mouth. —*Le Mois Thérapeutique, September* 30, 1901.

Psychical Troubles in Malaria.—Jean P. Cardamatis states that just as in the pathology of the nervous system, the toxins play the most important rôle, so it is not the malarial parasite, but the toxins which it secretes, which constitute the pathogenic cause of the various nervous phenomena observed in malaria. The delirium of malaria does not differ from toxic delirium. The intoxication of malaria may be pathological or psychological; there are four degrees: (*a*) excitation; (*b*) anæsthesia; (*c*) coma; (*d*) paralysis. There are three degrees of malarial delirium: Subacute, acute, and very acute. The writer believes psychic troubles to be rare in the course of chronic malaria.—*Progrès Médical, September* 28, 1901.

Some Cases of Extragenital Syphilitic Chancres.—Leon Derville reports several cases in which the chancre was found on the lower lip, upper lip, tongue, or palate. He emphasizes the fact that syphilis does not always result from venereal contagion. It is sometimes contracted innocently, and this should not be lost sight of by the physician. It is at times difficult, even impossible, to determine the point of entrance of the virus. The mouth, after the anogenital region, is the most frequent seat of syphilitic chancre. Chancres of the tongue are relatively rare. Chancres of the palate are rare, few examples being found in literature.—*Journal des Sciences Médicales de Lille, September* 28, 1901.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

First Semi-Annual Meeting, Held in New York City, October 15 and 16, 1901.

First Day—Tuesday, October 15.

THE meeting was called to order by the President, Dr. HENRY ELSNER of Syracuse, in the hall of the New York Academy of Medicine at 9.45 A.M.

A Contribution to the Pathogenesis of Narcolepsy and other forms of Morbid Sleepiness.—Dr. HEINRICH STERN of New York read a paper with this title. He said that the primary factor in the causation of pathologic sleep does not arise in the brain. The term narcolepsy implied a sudden, uncontrollable inclination to sleep, occurring repeatedly, and after varying intervals. The first description of a narcoleptic attack had appeared in 1880. The latest writer, Furet, considered narcolepsy as a manifestation of autointoxication, and that it is often associated with epilepsy as evidence of one intoxication. The speaker reported a typical case. It was worthy of note that the sleeping seizures occurred independently of the ingestion of food. The patient had presented none of the minor phenomena of hysteria, and possessed an active mind. The physiological sleep at night did not refresh him. The case was reported in great detail, including analyses of the stomach contents and of the urine, the determination of the relative urinary toxicity, and examinations of the blood. The chief clinical features were: (1) A diurnally recurring morbid somnolence; (2) free perspiration on the hands, feet, and forehead at all times, and particularly before the attacks; (3) the physical conditions were uninfluenced by the attacks; (4) the heart was weak and slightly hypertrophied; (5) the stomach was dilated and hyperchlorhydria was present; (6) there was high urinary density and acidity; (7) the urinary chlorides were very largely in excess; (8) the salts of sulphuric and uric acids, carbamid, creatinin and creatin, and oxalate were found to be in excess when the urine for the twenty-four hours was examined; (9) there was diminished alkalescence of the blood; and (10) there was a low degree of relative urinary toxicity before, as well as after, the attack of somnolence. As in this case there had not been a single symptom pointing to any of the known types of autointoxication, the author concluded that the latter could be excluded as an etiological factor. He pointed out that a deficiency of chlorides in the blood gives rise to a low osmotic pressure, and that, as a consequence of the decreased osmotic tension, there results a temporary diminution in the nutrition or stimulation of the nerve substance, and, therefore, an interference with its electrical conductivity. Sudden seizures of somnolence were explicable by the lowered nerve impulses conducted through the cells of the central system. This diminution of osmotic tension was by no means identical with an anæmic condition of the central nervous system during the narcoleptic state. Neither diminished nor increased blood supply, as such, appears to exert any influence upon the production of sleep seizures; the latter appear to be due, in the first instance to diminished ionization of the chlorides in the blood.

Dr. EDWARD D. FISHER of New York said that he could recall from his experience many similar cases, so far as the symptoms were concerned, which had been dependent upon certain definite conditions. For instance, it was not uncommon to find this condition in specific cases. Frequently there was no other symptom present except this abnormal tendency to sleep, which lasts for hours or, perhaps, days. To his mind, this was almost pathognomonic of cerebral syphilis, if hysteria, diabetes, and disease of the kidney could be excluded. The underlying condition was apparently some form of endarteritis, usually endarteritis syphilitica.

Dr. A. JACOBI of New York agreed with the last speaker regarding syphilitic endarteritis as an etiological factor, and was inclined to think these cases were quite frequent. Sometimes the condition under discussion was ushered in by an attack of melancholia. Only that very day he had seen a case of this kind which illustrated another phase of the etiology, *i. e.* masturbation.

Dr. B. O. KINNEAR of Clifton Springs, N. Y., said that sleepiness was nearly always accompanied by a poor circulation in the lower part of the body and by hyperæmia of the head. If a person awakened feeling tired, it was an indication to him of the existence of cerebral hyperæmia.

The Etiology and Identification of the Cardiac Neuroses, with Special Remarks on the Nomenclature.—Dr. JAMES R. CROOK of New York read a paper with this title. It had become known to physiologists, he said, that the power of cardiac pulsations was not engendered in, or derived from, the nervous system, but rested in the musculature of the organ itself. But the supreme influence of the nervous elements in regulating and controlling the mechanism of these movements was also fully established. The vasomotor influences of the nerves of the heart had also been fairly well made out. But while the branches of biology and physiology had accomplished much in establishing the parts played by the different structures entering into the delicate machinery of the circulating centers, the knowledge thus gained had not aided as greatly in a definite appreciation of the pathogeny of the various disordered states of the heart designated as neuroses, nor had it quickened, to any considerable extent, our percepiton of the clinical phenomena. The nomenclature of the cardiac neuroses was at the present time in a very unsatisfactory state. There had been of late years a tendency to a multiplexion of the terms used in characterizing the nervous disturbances of the heart. Unfortunately, different writers were not fully agreed as to the use of these terms. A case, for example, that would be described by one writer as one of tachycardia, would by another be designated as neurasthenia cordis or, possibly, as irritable heart. Some of the terms recently employed represented no real symptom-group and expressed little more than symptomatic features. The reader of the paper suggested the following designations: (1) Palpitation; (2) tachycardia; (3) bradycardia; (4) the dyspeptic heart; (5) neurasthenia cordis or weak heart; (6) irritable heart; (7) arhythmia, including tremor cordis and delirium cordis; (8) the heart in Basedow's or Graves' disease; (9) angina pectoris and pseudo-angina. Of these terms, palpitation, tachycardia, neurasthenia cordis, arhythmia, and angina pectoris were essential and gave expression to diseased states, of which all writers took cognizance. The remaining titles did not express clearly defined symptom-groups, but were retained provisionally as marking regions concerning which further knowledge was required. The reader of the paper then took up in detail the various nervous disturbances, dealing especially with their causation and the marks by which they can be identified.

Dr. A. ROSE of New York said that the term tachycardia, when used by itself, meant nothing. To make the diagnosis of paroxysmal tachycardia, however, required prolonged observation. This condition of the circulation was a common accompaniment of gastroptosis, and was relieved by strapping the abdomen with adhesive strips and giving its contents the needed support.

The Official Relation of the Medical Profession to Private Charitable Institutions.—Dr. ENOCH V. STODDARD of Rochester, Commissioner of the State Board of Charities, presented this communication. He emphasized the seemingly trite fact that charitable institutions were established primarily for the inmates, and not the inmates made for these institutions. The special objects of the

paper were. (1) To call attention to the vast field of observation now but slightly cultivated; (2) to the fact that it was almost exclusively through the medical profession that this could be made available.

Cerebral Apoplexy.—Dr. EDWARD D. FISHER of New York presented this paper. He said that the term cerebral apoplexy was used by him here in the sense of any insult to the brain due to arterial causes, whether thrombosis or embolus. A most common etiological factor was atheroma of the cerebral vessels, and general atheroma with sclerosis of organs, and the common accompaniment, hypertrophy of the heart. Interstitial nephritis was usually present, and in any patient, especially one over fifty years of age, presenting cerebral symptoms of any kind, the condition of the kidneys should be carefully investigated. A persistently low specific gravity of the urine was exceedingly suspicious of slow and insidious arterial degeneration. According to his experience, the excessive periodical drinker of alcoholics was in less danger of apoplexy than the steady tippler, who is not even conscious of drinking to excess. Renal disease, the effects of alcohol, and those of syphilis constitute the three great causes of cerebral apoplexy. A most important sign of disease of the pyramidal tracts is the Babinsky reflex, *i.e.* the *extension* of the great toe on tickling the sole of the foot.

Dr. WILLIAM BROWNING of Brooklyn said that autopsies on cases in which there had been so-called false seizures showed evidence of a number of small hemorrhages in the brain. He was of the opinion that the pain complained of in the paralyzed limb was not purely psychical, as the author seemed to think, but was often dependent upon a neuritis.

Dr. A. JACOBI of New York said that when he saw cases of complete paralysis recovering in a few hours or days, he concluded that, as a result of proliferation of the intima of certain arteries, the circulation of the part had been temporarily obstructed, and this had been quickly relieved by the establishment of a collateral circulation.

Dr. WILLIAM P. SPRATLING of Sonyea said that he had seen in Virchow's laboratory a specimen showing that death had resulted from very minute hemorrhages in the brain.

Dr. HENRY ELSNER of Syracuse said that some cases of transitory paralysis were the result of a diseased endocardium and the breaking away of an embolus. Again, localized œdema in the motor area, persisting for a short time after uræmic convulsions, might give rise to transitory paralysis, sometimes hemiplegic and sometimes monoplegic.

Dr. FISHER, in closing the discussion, said that his statement about the pain in the paralyzed limb had referred to the pain complained of immediately after the attack, and before there had been time for the development of a neuritis.

The Causes and Treatment of Epilepsy.—Dr. WILLIAM P. SPRATLING of Sonyea read this paper. He said that nearly 85 per cent. of all epileptics develop the disease before adult life, and that one in five hundred of the population is thus afflicted. Epilepsy in the parent reproduced itself in the offspring in 16 per cent. of over one thousand cases studied. Alcohol had been a family cause in 14 per cent. A powerful factor in the causation of epilepsy was infantile cerebral hemorrhage. He had known three cases of epilepsy to follow psychic shock. The epilepsies of adult life, unlike those of childhood, had no fixed etiological basis. When they were not due to delayed family causes, one would commonly find gastro-intestinal intoxication or disease of the circulatory system. Concerning the treatment employed at the Craig Colony, the speaker said that an effective plan of administering the bromides was by salting the patient's food with it in lieu of common salt. In this way, not only is bromism largely avoided, but only about one-half the usual dosage is required. A study had been made of twenty-nine cases of epilepsy that had been subjected to the operation of trephining, and the conclusion was reached that no permanent benefit had resulted.

Dr. A. JACOBI declared that a most important cause of epilepsy was asphyxia neonatorum, because even when only of a few minutes' duration, it might lead to thrombosis. If he were confronted with a post-partum hemorrhage and asphyxia of the newly born infant at the same time, he would unhesitatingly choose to direct his energy first to the child, on the ground that it was in the greater danger. Every minute of delay was fraught with great danger to the infant. Premature ossification of the cranial sutures was another important cause of epilepsy.

Dr. CARLOS F. MACDONALD of New York said that he was more and more inclined to look upon heredity as a powerful etiological factor, and to attribute less significance to the so-called exciting causes of the disease. In those cases exhibiting marked heredity he felt that even at the present day a cure was impossible. He believed it was absolutely useless to expect to cure epilepsy by an operation except in those cases which are traumatic, pure and simple.

Hallucinations; Their Pathogenesis, Clinical Import, and Medico-Legal Value.—Dr. J. LEONARD CORNING of New York read a paper with this title. After defining hallucinations, the author divided them into primary and secondary. The former, he said, were excited by irritation, while the latter were evoked by dissociative ideation processes. Among the insane the most common hallucinations were those affecting the hearing. Hallucinations of sight were exceedingly characteristic of poisoning by mineral and vegetable poisons. He protested against the habit of considering hallucinations as consistent with mental health.

Dr. C. F. MACDONALD said that the hallucinations of the insane were undoubtedly of central origin, and arose in the organs in the cortex regulating sense perceptions. One evidence of this origin was the fact that insane persons who are deaf often have very active auditory hallucinations.

Dr. EDWARD D. FISHER took exception to the statement that the hallucinations of the insane are altogether central. The only difference between the hallucinations of the sane and of the insane was that the sane man finally recognizes that the thing is a hallucination, while the insane accept the hallucination as true.

Dr. B. O. KINNEAR of Clifton Springs, N. Y., thought these hallucinations were probably the result of an excessive quantity of blood in the nerve centers.

Spinal Anæsthesia.—Dr. WILLY MEYER of New York presented this paper. He said that the probable reason for the widespread objections among surgeons to the use of spinal anæsthesia was that the surgeon was not as yet master of the situation, when this form of anæsthesia was used, so much depending upon individual peculiarities. Quite recently he had used spinal anæsthesia in all classes of cases and had experimented with tropo-cocaine. The advantages of the latter agent were: (1) It is less than half as toxic as cocaine, (2) that recovery from its effects is much more rapid, (3) the solution is much more stable. He was of the opinion that, at present, spinal anæsthesia should only be used under strict indications.

Dr. HERMAN MYNTER of Buffalo said that he had had a little experience with spinal anæsthesia, but was compelled to say that it possesses certain disadvantages. One of these was graphically described by the speaker in reporting a hernia operation. The patient had been suddenly seized with persistent and explosive vomiting, and this had caused a complete evisceration of the patient. A touch of humor was given to this serious situation by the ludicrous picture of the patient raising his head and viewing his sad plight.

Therapeutics and the Drug Manufacturer.—Dr. BRACE W. LOOMIS of Syracuse read this paper. In it he made an

earnest plea for more rational therapeutics and less dependence on ready-made formulas.

Prolonged Medication.—Dr. A. Jacobi of New York was the author of this paper. He dwelt particularly on digitalis, and said that he had been accustomed to use it in small doses for long periods at a time, and had noted nothing but good from such practice. His main reliance was on a good fluid or solid extract. Of the latter he would give ½ to ¾ gr. as a daily dose to an adult, and this he would not hesitate to continue for months. Years of cardiac ailment should be met by years of medication. Chronic myocarditis was no contraindication. He never treats chlorosis without adding digitalis to the iron.

Some Notes on the Early Diagnosis and Treatment of Pulmonary Tuberculosis.—Dr. J. Elwood Stubbert of Liberty presented this paper. Commenting upon the necessity for an early diagnosis, he said that out of 100 incipient cases, taken at random from the case-books of the Loomis Sanitarium, 51 per cent. had been cured and 12 per cent. arrested, or a total of 63 per cent. of practical cures; whereas out of 100 moderately advanced cases, taken in the same way, only 2 per cent. had been cured and in 7 per cent. the disease had been arrested—in other words, treatment of the incipient cases yields 63 per cent. of successes as contrasted with 12 per cent. among moderately advanced cases. Gradual loss in weight and increased activity of the heart's action should always lead to an examination of the chest. In his experience, inspection of the chest posteriorly had often given more information than an examination of the anterior regions. Very little reliance could be placed on deficient expansion of the chest, as determined by inspection and palpation. Among the early physical signs were a high-pitched percussion note in the infraclavicular region, slightly increased vocal resonance, and prolonged high-pitched expiration and bronchovesicular rather than bronchial breathing. Cogwheel respiration was not, as a rule, observed in the early stage. A faint râle or a single sticky sound might sometimes be made out after coughing. It should not be forgotten that the absence of bacilli in the sputa was not sufficient to exclude diagnosis of pulmonary tuberculosis. Tuberculin had not fulfilled our expectations, because a tuberculin reaction had been obtained in a certain proportion of cases of syphilis in all stages, and there had been no reaction in a number of cases of tuberculosis. Researches carried on at the laboratory of the Loomis Sanitarium seemed to show that pure tuberculosis has but little effect on the blood, and that the primary cause of the anæmia is the presence of the diplococcus lanceolatus along with the tubercle bacilli. The slight rise of temperature occurring in pure tuberculosis has no effect on the hæmoglobin. The temperature in the cases of mixed infection deprives the red corpuscles of their vitality and diminishes their number. The blood effused in pulmonary hemorrhage does not show any nucleated red cells. These facts show that examination of the blood of tuberculous individuals is not of much value. The fluoroscope and the Röntgen rays enable one to ascertain with a considerable degree of accuracy the position and relation of the areas of consolidation. In about 50 per cent. of the cases the right apex is not quite so clear as the left. A slight shadow is cast by the deltoid muscle. Where there is only a very slight infiltration, the Röntgen rays reveal a haziness around the clavicle or at its edges. Concerning the question of treatment, Dr. Stubbert declared that he did not believe even incipient cases could be effectively managed by climatic treatment alone, and he considered a patient suffering from pulmonary tuberculosis better off at home under medical care than at any health resort without medical supervision and treatment. He made it a rule to examine the pharynx and larynx in every case at the first visit, and at once to institute appropriate treatment. The anæmia of early cases was effectively combated by high altitude and an outdoor life, supplemented by the administration of iron and arsenic, and the use of static electricity and hydrotherapy. Antitubercle serum was apparently useful in some cases through its action in improving the phagocytic power of the blood. Dr. Stubbert's paper was supplemented by a lantern exhibition of Röntgen-ray photographs from patients in various stages of pulmonary tuberculosis.

The Association of Pulmonary Tuberculosis with Both Primary and Secondary Endocarditis, and the Effect of Valvular Disease upon Lung Tuberculosis.—Dr. J. M. Anders of Philadelphia, Pa., presented this communication. He said that cases of endocarditis due to the tubercle bacillus were decidedly rare. When it did occur, it was probable that the infection took place through the blood supply of the heart itself, and not from the blood circulating in the organ. Tuberculosis of the pericardium is more frequent. In most cases of valvular disease of the heart, presenting pulmonary tuberculosis as a complication, the latter usually passed unrecognized during life. The paper embraced a broad statistical study of the subject. The author stated that medical authorities agreed that chronic valvulitis exerted a distinct retarding effect on pulmonary tuberculosis. The mistake was often made of sending such cases to resorts having a greater altitude than 2,000 feet. Statistics seem to prove that stenosis of the pulmonary artery predisposes to pulmonary tuberculosis.

Dr. Henry L. Elsner of Syracuse says that he had found out of 214 cases of pulmonary tuberculosis only 10 presenting heart murmurs. The majority of these cardiac cases had presented the murmur of mitral insufficiency. A case was mentioned in which there had been associated tuberculous myocarditis and nodules with tuberculous endocarditis. He had also seen a case in which there had been a tuberculous deposit in the shape of a polyp over the pulmonary artery. There had been no evidence of endocarditis during life.

Muscular Atony an Important Factor in Uterine Displacements.—Dr. H. C. Coe of New York read a very suggestive paper with this title, in which he contended that uterine displacements are largely dependent on a lack of tone of the muscles of the abdomen, pelvic floor, and vagina. The fact that some women who had borne children do not experience any difficulty until after the menopause, when the uterus had become atrophied, tended to confirm this view. Evidently, one should not rest content with mere plastic operations.

Dr. Egbert H. Grandin of New York said that the symptomatology of uterine displacements was dependent upon the degree of descent of the uterus, and the consequent impairment of the pelvic circulation; therefore a cure could not be effected unless, in addition to repairing lesions of the cervix and pelvic floor and the use of measures directed toward improving the general muscular tone, one of the suspensory operations were done—either Alexander's operation or the operation of suspensio uterus.

Abdominal Actinomycosis, with Illustrations and Report of a Case.—Drs. Albert Van der Veer and Arthur W. Elting of Albany presented this paper. They stated that the disease actinomycosis could no longer be considered a rare affection. The great source of actinomycotic infection in man was vegetables, especially cereals. The chief avenues of infection were: (1) The mouth and pharynx; (2) the respiratory tract; (3) the gastro-intestinal tract. The blood vessels in the immediate vicinity of a focus were rarely obliterated. There were two great types of infection: (1) The neoplastic, usually found in horses and cattle; (2) the inflammatory type, usually found in man. Abscess cavities were usually the result of secondary infection. The disease process tends to extend by continuity rather than by metastasis. In the

majority of cases the metastasis takes place through the veins. Abdominal actinomycosis was divided into three periods: (1) The initial period; (2) the period of tumor formation; (3) the period of fistulæ. Pain was rarely severe. The duration varies from a few weeks to several years. The prognosis was not necessarily hopeless.

Mechanical and Operative Treatment of Hip Disease and Disease of the Spinal Vertebræ.—Dr. A. M. Phelps of New York, instead of reading a paper, demonstrated a few of the more important points connected with the treatment of these cases.

Dr. W. R. Townsend of New York, in discussing the subject, said that while theoretically lateral traction was proper, many surgeons had not yet been convinced that Dr. Phelps had ever succeeded in making lateral traction. He would agree with the statement that there was no need for cases of hip-joint disease to end in angular deformity and ankylosis.

The Advantages of Stereoscopic Radiography.—Dr. Louis A. Weigel of Rochester read this paper. The apparatus for the production of stereoscopic radiography was demonstrated, and numerous plates were exhibited.

Dr. Carl Beck of New York exhibited several patients and *x*-ray pictures of the same.

Symposium: Some Diseases of the Liver and Bile Passages; the Diagnosis of Gall-Stones and Their Aberrances.—Dr. Charles G. Stockton of Buffalo opened the symposium with this paper. He said that recent research had demonstrated that preceding every cholelithiasis there was an infection of the gall-bladder. This is later encapsulated and salts deposited, thus giving rise to gall-stones. In a large series of autopsies in females over seventy years of age, 25 per cent. showed gall-stones. Seven varieties of cholelithiasis were described. These were dependent upon adhesions of the gall-bladder, adhesions of the stone, and patulousness of the duct. A stone in the ductus choledochus was not always followed by jaundice. There might be fever lasting for a week or more, and yet pus might not be present. Albumin and casts were generally present in the urine in acute cholecystitis; they were never absent when jaundice was persistent. In simple empyema of the gall-bladder, there was very often absence of fever. One or more of the following symptoms were always present in cholelithiasis: Paroxysmal pain and tenderness at the junction of the ninth costal cartilage, vomiting, rigors, fever, tumor, jaundice, and calculi in the stools.

Courvoisier's Law.—Dr. Richard C. Cabot of Boston, Mass., took up this subject. He said that this law had been formulated by Courvoisier in 1890, but it was not generally known to the profession. He analyzed a large series of cases, and concluded that, when the common bile duct is obstructed by stone, the gall-bladder does not enlarge, whereas, when obstructed from other causes, enlargement is generally present. The author had examined the histories of eighty-six cases of gall-stone obstruction occurring in the Massachusetts General Hospital. Of this number, fifty-seven had been due to obstruction by gall-stones; in only two cases was the gall-bladder enlarged. In twenty-nine cases was the obstruction due to other causes than stone, and in only two of these was there no enlargement. The explanation offered of this seemingly anomalous fact was that, when there is a stone in the common duct, there were generally also one or more stones in the bladder itself, and the irritation caused by these stones results in inflammation of the bladder, and consequently in contraction of the bladder. This law, this speaker said, was of great value in separating operative from non-operative cases of chronic jaundice with or without enlargement of the gall-bladder.

The Infections of the Gall Bladder and Bile Ducts.—Dr. B. Farquhar Curtis of New York discussed this subject. He said that normal bile, contrary to former opinion, is now believed to have no germicidal influence. The normal bladder contained, in a large percentage of cases examined, many forms of microorganisms, including the streptococcus and staphylococcus. These bacteria are carried there from the intestine and also by the blood. Cholecystitis might be due to obstruction from flexure of the duct, stricture of the duct, stone, and traumatism. Gangrene of the gall-bladder was rare; when it did occur, it it was usually present at the fundus. The prognosis of cholecystitis was much graver than had hitherto been supposed. In the diagnosis of cholecystitis few mistakes would be made if one ascertained the relation of the seat of pain to the liver and not to any fixed point in the abdomen. Leucocytosis was an unreliable sign of pus in cases of empyema of the gall-bladder. Many cases of diaphragmatic pleurisy refer the pain to the region of the gall-bladder. This could be differentiated by the different character of the respiration in the two classes of cases.

Intestinal Obstruction Due to Gall-Stones.—Dr. L. S. Pilcher of Brooklyn took up this topic. He stated that this was a comparatively rare form of intestinal obstruction. In 1,000 cases of intestinal obstruction, forty were due to gall-stone. It generally occurred in women over fifty. It was not so much the bulk of the stone that gave rise to the obstruction as the secondary conditions which develop along the course of the bowel, such as angulation and local peritonitis. Gall-stones do not generally cause any trouble until the lower part of the small intestine is reached. Generally, fecal vomiting comes on very early. Shock and pain are comparatively slight. In 50 per cent., the gall-stone passes without operation. Cancer of the small intestine and internal hernia may cause the same symptoms, and for that reason exploratory section was advisable early in all cases presenting these symptoms.

Technique of Gall-Bladder and Duct Operations.—Dr. S. J. Mixter of Boston, Mass., presented this paper. He said that in surgery of the gall-bladder rubber gloves should not be worn. In palpating the gall-bladder it was advisable to pass the left forefinger through the foramen of Winslow, with the operator's back turned towards the patient's face. All cases of gall-bladder surgery should be drained. If there was no need for drainage the wound would close in a few days; if the wound does not close, then to have closed that wound would have meant the death of the patient. A glass tube with a flaring end should be fastened into the gall-bladder by means of a strong suture. A rubber tube is attached to this, and the bile drained into a vessel under the bed. In a few days the suture would cut through and come away. Cases in which the common duct had been opened did equally well whether sutured or not. Oozing surfaces were often very difficult to treat. Gelatin and adrenalin were suggested as useful in this connection.

Cholecystectomy.—Dr. C. L. Gibson of New York read this paper. He said that cholecystectomy was the only absolutely curative operation in disease of the gall-bladder, for the reason that it completely removed the cause of the disease. It was also advisable as a prophylactic measure against malignant disease, inasmuch as 14 per cent. of cases of cholelithiasis were followed by malignant disease. The mortality from this operation was about 3 per cent It was advisable in all cases of gall-bladder disease when it could be done easily. In cases of cholecystotomy where drainage was employed the gall-bladder was always obliterated.

Syphilis of the Liver.—Dr. Simon Flexner of Philadelphia, Pa., was the author of this paper He said that gummata were generally present on the surface of the liver under the peritoneum. There were three forms of syphilitic disease of the liver, viz.: Simple, interstitial, and gummatous hepatitis. To these might be added amyloid degeneration. There had been no important improvement on Virchow's original classification. In

5,088 autopsies done at the Philadelphia Hospital there were 88 cases of syphilis of the liver. Of this number, 46 had interstitial hepatitis, 33 perihepatitis with gumma, and 7 had amyloid degeneration. In simple gummatous hepatitis ascites not appear. Contrary to the general opinion formerly held, amyloid change might be resorbed under treatment.

Tumors of the Liver.—Dr. G. R. Fowler of Brooklyn discussed this topic. He said that carcinoma was the most common form of tumor in the liver. In most cases it was secondary to growth in the stomach. The echinococcus was the next most frequent. Jaundice was not a necessary accompaniment of echinococcus cysts. The fluid from these cysts, in addition to hooklets, contains succinic acid. The cyst should be excised, and at the same time a small piece of the liver, to which the cyst is adherent, should be cut off and the base cauterized with the actual cautery. Five such cases had been treated in this way by the author with successful result. Simple cysts contain no hooklets, but do have albumin, and this serves to differentiate them from echinococcus cysts. Multilocular disease was generally associated with the same disease of the kidney. It was very rare, and was of no importance. Other tumors were comparatively rare. In floating liver, the organ should be sutured to the diaphragm and also to the right rectus muscle.

Dr. J. D. Bryant of New York in describing the functions of the gall-bladder, called attention to the fact that those animals which feed on starchy food have very little need of the gall-bladder, whereas those whose diet consisted of proteids entirely could scarcely live without it. If difficulty were experienced in reaching the liver because of a very deep chest or high position of the organ, it could be easily brought forward by passing the hand backward between the liver and the diaphragm and pressing forward.

Dr. R. H. M. Dawbarn of New York called attention to Mayo's plan of needling the gall-stone when it is in the duct and cannot be easily reached from the intestine. Another point suggested by Mayo was that, when the duct was opened and drainage employed, the gauze should be sutured with the same sutures used to close the duct. This keeps the gauze in place.

Second Day—Wednesday, October 16.

Medical Aspects of Appendicitis.—Dr. W. E. Lord of Utica presented this paper. He said that statistics seem to show that athletic young people were more apt to have appendicitis than others. It was not probable that this was because of the action of the psoas muscle, but rather because this class of persons was apt to eat coarse, hearty food and to devour their meals hurriedly. He doubted if traumatism had much to do with the causation of appendicitis. Habitual constipation, over-distention of the bowel with unwholesome or partly digested food, and violent exercise immediately after meals were important factors in the etiology. During the first twenty-four hours an ice coil may be kept on the abdomen. The chief points in the diagnosis were the presence of rigidity of the right rectus muscle and a feeling of bogginess in the region of the appendix. If the pulse and temperature returned to the normal and the bowels moved freely in twenty-four hours, it was safe to wait before considering the question of operation. Pain in the appendix is usually paroxysmal. If, after thirty-six hours of such pain, not relieved by the ice coil and cathartics, the pain suddenly ceased there was strong probability that perforation had occurred, and immediate operation was, therefore, indicated. No one symptom was sufficient for the diagnosis. Careful palpation of the abdomen and a proper appreciation of the physical signs were the only just grounds for operation. There should be no difference of opinion between the medical and surgical households if the diagnosis of the fulminating type could be made out, and this, he thought, could be done, and by the medical man. Operation should certainly be done in those cases in which the physical signs of appendicitis persist, if only because of the danger of prolonged sepsis. Persistent vomiting and pain in the abdomen did not seem in themselves sufficient to justify a diagnosis of appendicitis.

Dr. Herman Mynter of Buffalo, in discussing the paper, said that the appendix possesses a low vitality and has only one artery, the circulation in which is readily cut off. It was an organ which very easily becomes inflamed, and statistics showed that this inflammation was very prone to recur again and again. He was of the opinion that every moderate attack of appendicitis is associated with such serious changes that relapse is almost certain. Our knowledge of the pathology of appendicitis had taught us that every case of this disorder begins as a catarrhal inflammation, and that this is soon followed by stricture, thus affording an opportunity for bacterial invasion with all its disastrous results. The speaker then attacked the statistics often brought forward in favor of the medical treatment of this disorder, and declared that the 80 per cent. supposed to recover under medical treatment were the cases that would have recovered without any treatment. Relapses occur in 50 per cent. of the cases, and the mortality is really 65 to 75 per cent.

Dr. Robert T. Morris of New York said that the term "catarrhal appendicitis" had exerted almost as fatal an influence as the expression "gonorrhœal rheumatism." While he believed that every case begins as a catarrhal appendicitis, it was doubtful if there were any symptoms present during the catarrhal stage.

Dr. James Neil of New York reported a case in support of his belief that even severe cases of appendicitis, not merely catarrhal ones, were sometimes amenable to medical treatment.

Dr. Barstow said that his studies in pathology had convinced him that appendicitis is essentially an inflammation associated with a bacterial infection, and hence he could not resist the conclusion that such cases should be treated surgically.

Dr. Whitefield said that the bacteriology of appendicitis was not uniform, and he was inclined to believe that in chemical pathology would be found the true etiology of this disease. In a study of this subject he had found an excess of organic acids in the cæcum and about the orifice of the appendix. This suggested that in the early stage of appendicitis at least, treatment directed toward reducing the acidity of the intestinal canal was appropriate.

Dr. Lord in closing the discussion said that the only object of his paper was to call attention to certain medical facts which should be carefully formulated and well understood. The medical man should have well-defined ideas as to what he should do before it is advisable to call a surgeon to his aid.

The Etiologic Potency of Heredity in Mental Diseases.—Dr. Carlos F. MacDonald of New York presented this paper. He said that heredity manifested itself in this field chiefly in three ways, viz.: (1) Congenital absence of the mind; (2) arrest of development in early life before the mind had fully developed, and (3) development of a psycho-neurotic temperament or insane diathesis, as shown by an unstable nervous organization, which makes its possessor become easily the victim of circumstances. Insanity rarely occurs in individuals who are not predisposed thereto, but all so predisposed persons did not, by any means, develop insanity. The explanation of this was to be found in the neutralizing effect of one parent, in an insufficient exposure to exciting causes, or through the intervention of the law of variation, which renders the action of inheritance uncertain.

Dr. William Mabon of Ogdensburg said that, while undoubtedly a small proportion of cases of insanity originate in heredity *per se*, it was equally true that

the indirect influence of heredity is felt in a very large proportion, probably in from 85 to 95 per cent. Many cases of hereditary insanity break down in the physiological crises of life, *i. e.* at the age of puberty and at the climacteric. A curious effect of heredity was the transmission of the same form of mental disease through several generations. Out of four hundred and thirty-two admission to the St. Lawrence State Hospital for the Insane during one year, one hundred and fifty-five, or 36 per cent., presented a distinct history of heredity. Of these one hundred and fifty-five, the transmission had been from the paternal side in fifty-seven, from the mother in sixty-four, and from both father and mother in fifteen, while twenty-five had a collateral inheritance. Nothing could be ascertained regarding heredity in 31 per cent.

Dr. EDWARD D. FISHER of New York did not think heredity bore any closer relation to mental than to many other diseases. According to his experience, general paralysis of the insane is not hereditary, and the explanation was to be found in the fact that this is essentially an acquired disease, being due not to inherited, but to acquired, syphilis.

Dr. MACDONALD in closing said that he had not intended to imply that paresis or any other form of insanity is inherited, but rather that persons, who are not predisposed to mental or nervous disease by reason of inheritance, seldom break down from the so-called exciting causes of paresis.

The Pathology and Treatment of Migraine.—Dr. WILLIAM H. THOMSON of New York presented this paper. He pointed out that migraine could not be ranked among the class of nervous diseases called degenerative. It was a significant fact that outdoor workers are almost without exception exempt from this malady, while persons living indoors and leading sedentary lives, as for example, professional men and brain-workers generally, were notorious sufferers from migraine. The habits of life of this class of persons are such as affect the portal circulation, and this formed the fundamental fact in connection with what he termed "the antitoxic treatment" of migraine. To secure an antiseptic effect on the bowel, he made use of mercurial cathartics and saline laxatives. All persons, without exception, who suffer from severe migraine are chronic dyspeptics, and are habitually constipated. The author recommended that from 1 to 2 dr. of sodium sulphate and 10 gr. of salicylate of sodium be dissolved in a tumbler of hot water and slowly sipped in the morning on arising. Some prefer the phosphate of sodium, but he did not consider it so efficient. Half an hour before meals he gives $\frac{1}{20}$ gr. of bicarbonate of potassium with 3 gr. of bismuth subcarbonate, and half an hour after meals full doses of intestinal antiseptics—10 gr. of naphthol or phenol bismuth and 10 gr. of sodium benzoate, in 2 capsules. For the treatment of a severe attack of migraine he knew of nothing better than drachm doses of the fluid extract of ergot, given in the elixir of cinchona either by stomach or rectum. The patient must be kept absolutely quiet. To combat the agonizing pain, one may prescribe 15 gr. of antipyrin always with a drachm of the aromatic spirits of ammonia. A proper dietary was most important, and the most generally serviceable rule in this connection was that whenever any article of the diet, whether fluid or solid, "repeats," that article must be excluded from the dietary. As migraine sufferers were always made worse by worry or mental strain, they should lead a very quiet life.

Dr. A. JACOBI of New York said that it was most important in these cases to combat the associated cerebral anæmia. For many years he had relied upon aconitia and cannabis indica in the treatment of the attack, but it should be remembered that only disappointment was to be expected unless the physician took the precaution to prescribe *Duquesnel's* aconitia or the *English* cannabis indica. The latter preparation should not be given in doses larger than $\frac{1}{2}$ to $\frac{3}{4}$ gr. a day. In many cases he added small doses of strychnia or arsenic.

A Case of Non-Traumatic Perinephritic Hemorrhage.—Dr. ARTHUR BOOTH of Elmira reported this case. The subject of it was a man, thirty-eight years of age, having an excellent family history. He had indulged rather freely in alcohol for many years. The occurrence of the hemorrhage was announced by sudden pain in the region of the kidney associated with severe collapse. Physical examination showed a mass of undetermined nature in the flank. The diagnosis was not made during life. There seemed to be no good reason for the occurrence of this hemorrhage unless it might be alcoholism and the consequent atheroma. The case was reported because of the extreme rarity of spontaneous hemorrhages of this kind.

The Technics of Nephropexy, as an Operation per se, and as Modified by Combination with Lumbar Appendicectomy and Lumbar Exploration of the Bile Passages.—Dr. GEORGE M. EDEBOHLS of New York presented this paper. He said that the frequent coexistence of movable right kidney and chronic appendicitis often call for nephropexy and appendicectomy upon the same patient. These operations, when necessary, should both be performed at one sitting through one and the same lumbar incision, as was first proposed, and has now been done fifty-three times by the author. The frequent association of disease of the gall bladder and bile ducts with movable right kidney rendered it very desirable to know the exact condition of the biliary apparatus of every patient operated upon for fixation of the right kidney, provided that such knowledge could be gained without added risk to the patient.

When in the performance of right nephropexy, therefore, the peritoneum was opened for the removal of the diseased vermiform appendix, it was the frequent practice of the writer to take advantage of the existing peritoneal opening for thorough exploration of the gall bladder and bile ducts by palpation, and, if necessary, by direct inspection.

This exploration of the biliary passages could be accomplished through a properly placed right nephropexy incision as readily as through an anterior abdominal incision of equal extent. Nephropexy, therefore, as now practised by the writer, included, in the majority of his operations, simultaneous lumbar appendicectomy, and in a number of them lumbar exploration of the biliary passages. The history and literature of nephropexy were given in full detail, and the various methods of anchoring the kidney critically reviewed. The writer said that up to about a year ago he had advocated and practised fixation of the denuded kidney to the rawed quadratus lumborum by sutures piercing both the capsule proper and the parenchyma of the kidney. While retaining the other features of his former method, he had abandoned the use of sutures through the kidney substance, being influenced in this action partly by the researches of M. Wolff, which prove conclusively that destruction or loss of renal tissue is compensated for by hypertrophy of the remaining elements, but never made good by new formation of tubules and glomeruli. Questions of practical technics, however, relating to fracture of the kidney by sutures, leading, in three cases collected from the literature and in one of the writer's own cases, to urinary fistula, had clinched the decision.

His present technics include entire removal of the fatty capsule, incision of the capsule proper over the convexity of the kidney from pole to pole; reflection of the capsule proper on either side to about the middle of the anterior and posterior faces of the kidney; laying bare the kidney substance over about half the surface of the organ; resection of the reflected capsule proper if too excessive; snug apposition of the denuded kidney to the rawed

quadratus lumborum; and retention of the organ in this position by four buried sutures of forty-day catgut, passed through both the reflected and the still attached capsule proper without penetration of the kidney substance. The skin is closed for primary union without drainage. The collected statistics of fifteen operators, each of whom had performed nephropexy fifteen times or more, gave 823 operations with 14 deaths, or a mortality of 1.7 per cent. His own operations numbered 193, of which 125 were unilateral, and 68 bilateral nephropexies, making a total of 261 kidneys fastened. Of the 193 patients three had died as the result of the operation, making the writer's mortality 1.55 per cent. The great proportion of bilateral nephropexies, and the large number of additional operations (appendicectomy in 53 cases, and nephrectomy in 2, amongst others), performed by the writer at the same sitting with nephropexy, should be taken into account in judging this mortality. The results, as far as regards permanent anchorage of the kidney, had been most gratifying. The large majority of his patients had been repeatedly examined by him, very many of them years after operation, and in no instance had the anchored kidney been found again detached. Two detachments only had been reported to him by other physicians, but the opportunity to verify or disprove their diagnosis by personal examination had not been afforded the writer. The therapeutic results of nephropexy were satisfactory in proportion to the knowledge and judgment displayed in establishing the indications for operation. They depended, also, in quite a number of cases upon the successful removal of other conditions producing symptoms in the same patient. Properly applied in properly selected cases, nephropexy was one of our most potent means for the relief of human suffering.

Morcellement and Bisection of the Uterus in Complicated Abdominal Hysterectomy.—Dr. W. G. Macdonald of Albany described, with the aid of a series of drawings, the technique employed by him in this operation.

Dr. Howard A Kelly of Baltimore, said he was glad that a paper he had written recently on this subject had inspired Dr. Macdonald to do such good work. The technique described had been devised in order to lessen the difficulty often experienced in getting at the adnexa.

Method of Incising, Searching and Suturing the Kidney for Stone.—Dr. Howard A. Kelly of Baltimore briefly described this method. The main points involved had been worked out by his artist, Mr. Broedel. Among other things, this gentleman had rediscovered an old and long-forgotten anatomical fact, *i. e.* that the vascular supply of the kidney is absolutely divided into two portions between which there is no communication. The major part runs over the anterior face, while the posterior third is supplied by a single branch. It was evident that if one could cut between these two, there would be no hemorrhage. Mr. Broedel had discovered that a white line found on the surface of the kidney, near the dorsum, and extending its length, shows the most vascular part. An incision into the kidney should, therefore, be made posterior to this line and through the center of the lobules, taking care to make this cut parallel to the posterior surface of the kidney. In this way the knife strikes the posterior papillæ. The papillæ is located by first introducing a renal catheter, and, after exposing the kidney, distending the organ with fluid. A long, straight, blunt-pointed needle, triangular in shape, is used to transfix the kidney between the papillæ. The needle is brought out at the margin of the vascular columns, and is reentered, thus making a mattress suture. By using several of these catgut sutures, one could perfectly control the circulation of the kidney without causing any injury to the kidney.

A Smallpox Epidemic in an Orphanage.—Drs. F. C. Curtis and H. L. K. Shaw of Albany reported this epidemic. They stated that it would have been difficult to make the diagnosis from the lesions alone. The epidemic was unusually mild. All the children were vaccinated during their illness with vaccine yielding 99 per cent. of successful vaccinations. Only one of the forty-five children in the institution had been vaccinated previously, and that child was the only one that failed to contract the disease.

Immediate Repair of Injuries of Parturition.—Dr. A. L. Beahan of Canandaigua read this paper. He prefers silkworm-gut and shotted sutures. The immediate repair of lacerations of the cervix, he thought, should be popularized just as much as repair of the perineum. He was of the opinion that lacerations of both the cervix and the perineum could be as successfully repaired after the lapse of twenty-four hours as immediately after parturition. The silkworm suture never fails, but to insure a good result it was essential that a considerable portion of tissue be included in the grasp of the suture.

Dr. Charles D. Jewett of Brooklyn said that general opinion was against the immediate repair of cervical lacerations, and, to his mind, this was the correct view, because of the great danger of infection after this operation. He would suture the cervix at the close of labor only when it was necessary for the control of hemorrhage. Lacerations of the perineum might be sutured at any time; he had done it successfully even ten days of more after confinement. The surfaces should be vivified by rubbing with gauze, but there was a fair prospect of good union even if this precaution were not taken. There were some advantages connected with this late repair, as, for example, the absence of hemorrhage and the ease with which the relations of the parts can be made out. He had seen more than one death because of the attempt to repair the perineum when the woman was already greatly exhausted. The levator ani muscle consists of bundles of fibers, none of which cross the median line. The tear extends up into one or both vaginal sulci. The external tear has little or nothing to do with the strength of the pelvic floor. The speaker favored the use of chromic catgut, because it holds as long as required, and does not require removal.

Dr. M. C. Potter of Rochester said that she had found late suture of the cervix difficult, though successful. More recently she had been using, with much satisfaction, the plan of waiting twenty-four hours, and then doing the operation after giving a hot intrauterine douche. It was important that the laity should be educated up to the point of expecting and desiring these reparative operations after labor.

Dr. Beahan, in closing the discussion, said that there was no more danger of sepsis from the cervix than from the perineum; hence he could not see the force of Dr. Jewett's objection. The results were just as satisfactory from immediate repair of the cervix as of the perineum, and the danger of sepsis was, by such practice, diminished —not increased.

The Present Status of Ophthalmic Science and Art. — Dr. D. B. St. John Roosa of New York presented in this communication an interesting and instructive historical sketch of the progress of ophthalmology from the time of Helmholtz.

Are the Faucial Tonsils to be Regarded as One of the Normal Organs of the Body?—Dr. F. H. Bosworth of New York propounded this question as the theme of his communication, and answered the query in the negative though not insisting strenuously on the absolute correctness of this view. Twenty years ago he had declared his belief that the faucial tonsils are not found in a perfectly healthy throat, and he was disposed still to cling to this view. He was inclined to think that partial excisions of these tonsils leave the throat in a worse condition than before; they should be thoroughly extirpated, for they constitute a constant menace to health. He had long ago discarded the tonsillar guillotine, using

in its stead the cold wire snare fitted with No. 8 piano-wire. One advantage of this method was that it makes the operation practically bloodless. In operating upon the tonsils in children under ten years of age he was accustomed to give them sufficient chloroform to prevent pain but not produce deep narcosis. Although this had been his practice for ten years or more he had yet to see any unpleasant symptoms attributable to the chloroform.

Dr. ROBERT C. MYLES of New York said that he did not know of any instance in which he had succeeded in removing all of the basic portions of the tonsils. Much of the confusion surrounding this subject arose from the absence of any definite conception of what constitutes the normal tonsil. He would describe a normal tonsil as being 20 to 25 mm. in its vertical diameter, 8 to 12 mm. in its greatest antero-posterior diameter and almost 2 to 4 mm. in its greatest lateral diameter.

Observations on the Treatment of Croupous Pneumonia.—Dr. J. C. WILSON of Philadelphia, Pa., was the author of this paper. After a careful study of available statistics, the author concludes that 75 per cent. of patients of all ages in hospitals recover, while the mortality rate is lower in healthy young subjects such as are found in military hospitals. In exceptional series of cases the mortality was only 1 to 2 per cent. Concerning the so-called specific treatment, the speaker pointed out that it was not reasonable to expect curative effects from a number of drugs selected because of their supposed action upon the cause of the pneumonia. In such infection as malaria, syphilis and diphtheria, it should be remembered that only one plan of medication is successful. Again, it was highly probable that at the time of the initial chill the disease process was already far advanced. Dr. Wilson said that his own plan was to apply one or two ice bags to the affected side, sponge the body night and morning with tepid water and administer calomel two or three times in the first week. Expectorants were rarely used, though sometimes aromatic spirits of ammonia or the carbonate of ammonia was prescribed. Alcohol was generally given, though except in alcoholic subjects only from four to six ounces of whiskey are given in the twenty-four hours. Great stress was laid upon the use of Dover's powder, two or three grains at a dose, repeated at intervals of two or three hours during the greater part of the illness. The object was to give enough of this drug to produce slight continuous drowsiness. Where a heart stimulant was indicated, strychnia was used, with nitroglycerine at times to relieve the right side of the heart. Dyspnœa was considered an indication for the use of oxygen, care being taken to dilute it largely with air. The hypodermic use of atropin was valued highly in the treatment of pulmonary œdema. Delirium and a tendency to coma are treated by cold effusions to the head and neck at intervals of a few hours. Neither poultices nor cotton jackets are allowed. The patient wears loosely fitting merino underwear. Blisters are sometimes used in cases in which resolution is delayed.

Dr. S. B. WARD of Albany said that he had almost uniformly observed unfortunate results where ice had been used in pneumonia. Tepid baths were undoubtedly beneficial, and were also grateful to the patient. His results had been better since beginning the use of such antiseptics as creosotal, but they were never continued if they interfered with digestion. The patient should be allowed to drink freely, but food should be given sparingly.

Dr. JOHN HUNTER of Toronto was invited to speak. He called attention to the value of the open air treatment of pneumonia and other respiratory diseases, and referred to his experience with this method in hospital practice in Toronto. Here, these cases are treated in tents upon the hospital grounds. The speaker declared that if he were stricken down with pneumonia, he would rather be treated in a tent in one of the parks than in the finest house in the city.

Dr. WILSON, in closing, said that what had been said by the last speaker reminded him of the better results obtained in the treatment of pneumonia in military practice and in lumber camps.

The Early Diagnosis and Treatment of Acute Mastoiditis.—Dr. T. H. HALSTED of Syracuse read this paper. He pointed out the ravages made by streptococci or influenza bacilli. The latter infection was peculiarly severe and destructive when it attacks the mastoid. Ice should be used only in the early stage, and if used properly would often make operation unnecessary. He had found cold superior to hot applications. Where there was evidence of accumulation in the middle ear, the drum should be freely incised. The canal should be kept clean by syringing; the common practice of insufflating powders was as unsurgical as it was dangerous.

Dr. J. E. SHEPPARD of New York spoke of the manner of eliciting that very important symptom in mastoid tenderness. The pressure made over the mastoid should be firm; sometimes it was desirable, by way of comparison, to make pressure simultaneously over both mastoids. Bulging of the posterior wall of the canal was so significant that he would almost be willing to make the diagnosis of mastoiditis upon this alone. According to his experience, this sign had appeared quite late.

A Case of Cerebral Abscess Complicating Chronic Otitis Media.—Dr. ROBERT LEWIS, Jr., of New York reported this case, and presented the patient, who served as an excellent object lesson of the danger of neglecting to efficiently treat a chronic otitis media.

Some Conditions Antecedent to Cancer of the Breast.—Dr. B. FARQUHAR CURTIS of New York read a paper with this title. He described the conditions present in chronic mastitis, and stated that many of these cases terminate in carcinoma. Where the induration was moderate, and few cysts were present, there was less danger of carcinoma. In these cases it was not safe to draw too fine distinctions; a portion or all of the breast should be removed depending upon the extent of involvement.

Ligation of Abdominal Aorta for Aneurism.—Dr. ROBERT T. MORRIS of New York reported this case and presented the specimen. This is the fourteenth case of the kind on record, and all had terminated fatally. Ten of the cases had occurred before the days of aseptic surgery. His patient was a feeble syphilitic woman, twenty-four years of age, who had been suffering from the aneurism for four months. He had applied a temporary ligature to the abdominal aorta, two inches below the aneurism, the intention being to cure the aneurism and then restore the circulation by removing the ligature. The ligature employed consisted of a broad soft catheter held in place by steel forceps. The aneurism was cured and the ligature was removed on the twenty-seventh day. Just as there was an excellent prospect of achieving success, the patient was unexpectedly overwhelmed by sepsis. The autopsy showed that death had resulted from gangrene of a loop of bowel brought about by the pressure of the intestine against the steel forceps. The use of the forceps was evidently a fault in the technique.

Dr. A. T. BRISTOWE of Brooklyn called attention to the fact that the larger the vessel the greater the danger of hemorrhage, the hydrostatic pressure increasing rapidly with the area. He thought it possible that the aorta might be successfully sutured. In the pre-antiseptic days a few cases of abdominal aneurism had been cured by pressure on the abdominal aorta.

A Case of Intermittent Claudication Terminating in Gangrene.—Dr. I. H. LERVY of Syracuse reported this case. He said that this condition which had been first described by Charcot, is characterized by the occurrence of cramps in one or both extremities. They are in-

duced by walking and disappear with rest. They are usually localized in the calves. Obstruction to the circulation seemed to be the chief anatomical lesion. The absence of pulsation in the arteries of the affected extremity is a constant symptom.

Dr. HENRY ELSNER of Syracuse said that the report of this case reminded him of the cases of erythromelalgia that he had reported. In those cases, it seemed pretty clear that the arteries were more at fault than the nerves.

The Beneficial Effect on the Eyes from the Use of the Stereoscope.—Dr. A. EDWARD DAVIS of New York read this paper and exhibited the stereoscope devised by Dr. Derby of New York. The stereoscope was most useful in the treatment of squint. It was essential that the distance between the eyepieces should closely correspond with the distance between the pupillary centers. The angle of the eyepieces should be adjustable.

Cure of Ascites, due to Cirrhosis of the Liver, by Peritoneal Anastomoses.—Dr. B. FARQUHAR CURTIS of New York exhibited this patient, but for lack of time did not report the case in detail.

Therapeutic Hints.

Gastric Ulcer.—

℞ Cocaine .....
Codeine .....āā gr. j.
Lime water ..... ℥v.
Sig. Dessertspoonful when pain supervenes.

Or,

℞ Lactose ..... gr. xv.
Calcined magnesia ..... ʒss.
Subnitr. of bismuth .....
Prepared chalk .....āā gr. xij.
Codeine ..... gr. ⅛.
Bicarb. of soda ..... gr. xv.
Sig. One cachet.

—CHARLES ROBIN.

Typhoid Diarrhœa.—

℞ Acidi carbolici .....
Ext. opii ..... gr. j.
Bism. subnitratis ..... gr. xviij.
M. et ft. pil. No. vj.
S. One t. i. d.

—HUDSON.

Nervous Headache.—

℞ Zinci phosphidi ..... gr. iij.
Ext. nucis vomicæ ..... gr. x.
Confec. rosæ ..... q. s.
M. et ft. pil. No. xxx.
S. One after meals.

—BARKER.

Hemorrhoids.—

℞ Hydrastin .....
Pulv. aluminis .....āā 1. o.
Cocain. muriati ..... o. 5.
Butyr. cocæ ..... q. s.
M. et ft. rect. suppos. No. xij.
Sig. Insert one every night.

—ANDERSON

Sprains.—

℞ Olei terebinthinæ .....
Acidi acetici .....āā 60. o.
Ol. lavendulæ ..... 5. o.
Vitelli ovi ..... 5. o.
Aquæ .....q. s. 500. o.
Sig. Apply twice daily.

—MARYLAND MED. JOURNAL.

Dysentery.—

℞ Acidi sulphurici diluti ..... ℥ss.
Tinct. opii deodorati .....
Spir. camphoræ .....āā ʒj.
Tinct. capsici .....
Spir. choloroformi .....āā ℥ss.
Spir. vini gallici. ..... ℥jss.
M. Sig. ʒj. q. 2–3. h.

Or,

℞ Magnesii sulphatis ..... ʒj.
Acidi sulphur. diluti .....
Tinct. opii deodorati .....āā ♏x.
Aq. chloroformi .....q. s. ʒij.
Sig. This dose q. 3 h.

—HUGHES.

Hæmatemesis.—

℞ Tartaric acid ..... gr. v.-x.
Powd. opium ..... gr. ⅛.
Calcined magnesia ..... gr. ij.
Sig. One cachet before meals.

Or,

℞ Picrotoxine .....
Morphine .....āā gr. j.
Sulphate of atropine ..... gr. ⅛.
Ergotine ..... gr. xx.
Cherry laurel water ..... ʒiij.
M. Sig. Five or ten drops before eating.

—CHARLES ROBIN.

Acute Tonsillitis.—

℞ Sodii salicylatis .....
Potassii citratis .....āā gr. xl.
Syr. pruni virginianæ ..... ʒijss.
Aq. .....q. s. ℥ij.
M. S. Dessertspoonful q. 3 h. for a child of six years.

—ASHBY.

Chronic Rheumatism.—

℞ Aquæ ammon. fortior ..... ℥ss.
Olei cajuputi ..... ʒj.
Tincturæ belladonnæ ..... ʒj.
Linimenti camphoræ .....q. s. ℥vij.
M. S. Apply.

—HARE.

Chloral hydrate should be exhibited with great care.

Eye-washes of nitrate of silver, if long used, discolor the eye.

Children are especially susceptible to the narcotic effects of opium and its alkaloids.

Be cautious in giving atropine to flaxen-haired, light-complexioned, nervous women.

Medicines administered by the rectum or vagina should be given in twice the dose by the mouth.

Be cautious in giving morphine subcutaneously after opiates have been given by the mouth or rectum.

Medicines administered by the hypodermic method should be given in one-half the dose by the mouth.

Eye-washes containing acetate of lead are apt to leave a permanent opacity where there is any ulceration.

The healthy mucous membrane of the bladder never absorbs medicine; an ulcerated vesical mucous membrane does.—*M. A. Blanton.*

Always direct that iodide of potassium be taken in milk Large doses are then well borne.

Dr. Champlin says that when in doubt as to whether you have a case of gonorrhœa in the female remember that the pus of specific vaginitis is alkaline. Litmus paper will decide the diagnosis.

In treatment of burns of the face, collodion, one part, to castor oil, two parts, painted on will be found efficient and pleasant.

In erysipelas the following evaporating lotion has achieved good results: Carbolic acid, ½ dr.; alcohol and water, of each, 4 oz.; apply to area every alternate hour.

An old physician claims to have relieved the most obstinate cases of tympanitis by placing the patient in the knee-chest position.

In failure of the voice from mucous laryngitis or from fatigue, Bartholow recommends small doses of dilute nitric acid given largely diluted every two hours.

An old physician says that a decoction of quassia, to which a little borax and glycerin, has been added, will remove lice and other parasites from the hair better than any other known remedy.

It is said that ten drops of tincture of cannabis indica and of nux vomica in 1 oz. of chloroform water will produce a voracious appetite.

Dr. S. T. Yount claims to have cured five cases of goiter without a failure by the administration of ten drop doses of tincture of strophanthus, t. i. d.

Dr. Aumaitre claims that salicylate of sodium in doses of 2 or 3 gr. twice daily has cured many cases of whooping cough.

In scrotal eczema an ointment of calomel in vaseline has proved valuable, also an ointment of resorcin 20 gr. to 1 oz. of vaseline.—*Journal of Medicine and Science*, July. 1901.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 12, 1901:

	Cases.	Deaths.
Measles	71	1
Diphtheria and croup	243	40
Scarlet fever	104	9
Smallpox	7	2
Chickenpox	8	..
Tuberculosis	291	164
Typhoid fever	115	27
Cerebrospinal meningitis	..	.

The Medical Men of the First Pan-Hellenic Congress.—Greece, this year have followed the example of their brethren in the West, and have held a medical congress. In many respects, the Greek physicians have shown themselves in advance of those of Europe and America, that is if the doings at the Congress may be taken as a criterion. The three subjects chiefly discussed were tuberculosis, alcoholism, and syphilis. The first of these diseases would seem to be active to an amazing degree in Greece, when we take into consideration the fact that the majority of its inhabitants dwell in the country and that nowhere is the population dense. The death rate from tuberculosis in Athens is 49 per 1,000, while Spa—though situated in themidst of those "Isles of Greece" made the theme so often of the poet's praise, and whose climate has been vaunted by the sweet singers of all ages.

Greece comes next to Russia among European countries in its mortality rate from consumption.

Alcoholism is not prevalent in Greece, for, although a large amount of strong drink is consumed, it is mainly in the form of wine, which fortunately, not as in countries much more civilized, is comparatively free from adulteration, and can, therefore, be taken with more or less impunity.

The members of the Congress were of the general opinion that syphilis is increasing in Greece, and that stringent measures should be adopted to prevent its further spread.

The Congress not only calls upon the Greek government to take energetic steps against tuberculosis, alcoholism, and syphilis, but to pass acts such as the following:

1. That before marriage, both man and woman be required to produce certificates of health signed by two physicians before a magistrate in the presence of two witnesses.

2. That any physician who publishes, in the daily press or otherwise, his discovery of a drug which will radically cure diseases, but the nature of which cannot be revealed, shall be liable to prosecution and fine unless the drug be, chemically and clinically tested and found to be valuable.

3. That any physician who advertises himself, in the press or otherwise, to the deception of the public, or publishes matter not in accordance with social ethics or the dignity of the profession, shall be liable to a severe penalty.

Thus it will be seen that the first Pan-Hellenic Medical Congress has signalized its opening session by the advocacy of measures which, although hinted at by a few medical reformers at the congresses of the leading scientific nations, have not as yet received the approval of the majority of the profession.

The *London Practitioner's* editorial comments are perhaps the most pungent and entertaining of any of the British medical journals. The writer of these is decidedly a man of wit and humor and wields a pen which, while on occasions is tipped with sarcasm, is never ill natured. The view taken by the *Practitioner* upon Koch's latest pronouncement is characterized by sound common sense, and should commend itself to the attention of American readers. In the issue of September, Professor Koch's opinion at the British Congress on Tuberculosis is referred to in the following terms: "It is interesting, but scarcely surprising, to note that the discovery that bovine differs from human tuberculosis, with which Professor Koch startled the world, is neither new nor original. In 1898, Professor Theobald Smith of Harvard reported in the *Journal of Experimental Medicine* (Vol. III, page 451) he discovery of certain cultural, morphological, and pathogenic differences between human and bovine tubercle bacilli. His practical conclusion was that, although the bacillus found in the human sputum was incapable of securing a foothold in cattle, the bovine bacillus might pass to the human subject. This leaves Koch no point of originality but the reckless suggestion, on the most shadowy evidence that, because human tuberculosis could not experimentally be communicated to animals, bovine tuberculosis cannot be transmitted to man. Since 1898, investigations have been carried out under the auspices of the Philadelphia Live Stock Sanitary Board, for the purpose of comparing tubercle bacilli of human and bovine origin, respectively. Dr. R. R. Dinwiddie of the Agricultural Experimental Station of Arkansas has made a close study of the subject with similar results.

Uric Acid.—Frank Billings (*Illinois Medical Journal*, September, 1901) concludes that: (1) Uric acid probably does not exist in the blood in health. (2) Uric acid is probably formed in the kidney from two sources: (*a*) From urea interacting with some antecedent of urea, probably glycocine in the kidney. The large amount of uric acid excreted by birds and reptiles and the presence in the blood of these animals of urea and not uric acid points rationally to this source of uric acid in these animals, and it is rational to infer that a part at least of the uric acid excreted by mammals, including man, is formed in the kidney in this way. (*b*) From the nucleins of the body by oxidation probably in the kidney. (3) That uric acid is not poisonous. That the presence of uric acid in the blood as the quadriurate or biurate probably means that it has been absorbed from the kidneys. (4) That defective kidneys are the cause of the accumulation of urates in the blood because of insufficient excretion. (5) That antecedent kidney disease is commonly formed in so-called lithæmic states which have often been attributed to the irritating effects of uric acid upon the kidney capillaries and the cells of the tubules. (6) That the lesions formerly attributed to uric acid are probably due to the toxic effect of the alloxuric bases. (7) That the presence of these lesions in the kidneys and in the connective-tissue elements of the body leads not only to accumulation of the urates in the blood, but also furnish a proper condition of tissue for the deposition of the urates as concretions in joints and fibrous tissues. (8) That the degree of alkalinity of the blood has no influence upon the presence of the urates in the blood. (9) That the deposited biurate concretions cannot be redissolved out of the tissues by an attempt to increase the alkalinity of the blood and fluid by the use of alkaline medication. (10) That the presence of concretions of the urates in the body comprise the sum total of its pathologic effects. (11) That the so-called uric-acid diathesis—the influence of heredity, the bad habits of life, alcoholic indulgence, lead poisoning, etc.—consists in a condition or tendency to disintegrate a quantity of nuclein far in excess of the amount usually split up with resulting increase of uric acid and alloxuric base formation.

Pure Milk in Leipsic.—Germany has within the past few years made an immense stride in matters sanitary, and at the present is probably the country in which laws relating to the health of the community are most numerous and most stringently enforced. The manner in which the supply of pure milk is assured in Leipsic is a case in point. In the New Orleans *Times Democrat* a recent visitor to Leipsic relates his experiences. "In

Leipsic," he says, "they are very careful. Stables must be kept clean. The person who keeps cows must be experienced in the business. They are particularly careful about the cows that give milk used in feeding children. In order that no mistake may be made, the rules governing the dairy business require the cows to be branded The rules provide for an injection of tuberculin, and the cow to be healthy must show no reaction after the injection. The injection takes place before the cow is placed in the stable. If a cow should happen to get sick, the fact must be immediately reported, and the veterinary surgeon who has charge of this matter reports the case to the council. The sick cow is generally isolated. This matter, however, is discretionary with the surgeon, who superintends the business. The veterinary surgeon has such complete supervision of these matters that he can even pass on the food given to the cows, and can reject any part or all of it if he pleases. But there is another point. The person who does the milking must furnish a physician's certificate to the effect that he or she is free from infectious or nauseous diseases, and tuberculosis is especially mentioned in the rule. The milk is strained and centrifugally purified, and must be thoroughly cooled before it is served to the customers. If the milk is sold in bottles, patent stoppers are used. All these requirements have more particular reference to the milk furnished babies. There is one thing probably more important than any other in this connection, and that is in the matter of food. Cows which give milk, used in nourishing babies, are given only dry food, such as hay and meal, and they are never allowed to use the pastures. They must be kept in the stables, and in this way the *healthiest* and purest milk possible is served to the infants of the country.

Modern Treatment of Cough.—In an article in *Heilkunde*, a publication of Vienna, Weiss says that expectoration depends on two points: (1) The expelling power of the air, and (2) the resistance offered by the substance which is to be removed, depending on adhesion and inertia. The expelling speed of the air varies considerably. In quiet respiration it passes through the glottis at 125 cm. per second, and the pressure supports 2 mm. of mercury. During violent expiration and severe coughing, the pressure rises to 150 to 200 mm., and the speed is said to exceed that of the wind in a storm. It is said to be as much as 100 meters per second. Of course, during the passage through the bronchi, etc., the speed is much less. These experiments show that there is a great deal of work done in violent coughing, and how exhaustive coughing is, especially if it prevents the patient from sleeping. External atmospheric conditions have an important effect on coughing; with a low barometer the conditions are much more favorable than with a high reading, hence the value of a mountainous region, with a permanent low pressure. In treating cough, our first endeavor should be to remove any cause, reflex or otherwise. It is not necessary always to stop coughing. In certain cases you aid it, by loosening the tenacity of the mucus by expectorants, or by other treatment. Apomorphine is probably the best drug. Great good can be done by such simple means as keeping the atmosphere moist, and thus preventing the secretion from becoming dried and tenacious. This can be effected by keeping a kettle boiling, or by some of the various inhalation apparatus. We must modify coughs by narcotics, as morphine, which dulls the center in the medulla, and by heroin, which lengthens both inspiration and expiration, thus allowing the moistened air more effectually to penetrate the bronchial tree. Heroin is best given in pills. Dionin, another morphia derivative, seems to resemble morphine very much in action, relieving pain as well. The author thinks that belladonna has been too much neglected, as it stimulates the respiratory center, and paralyzes the smooth muscle fibers, and inhibits the secretion of glands. It is chiefly to be used to deprive cough of its cramplike character, as in whooping cough. Weiss considers that the combination of expectorants and narcotics is wrong. They should be given separately, the narcotic being given for special indications, as pain, sleep, etc.

Tuberculous Passengers on Railways.—This subject has been much discussed of late, and various methods have been recommended to prevent the dissemination of tuberculosis by a railway passenger suffering from the disease. Dr. George Chaffee, surgeon to the Long Island Railway, writing in the *Railway Surgeon* for July, 1901, suggests, among other safeguards, the following precautions: (1) To instruct the public in methods of prevention; (2) co-operation with boards of health; (3) the enactment of proper legislation, both State and national. A national law protects the various seaport towns of this country, and ever stands to support our health officers whenever they find it necessary to quarantine cases of smallpox, cholera, and yellow fever. Why should not a national law as well give tuberculous passengers the right to ask for a private room, or a compartment of a car—which is only another name for it—and also notify railway corporations to have these private rooms, or compartments, ready for immediate use when needed; thus protecting healthy passengers from infection, disease, and an untimely death. The railway men of this country stand at the head in the matter of business intelligence and enterprise, and I am satisfied that they will be found ready and willing to carry out their part of any legislation that may be enacted for the prevention of tuberculosis. It would seem to be only just and right that there should be national legislation on this subject, whereby railway corporations might be requested to furnish compartment cars and at points near health resorts entire sanitary cars, and which would oblige tuberculous passengers to occupy such compartments, and to comply with all the requirements of such a law. Such a law should provide for the disinfection of every compartment or sanitary car at the end of every run, if it has been occupied by a tuberculous passenger, and a record made and filed of the disinfection.

A Faith Curist in Russia.—The *Novoe Vremya* of September 14 has the following account of a miracle performed by the famous Father John of Cronstadt: "On the 12th, Father John arrived at the village of Sopino, conducted service, and spent the night with Father Lvov. Next day he journeyed to Konchanskols and consecrated the new stone church there in the presence of fully 10,000 people. After this service, a breakfast was given in the school, and many speeches were delivered. In the midst of the breakfast, two men and two old women were seen approaching the schoolhouse, bearing the seemingly lifeless body of a woman. For seven years this woman had been paralytic, unable to move arms or legs or to open her eyes—was a living corpse. On their bringing her to him, Father John arose, stood before her, and, asking her name, gazed fixedly at her. Then in a loud voice he bade her open her eyes. After several attempts, Audotya (the paralytic) did so. 'Look me straight in the face,' said Father John, 'and cross yourself.' Slowly and with great effort the woman succeeded in making the sign of the cross. 'Do it again,' said Father John, 'and again.' With ever-increasing faith, the woman repeated the movement. 'Stand up,' said Father John, and the woman arose. Then he moved from his place, bidding her follow. 'Now walk around me,' said Father John, and the seemingly dead woman slowly approached and fell on his shoulder. 'Go and pray,' said he, blessing the woman. On this, she moved away without any help. All this took place in the presence of thousands, who were unable to restrain their tears."—*Pall Mall Gazette.*

Opinions of British Lay Journals on Professor Koch's Recent Paper.—The London Times says "On one point Professor Koch elicited some expressions of dissent, which will be widely echoed in the medical world. He is convinced that tubercle in man is a different thing

from tubercle in cattle, that the two things are not interchangeable, and therefore that elaborate precautions against tuberculous milk and meat, are thrown away. He has made some experiments, which Lord Lister admits to be conclusive, to show that human tuberculosis is not transmissible to cattle. It does not follow, however, that bovine tuberculosis is not transmissible to man. Direct experiments, of course, cannot be made as in the converse case, and while Professor Koch brings forward much evidence of an indirect kind in support of his contention, there is also much that certainly points to the possible production of consumption in the human subject by the ingestion of tuberculous meat or milk. Professor Koch does not appear to have directly demonstrated a difference between the bacteria in the two cases, though such a demonstration would be peculiarly in the line of so accomplished a bacteriologist. Until that is done, it would be rash to assume that bovine tuberculosis cannot produce tuberculosis in man; but Professor Koch has certainly opened up a question which had been regarded as practically settled, and has adduced arguments too weighty to be set aside, merely because they clash with accepted opinions. It would simplify many things if he were proved to be right. In the meantime his paper will, no doubt, lead to much re-examination and resifting of evidence, as well as to efforts to make more exact experiments.

Concerning Congresses.—In commenting upon the suggestion that a congress be convened to devise means for combating the increase of malignant disease, the *Medical Press and Circular* says that many persons regard a congress, or at least a commission of inquiry, a panacea for ignorance on any subject. "They attribute to these bodies sundry occult powers of discovering the truth, and, having voted in favor thereof, they fold their hands in the blissful consciousness of having done something to help the cause. Scientific men, on the contrary, are disposed to question the gain to knowledge of these ever-recurring congresses. It is difficult to define in these days of international journalism the way in which these gatherings can advance our knowledge of the subjects under discussion. If anything new or interesting crops up which is quite exceptional, it simply means that a particular investigator has held over his communication in view of the meeting. Truths are not elucidated in view of a congress, and failing such a meeting they would be communicated to the scientific world by the ordinary channels, which, after all, are better suited to the purpose. Of all subjects in the world in respect of which a congress would be futile and indeed absurd, cancer is the least amenable to discussion. What we require is fact, not discussion, and facts are being strenuously sought after by hundreds of trained intelligences throughout the civilized world. No stimulus is needed in the way of prizes or rewards; the privilege of having been able to throw light on this dark corner in pathology would be, in itself, ample compensation for a lifetime devoted to laborious research."

Congress on Seasickness.—The Tuberculosis Congress says the *American Review of Reviews*, September, 1901, is only one of this season's European gatherings of specialists for the consideration of some malady or ill against which it is hoped that scientific men, through study and co-operative method, may be able to provide a remedy. In August, there was held at Ostend under the patronage of the municipal administration, and under the high protection of the King of the Belgians, a special exposition of all methods that have been devised, or proposed, to prevent or mitigate sea-sickness, and also a congress to discuss that much-joked-about but very serious and troublesome form of illness. As travel by water becomes more and more general and inviting, the one drawback that spoils it all for myriads of voyagers is the liability to seasickness. The plans of the exposition provided for six departments or sections, one of which belonged to naval architecture, and had to do with means to diminish the effect of the movement of ships. Another section was devoted to means for improved ventilation of vessels, the removal of odors, and the abundant supply of oxygen. Other sections had to do with the use of various hygienic or other means of prevention or remedy by the individual traveler, and a final section was devoted to a collection of the very considerable literature, in all languages, relating to the subject. Doubtless results of some consequence will have followed from these efforts of that useful French society known as the "Ligue contre le Mal-de-mer."

Treatment of Menorrhagia in Young Girls.—A. G. Wollenmann (*Der Frauenarzt*, August, 1901), says that the patient must remain in bed during the entire period of the menstruation and must not leave it until twenty-four to forty-eight hours after the entire disappearance of the flow. The patient must lie on her back without moving the arms and legs. Meals are to be taken in bed. These regulations are difficult to carry out, and yet they are the only ones giving positive results. During the first month's treatment, the duration of the flow is diminished by a day or two; this improvement becomes more marked with every month, and cure is effected as a rule in five or six months. When these girls leave their bed, all physical and mental exertion must be forbidden. Long walks, dancing, bicycling, horseback riding, and machine sewing must be given up for a time and returned to gradually after the cure. The general condition with its eliminative and assimilative functions must be improved. Balls, parties, or theater are absolutely forbidden. Cold douches and massage stimulate the activity of the skin. All highly seasoned food stuffs, alcohol, strong coffee and tea—in short, everything which tends to irritate the nervous system or leave the system loaded with toxins—are to be avoided.

Sanitation of Cuba.—A Cuban physician, Dr. A. Bustillo Lirola, writes in the *Annals of Gynecology and Pediatry* on this subject. He compares the conditions prevailing in the island under Spanish rule and under American, needless to say, greatly in favor of the latter. He says: "We can proudly say that Cuba is hygienized. This could be possible, because the true Cuban population have aided greatly in it. Yellow fever has diminished in such a notable way that this fact alone is noteworthy. During last June there has not been a death from yellow fever, nor even a case of the disease. Records show that since 1781, no previous June has passed with absolute freedom from the disease. Infectious diseases, as a rule, are less frequent. With the war on mosquitos, malarial fever has also diminished. Leaving out of consideration the death rate from 1895-1898, if the number of deaths during the year 1900 is compared with that of the years previous to 1895, we shall find that they are much less now. This is valuable testimony to the efficient efforts made under American occupation to render Cuba healthy, the more so, coming, as it does, from an impartial source."

Disinfection of Public Dwellings and Conveyances.—*The British Medical Review of Reviews*, September, 1901, says that railway carriages, steamboats, and hotels should be disinfected. This would be of truly international importance. The Minister of Public Works in France has recently sent a circular to railway companies calling attention to the precautions necessary to diminish risk of contagion. The Minister of the Interior, Germany, has enacted a measure whereby every doctor who attends in a case of pulmonary or laryngeal tuberculosis is bound to report the fact to the police. After a death from tuberculosis, the room of the patient and his belongings have to be disinfected. Hotel proprietors, furnished-house keepers, asylums, and other public institutions are compelled to report every case of tuberculous disease in their establishments.

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THE PREVENTION OF YELLOW FEVER.*

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THE prevention of yellow fever since its first importation into the United States in 1693, and especially during the latter half of the past century, has commanded, perhaps, more attention on the part of those who were concerned with matters pertaining to the public health than the prevention of any of the other acute infections. This has not been occasioned by the fact that its total sickness and mortality have exceeded that of other acute infectious diseases, such as typhoid fever or croupous pneumonia, but because rather of the proximity of its source to our shores; the lack of knowledge of its specific agent; the consequent mystery surrounding its origin and propagation; the alarmingly rapid spread and course of this disease, when once it had obtained a foothold, and the high mortality with which its epidemics have generally been attended. Although the duration of its presence in our seaports was plainly limited by certain seasonal conditions, yet during its brief reign —July to October—its ravages were such as to completely paralyze both the social and commercial interests of a given city, and even of an entire section of our country.

The interval between 1793 and 1888 is almost one hundred years, but upon the appearance of yellow fever we observe no difference of behavior on the part of the inhabitants of Jackson, Miss., in 1888, from that shown by the citizens of Philadelphia in 1793, except that the terror of the former was greater and their flight from their homes more precipitate than in the case of the latter.

The recurrence of succeeding epidemics has, therefore, served to increase rather than to lessen the public alarm.

It would be difficult to determine with accuracy the loss of life occasioned by the ninety-five invasions of our territory by yellow fever during the past two hundred and eight years. We have endeavored to collect from the most available sources the mortality caused by this disease, but have been unable to obtain any reliable data for the earlier epidemics. If we confine ourselves to the epidemics which have occurred since 1793, we find that there have not been less than 100,000 deaths from this cause. The greatest sufferer has been the city of New Orleans, with 41,348 deaths, followed by the city of Philadelphia with 10,038 deaths. The epidemics of 1855, 1873, 1878, and 1879 claimed 7,759 victims in the city of Memphis, Tenn. From 1800 to 1876, Charleston lost 4,565 of its citizens by attacks of yellow fever. New York, during the earlier and later invasions of this disease, has had 3,454 deaths, while the epidemic of 1855 in Norfolk, Va., caused over 2,000 deaths. During our brief occupation of the Island of Cuba (July, 1898-December, 1900), with every precaution brought into exercise to ward off the disease, there have occurred among the officers and men of our army, 1,575 cases of yellow fever with 231 deaths.

If we reckon the average mortality at 20 per cent., there have not been less than 500,000 cases of yellow fever in the United States during the period from 1793 to 1900.

Turning for a moment to other countries, we find that the great epidemic of 1800, in the province of Andalusia, Spain, caused 60,000 deaths, and that 20,000 more deaths attended the invasion of the city of Barcelona by this disease in 1821. From 1851 to 1883, the deaths from this cause in the city of Rio de Janeiro were 23,338, while in the city of Havana, between the years 1853 and 1900, 35,952 deaths have been recorded from yellow fever.

We have no means of computing the damage done to the commercial interests of the United States by epidemics of yellow fever. At the sixth annual meeting of this association, held in Richmond, Va., in 1878, Dr. Samuel Choppin, President of the State Board of Health of Louisiana, estimated the actual cost of the epidemic of that year to the material resources of the city of New Orleans as $10,752,500. Dr. Benjamin Lee, the present distinguished occupant of the presidential chair, at the seventeenth annual meeting of this association, held in Brooklyn, N. Y., in 1889, contributed a paper having the title, "Do the Sanitary Interests of the United States Demand the Annexation of Cuba?" From this we quote the following sentence: "A single widespread epidemic of yellow fever would cost the United States more in money, to say nothing of the grief and misery which it would entail, than the purchase money of Cuba." That this was no exaggeration, witness the language of the petition which the chairman of the committee on the etiology of yellow fever, in conjunction with other prominent members of this association, presented to the President of the United States on November 15, 1897, and again, on November 21, 1898, in accordance with a resolution adopted at the meeting of this association, held at Ottawa, Canada, in 1897. In addressing President McKinley, Dr. Horlbeck said: "It is hardly necessary to call your attention to the serious results of the recent epidemic of yellow fever in the States of Louisiana, Mississippi, and Alabama, but we may be permitted to mention the fact that the great epidemic of 1878 resulted in the loss of nearly 16,000 lives, and that it has been estimated that the total loss to the country resulting from this epidemic was not less than $100,000,000."

The importance of the study of the causative factors entering into the propagation of a disease so capable of quickly destroying the lives of the citizens and wrecking the commercial interests of the cities of the United States could hardly be overestimated. Did time permit, we would be glad to refer to the numerous and valuable contributions made to this subject by the members of the American Public Health Association. We can only mention the establishment of the National Board of

*Read at the twenty-ninth annual meeting of the American Public Health Association, held in Buffalo, N. Y., September 16–21, 1901.

Health and the appointment of the Havana Yellow Fever Commission of 1879 as two of the most important outcomes of the persistent efforts of this association, following "the deeply tragical events of the summer of 1878." The exhaustive reports made by Chaillè in 1880, and by Sternberg in 1890, must always stand as monuments to the earnest

Fig. 1.—Stegomyia Fasciata; Female a. Front tarsal claw.

spirit of investigation with which the work was pursued.

Notwithstanding the importance of the work and the efforts put forth by students in this and other countries, we believe that we are safe in saying that no results had been obtained which would enable us to combat successfully this disease when once imported into our larger centers of population, and no means found to keep it out of our ports except such as would place very heavy burdens upon commerce. This inability to control the disease grew not only out of our ignorance as to the way or ways in which yellow fever was propagated, but also out of certain false opinions which we had formed as to the mode of its spread. The doctrine of the spread of yellow fever by fomites and by filth had taken such hold on the professional mind as completely to overshadow all other views, and to direct into false channels the work of those who were engaged in the investigation of this disease. The efforts to isolate or to discover the specific agent of yellow fever, if successful, would possibly have greatly simplified the problem; in the absence of such discovery, the first step in our knowledge of how to prevent this disease could only be found, we think, along another line, viz., that of its propagation from the sick to the well. This step we endeavored to take, in connection with our colleagues, Dr. Agramonte and the late Dr. J. W. Lazear of the United States Army, during our recent investigations into the causation and spread of yellow fever at Quemados, Cuba.

The results of our earlier work relative to the etiology and propagation of this disease we had the pleasure of presenting to this association at its last meeting, held in Indianapolis, Ind.[1] You will recall that one of the conclusions which we then submitted was as follows: "The mosquito serves as the intermediate host for the parasite of yellow fever." In the same article, we briefly indicated the reasons which influenced us in pursuing this line of investigation, and it is, therefore, unnecessary here to repeat them.

Continuing our studies, especially as regards the means by which yellow fever is spread from individual to individual, and as to the manner in which houses become infected, we were able, under strict rules of isolation and quarantine, to bring about an attack of yellow fever in ten non-immune individuals (and always within the period of incubation of this disease) out of a total of thirteen (76.84 per cent.) whom we attempted to infect by means of the bites of mosquitos—*stegomyia fasciata*—that had previously been fed with the blood of yellow-fever patients during the first, second, and third days of their attacks. These results were reported in part to the Pan-American Congress held in Havana during February of this year,[1] and in part to the Association of American Physicians at its last meeting held in the city of Washington.[2]

It will be seen that we were able to establish in the most conclusive manner that the mosquito does serve as the intermediate host for the parasite of yellow fever. At this same Experimental Sanitary Station we were, also, able to demonstrate that an attack of yellow fever cannot be induced by the most intimate and prolonged contact with the clothing and bedding of yellow-fever patients, even though these articles had been previously thoroughly and purposely soiled with the excreta of such patients. In other words, we were able to prove that the garments worn, and the bedding used, by yellow-fever patients were no more concerned in propagating this disease than the clothing and bedding of patients suffering from malarial fever are concerned in the spread of the latter malady. The doctrine of the spread of yellow fever by fomites having, at the first touch of actual experiment on human beings, burst like a bubble, we may hereafter cast it aside, with

Fig. 2.—Stegomyia Fasciata, Male. a. Front tarsal claw

other exploded beliefs, to the very great simplification of the problem how to prevent yellow fever. Indeed, in our opinion, the time has now arrived

[1] "The Etiology of Yellow Fever—A Preliminary Note." —*Philadelphia Medical Journal*, October 27, 1900.

[1] "The Etiology of Yellow Fever—An Additional Note," *Journal American Medical Association*, February 16, 1901.

[2] "Experimental Yellow Fever," *American Medicine*, July, 1901.

when the latter problem may be reduced to measures which shall prevent the propagation of this disease by mosquitos. Although the specific agent of yellow fever has not, as yet, been discovered, this must remain largely a matter of scientific interest, and does not, in the least, lessen the efforts which we, as sanitarians, are now able, for the first time, to bring into action for the prevention of the spread of this disease, since, in dealing with the mosquito, we are dealing with the intermediate host which carries the specific agent from the sick to the well.

In considering, then, in a broad way, the preven-

Fig. 3.—Stegomyia Fasciata. Batch of fifty-two eggs as deposited by a single female. Slightly enlarged.

tion of yellow fever, the natural order would be to give our attention, first, to measures which will prevent the importation of this disease from infected places into the seaports of the United States; and, secondly, to measures which will most effectually prevent the spread of this disease, provided it should gain a lodgment in one of the cities of this country.

With your permission, however, we will reverse the order of consideration above suggested, and will later refer in the briefest manner to the prevention of the importation of yellow fever into the United States from foreign ports, as this part of the subject will be presented by the Health Officer of the Port of New York, who, from long experience, will be able to deal more intelligently than we with this part of the problem.

Since the mosquito, especially that species of stegomyia which has recently been designated by Theobald as *stegomyia fasciata* (formerly known to entomologists as *culex fasciatus*—Fab.), has become so prominent a factor in the spread of yellow fever, it becomes necessary to consider this insect from the point of view of its identification; its habitat; its breeding places; the length of its generation; its hours of feeding; the influence of temperature upon both its propagation and stinging; the interval after contamination before the insect becomes capable of propagating the disease; the length of time during which

Fig. 4.—Stegomyia Fasciata. Forty-eight eggs deposited in a close-lying mass. Enlarged

it remains dangerous; the measures that should be used not only to protect the sick against the bites of these insects, but also to prevent the latter from infecting the healthy individual; and, finally, a consideration of the several agents which may be successfully employed both to prevent the breeding of mosquitos as well as directed toward their destruction in the adult stage.

Aside from the standpoint of scientific interest, it is certainly a matter of hygienic importance, in taking up the question of how to prevent the spread of yellow fever, when imported into the United States, that the health authorities of our several coast cities, and, indeed, of some of our inland towns, should be able to determine whether the only species of mosquito, which, up to the present time, has been shown capable of conveying yellow fever, is or is not present in these cities. If it should hereafter be proven that only species of the genus *stegomyia* are capaple of acting as intermediate hosts for the specific agent

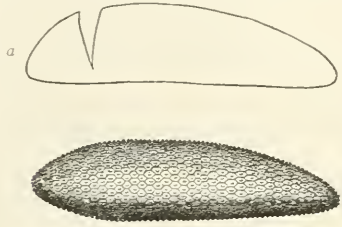

Fig. 5.—Stegomyia Fasciata. Newly deposited egg. × 50. *a*. Empty shell from which larva has escaped.

of yellow fever, as appears to have been demonstrated for the genus *anopheles* in the spread of malaria, the presence or absence of the former genus will definitely determine whether yellow fever will or will not spread in a given locality. The presence or absence of mosquitos that can propagate the disease is the only intelligible explanation of what has heretofore been considered an inexplicable problem, viz., the capability of this disease to propagate itself in certain localities, while in other places it

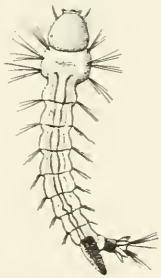

Fig. 6.—Stegomyia Fasciata. Full-grown larva enlarged

could be introduced with perfect impunity to the public health. In other words, our present knowledge of this question solves, at last, the problem of the portability or non-portability of yellow fever.

Description of Mosquito.—The identification of *stegomyia fascia.a*—Theobald—should not be difficult. This mosquito, when examined closely with the naked eye and especially with a pocket lens, is

Fig. 7.—Stegomyia Fasciata. Pupa, enlarged

a rather striking-looking and handsome insect. (Fig. 1.) Its most conspicuous markings are the broad semi-lunar silvery stripe, which is seen on the lateral surface of the thorax, and the white stripes at the bases of the tarsal joints. These may be readily distinguished with the naked eye. The bands on

the hind legs are especially well marked, and occasionally the entire fifth hind tarsal joint is seen to be of a pure silvery white. The four stripes of silvery scales which are seen on the posterior surface of the thorax serve to distinguish this species from all other mosquitos, except *stegomyia signifer*—Coquillet—in which, however, as we have been informed by Mr. L. O. Howard, the curved thoracic band is very narrow and of a somewhat different shape. Examined with a hand lens, the four stripes are seen to consist of two lateral, distinct silver lines—the continuation of the semi-lunar, broad stripes—and two fine, white lines situated between these, and which require that the insect shall be held in the proper light, in order that these delicate threads may be distinctly seen. The lateral surface of the thorax is also marked by several silvery dots and the abdomen by distinct white stripes. This description applies to both sexes. In the female, the palpi are short, as in the genus culex. The proboscis is of a dark blackish-brown color and is destitute of a whitish band near the middle. In the male (Fig. 2), one of the front tarsal claws bears a tooth on the under side, while the other claw is destitute of such marking. In the female, both front tarsal claws bear a distinct tooth near the base of the under side of each.

Habitat.—We have found this mosquito in all of the principal cities of Cuba, and have received specimens from a number of the smaller towns on this island. According to Howard[1] it has been found at Kingston, Jamaica, on the Isle of Pines, and at Bluefields, Nicaragua. He also reports that Theobald has received specimens of this insect from Italy, Greece, Spain, Portugal, Gibraltar, and Malta. In the United States, Howard reports its presence at New Orleans, Natchitochez, and Napoleonville, La.; in Eastern Texas; Hot Springs, Arkansas; Pelham, Ga.; and from Virginia Beach, near Norfolk, Va. To this we can add Augusta, Ga., from which city we have recently received specimens of *stegomyia fasciata* through the courtesy of Dr. T. O. Oertel of that city. Dr. Durham of the English commission for the study of yellow fever kindly showed us specimens of this insect which he had collected at Parà, Brazil, and at various places along the Amazon River. It will be seen, therefore, that *stegomyia fasciata* has a wide distribution in the warmer countries of the globe, and especially at low altitudes. A more exact knowledge of the distribution of this mosquito in the United States is, we think, a matter of considerable practical importance.

Breeding Places.—In our search for the larvæ of this insect we have found them in the following places: (1) In rain-water barrels; (2) in sagging gutters containing rain water; (3) in tin cans that had been used for removing excreta and which still contained a small amount of fecal matter; (4) in cesspools; (5) in tin cans placed about table legs to prevent the inroads of red ants; (6) in the collection of water at the base of the leaves of the *agave americana*; (7) in one end of a horse trough that was in daily use. It follows that stegomyia, like culex, will breed in any collection of still water, rain or hydrant, and that the presence of fecal matter does not seem objectionable. Indeed, we have been in the habit of adding a very small quantity of the latter to our breeding jars, as it has seemed to hasten the development of the larvæ. In water, however, which contains much suspended soil—muddy water—the larvæ, in our experience, do not flourish, but die off rather rapidly.

Deposition of Eggs.—The insect lays her eggs during the night, and, unlike culex, which deposits its eggs in boatlike masses, stegomyia extrudes her eggs on the surface of the water in pairs, in groups of three or more, or singly; in this respect resembling anopheles (Fig. 3). Exceptionally, the eggs are deposited in a rather close-lying mass (Fig. 4). The whole batch is laid in one night, or extending over two or three nights. The number of eggs deposited

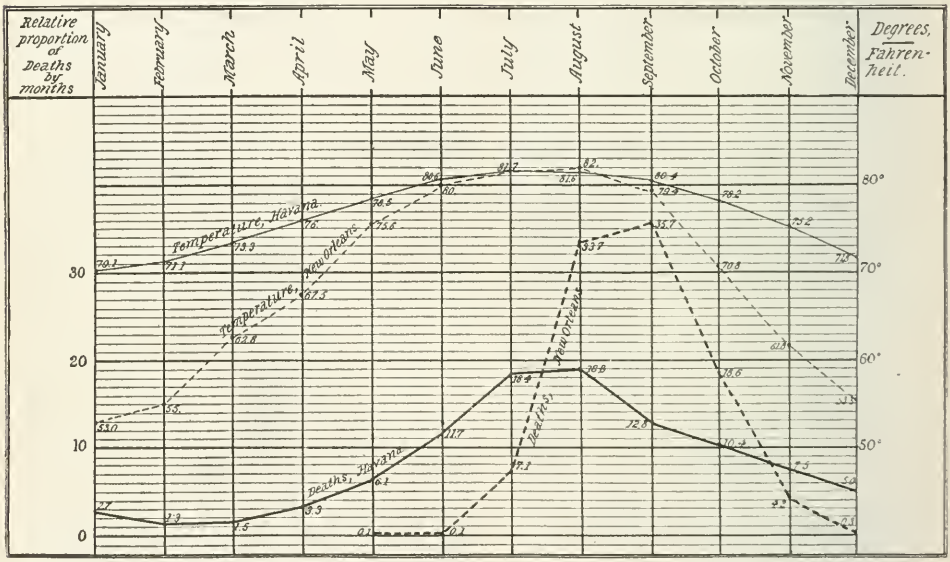

Fig. 8. Chart Showing the Mean Monthly Temperature of New Orleans and Havana for Ten Years; and the Relative Monthly Mortality from Yellow Fever in Havana from 1880 to 1899, and in New Orleans from 1847 to 1897.

[1] "Mosquitos," etc., by L. O. Howard, New York, 1901.

varies from about twenty to about seventy-five—rarely a larger number. Sixteen careful counts gave an average of forty-seven eggs. At the same time that the female deposits her eggs, she frequently, but not always, discharges a fluid which forms a very thin film over the surface of the water, which possibly assists in floating the eggs. The latter are of a jet-black color and, to the naked eye, cylindrical in shape, one end of the egg being rounded and blunt, while the other is slightly pointed, the whole resembling closely a Conchita cigar. They measure about .65 mm. in length by .17 mm. in width, at the broadest part. Under a low power, the surface of the eggs is seen to be marked by tolerably regular six-sided plates, each of which is further marked in the center by a little round elevation, which gives to the surface of the egg a decidedly roughened appearance (Fig. 5). Under this low amplification it is also seen that, while one side of the egg is somewhat convex, the other is flat or slightly concave and that a cross-section of the egg would present the appearance of a triangle instead of that of a cylinder. This flattening of the surface of the egg does not appear to extend quite to the ends, which are round in shape. Although floating perfectly if left undisturbed, any agitation of the water, especially of a rough character, is apt to cause some or a majority of the eggs to sink. If by slight pressure the egg is pushed beneath the surface of the water, it at once sinks and does not rise again. This sinking of the eggs does not interfere with their subsequent hatching, as in our experience submerged eggs furnish about as many larvæ as those which are left floating on the surface.

The resistance of stegomyia's eggs to external influences is worthy of note. Drying seems to be but little injurious to their subsequent fertility. We have found that eggs dried on filter paper, and kept for periods of from ten to ninety days, will promptly hatch when again submerged in water. Dried eggs brought with us from Havana, in February, were easily hatched during the month of May, in Washington, furnishing about 60 per cent. of the usual number of larvæ hatched from fresh eggs. Freezing does not destroy the fertility of the eggs. Although freezing with a mixture of salt and ice for thirty minutes has several times seemed to prevent subsequent hatching; on one occasion a batch of one hundred and fifty-five eggs, freshly deposited, which were frozen at a temperature of —17° C., for one hour, then thawed out at room temperature and placed in the incubator at 35° C., began to hatch on the sixth day, the majority furnishing active larvæ on the eighth day. In another observation, freshly deposited eggs, frozen at —17° C. for half an hour on two successive days, began to hatch on the third day as usual at incubator temperature. The resistance of stegomyia's eggs to drying for a period of three months would appear to demonstrate that this genus of mosquito could survive the winter in Havana, without the presence of hibernating females. Doubtless the genus is preserved in both ways. It is probable that the same could occur in our extreme southern latitudes.

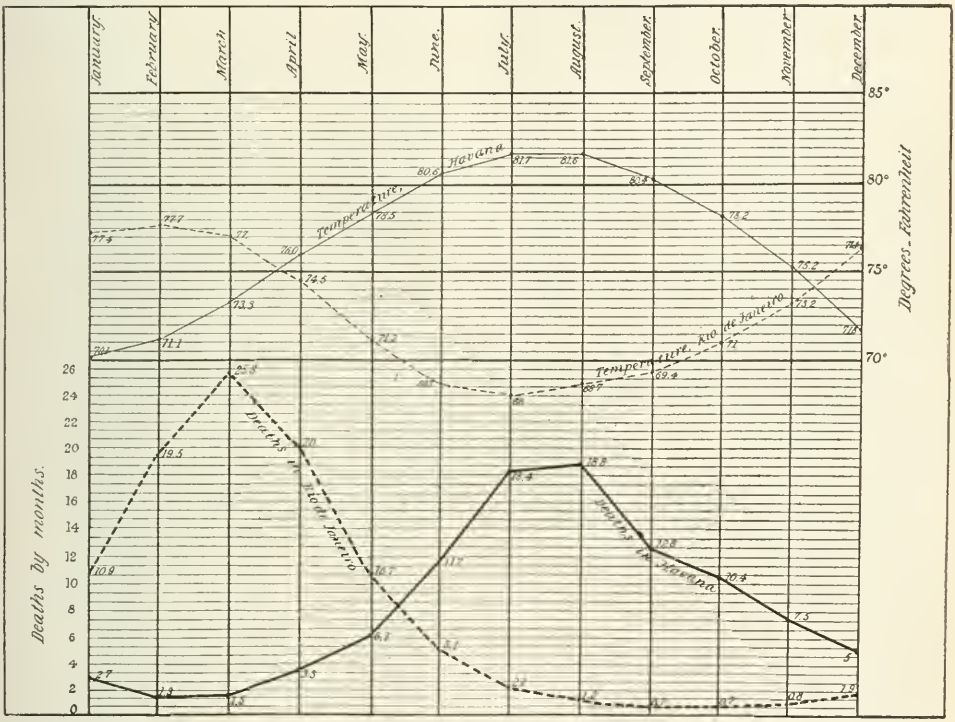

Fig. 9.—Chart Showing Mean Monthly Temperature of Havana and Rio de Janeiro for Ten Years; and the Relative Monthly Mortality from Yellow Fever in Havana from 1880 to 1899 and in Rio de Janeiro from 1851 to 1883.

Length of Generation.—The impregnated female, having obtained a meal of blood, proceeds to deposit her eggs, in captivity, after an interval varying in our experience from two to thirty days—as a rule, the eggs are laid within seven days; sometimes a second or third meal of blood is taken before any

eggs are laid. Eggs placed under favorable conditions of warmth, *i. e.* summer or incubator temperature, begin to hatch, as a rule, on the third day, the period extending to about one week. The larval stage requires seven or eight days, and the pupal stage about two days. The period for the generation may be stated, therefore, as follows: Incubation, three days; larval stage, seven days; pupal, two days; total, twelve days. As the eggs begin to hatch before the expiration of the third day, we generally obtain a few mosquitos on the eleventh day. The shortest period of development observed by us during summer weather in Cuba was incubation, two days; larval stage, six days; pupal, thirty-six hours; making the total length of this generation nine and a half days. This short period we believe to be quite exceptional. The first fully developed insects begin to emerge on the eleventh or twelfth day, and the whole number have reached maturity by the fifteenth or eighteenth day after deposition of the eggs. The young larvæ, in emerging, rupture the shell at a point about one-fifth the length of the egg from the larger end. This cap-like end can be frequently seen turned back and still adhering to the rest of the shell (Fig. 5).

The larva and pupa of stegomyia (Figs. 6 and 7) resemble fairly closely those of culex, and the larvæ maintain the same relative position to the surface of the water, *i. e.* while in the act of breathing they assume a vertical position, with the head directed downward.

Influence of Temperature on Propagation.—We have just seen that at summer temperatures the time required for a complete generation of this insect is from eleven to eighteen days. We may say that at an average temperature of 75° F., or over, stegomyia multiplies abundantly. Exposure to a cooler temperature, even for a short time daily, much retards the development of this mosquito. Thus, a batch of fifty-one eggs kept at 35° C., but which were placed in a cool chamber at 20° C. for two hours daily during the whole process of development, although furnishing a few larvæ at the end of the third day, were not all hatched until the eleventh day. The first pupæ appeared on the fourteenth day and the first mosquito on the nineteenth day; the whole process being completed in twenty-seven days, instead of the usual fifteen to eighteen days. The loss of insects was about 50 per cent. Eggs kept at a temperature of 20° C. (68° F.) do not hatch, in our experience. Newly hatched larvæ kept at this temperature develop very slowly and require about twenty days to reach the pupal stage. Mosquitos developed under such conditions are feeble, and but few arrive at maturity. Young larvæ kept at 10° C. (50° F.) have failed to reach the pupal stage—although some growth takes place. In one experiment more than 50 per cent. were dead at the end of two weeks, and none survived the thirty-second day. Half-grown larvæ and pupæ exposed to a temperature of 20° C., and even as low as 10° C., continue to develop slowly, but the few insects which escape drowning have, as a rule, been of feeble strength and have refused to bite. Although the reduction of the temperature to the freezing point, or below, would not necessarily destroy the vitality of the eggs of this genus of mosquito, it should be remembered that a reduction of temperature to 68° F., or below, for even a few hours of the twenty-four, will much retard the development of the generation. At a temperature less than 68° F. the eggs of this insect have ceased to hatch.

Influence of Temperature on Biting.—While the non-impregnated female does not appear to bite, the impregnated female is generally ready to bite on the second or third day of her existence; they very rarely suck blood on the first day. This species of mosquito, when not deprived of its liberty, although occasionally biting during the morning hours, has, in our experience, been especially active from the hours of 4 P.M. till midnight. In captivity, the hungry impregnated female will bite at any hour of the day or night. The meal of blood appears to have been thoroughly digested on the third day, when the insects, if applied to the surface of the skin, can be again readily induced to feed. When freed in a room, the female does not appear to bite a second time till about five, or even seven, days have elapsed.

As regards the effect of temperature on the stinging of *stegomyia fasciata*, the results of a number of observations made by us show that this mosquito will bite at temperatures of 62° F. and above. At temperatures below this point, we have not, as yet succeeded in inducing even very hungry females to suck blood. We may, therefore, say that observations thus far made appear to show that *stegomyia fasciata*, while not breeding at temperatures below 68° F., will still bite at a temperature as low as 62° F., but probably not at lower temperatures.

If this insect is concerned in the propagation of yellow fever, it is now quite apparent why an epidemic of this disease should fall to a low ebb in the city of New Orleans during the month of November, with a mean temperature of 61.8° F., and practically cease in December, with a mean temperature of 55.3° F. A careful study of the charts herewith submitted (Figs. 8 and 9), showing the monthly mean temperatures of the cities of Havana and New Orleans and Havana and Rio de Janeiro, together with the relative monthly mortality from yellow fever in these cities, will prove of interest, we think, as showing better than laboratory observations the general effect of temperature upon the breeding and biting of *stegomyia fasciata*. In the light of recent researches, we can now understand that while yellow fever can, and does, prevail during the entire year in Havana and Rio de Janeiro—although at a comparatively low ebb during the winter months—it cannot propagate itself in New Orleans from December to May.

Interval After Contamination Before the Mosquito Becomes Dangerous.—In our experimental work on human beings, we have not succeeded in inducing an attack of yellow fever by the bites of mosquitos which had been kept less than twelve days after contamination. The same insects which failed to convey the disease on the eleventh day were capable of so doing on the seventeenth day after infection. This interval of about twelve days, which appears necessary for the development of the parasite within the mosquito, plus the period of incubation, agrees with the time that has been observed to elapse between the introduction of an infecting case into a locality and the occurrence of the first secondary case, viz., two to three weeks.

After the mosquito has once become dangerous, how long it remains capable of conveying the disease, although important, has not been determined. We have reported cases of yellow fever caused by the bites of stegomyia at intervals varying from twelve to fifty-seven days after contamination. Here the dangerous interval was forty-five days, but as one of these insects lived until the seventy-first day after biting a yellow-fever patient, the dangerous interval would here be prolonged to fifty-nine days, or a little over eight weeks. In our experience, the infected insect appears to live about as long as the non-infected mosquito, so that the answer to this question would depend upon the length of life of the mosquito. This we do not know. While in captivity, the majority of

mosquitos do not survive, with the best of care, more than about five weeks, and many die within half of this time; we are ignorant as to the length of time during which they may live when under natural conditions. Certainly, during summer weather this will depend largely on the opportunity which the mosquito has of obtaining access to water.

Measures to Prevent the Spread of the Disease When Imported.—A case of yellow fever having been imported into one of our seaport cities, we are now prepared to discuss the measures that should be taken to prevent its spread. The problem resolves itself into the simple one of excluding mosquitos from access to the sick individual and of destroying those insects that have already become infected. We can leave out of consideration any danger from wearing apparel or baggage, which, in our opinion, may be dismissed as harmless.

The fear that has been entertained that infected insects may be imported in boxes or trunks, we believe to be absolutely groundless, and this for the simple reason, as shown by numerous observations made by us, that mosquitos, when deprived of water, die within a few days. Even if allowed to fill themselves with blood immediately before the experiment is begun, and then deprived of water, practically all are dead by the expiration of the fifth or commencement of the sixth day. We may say that of a large number of insects tried in this way, only one female has survived until the sixth day, and then in a feeble condition. Males and females which have been living on sugar and water, or fed two days before on blood, if deprived of water and food, begin to die after twenty-four hours, and all are dead on the fourth morning. Free access to water, therefore, is necessary for the existence of this mosquito.

Add to the deprivation of water the chances of injury to so frail an insect packed in with articles of clothing, e c., and we see that infected mosquitos cannot be imported alive in baggage that has been five days *en route*.

As the first special measure of prevention, then, we should give our prompt attention to the protection of the sick individual against the bites of mosquitos. This can best be accomplished by thorough screening, without delay, of the windows and doors of the room occupied by the patient and with as little disturbance as possible, so that any insects already present in the room may be prevented from escaping. As it will not be feasible to make use of any of the destructive agents against mosquitos already within the patient's room until recovery, every precaution should be used to see that the insects do not escape in opening and closing the door. Screens at windows should not, for this reason, be movable. As it is possible that mosquitos that have already bitten the sick individual may have escaped into other apartments of the house, these should be closed tightly and subjected either to sulphur or to formaldehyde disinfection, or to the fumes of burning pyrethrum. According to Dr. Gorgas, the efficient Health Officer of Havana, preference is given to pyrethrum powder, burned in the proportion of one pound to 1,000 cubic feet of air space.[1] He, however, adds: "As the pyrethrum powder, even in this large quantity, does not certainly kill all mosquitos, the room is opened at the end of three hours, and the mosquitos on the floor swept up and burned."

We have mentioned above, in the order of their efficiency, the agents which are most destructive to stegomyia. According to our observations, an exposure for one and a half hours to sulphur fumigation, in a well-closed room, in the proportion of one pound to 1,000 cubic feet of air space, will suffice effectually to destroy all mosquitos. Formalde-

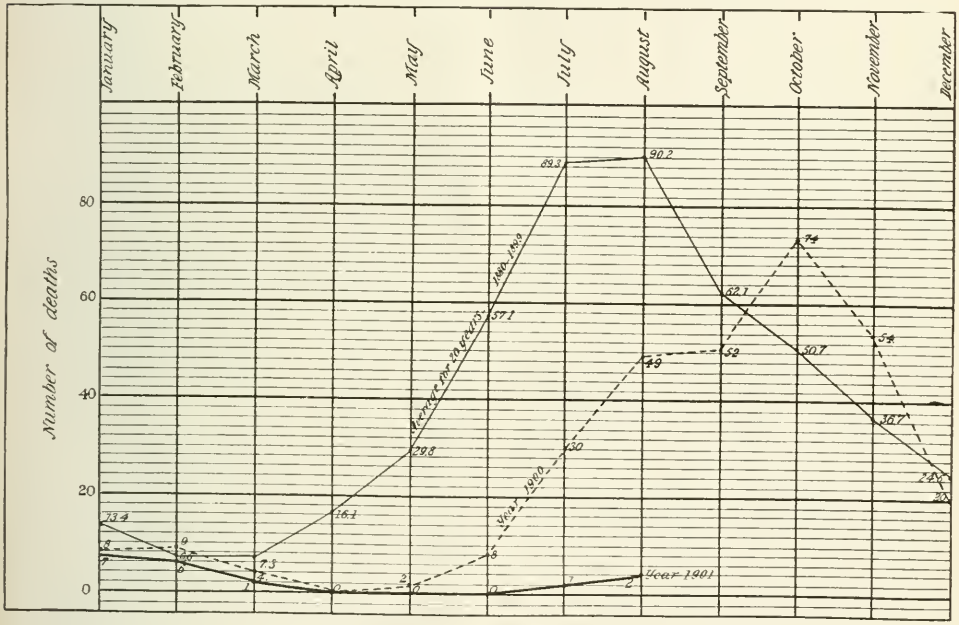

FIG. 10.—Chart Showing Monthly Mortality from Yellow Fever in the City of Havana for the Twenty Years, 1880 to 1899; for the Year 1900, and from January 1 to August 31, 1901.

[1] MEDICAL RECORD, New York, Vol. 60, No. 10, September 7, 1901.

hyde gas is not quite so efficient. With Trenner's formaldehyde generator, charged with formalin, 900 c.c.; glycerin, 9 c.c.; methyl alcohol, 360 c c., which we have found quite reliable for the destruction of bacteria, an exposure of not less than three and preferably four hours is required in order to kill these insects in a t ght room having 2,800 cubic feet capacity. Pyrethrum powder, if burned in the proportion of 4 oz. to 1,000 cubic feet of air space, will stupefy all mosquitos at the expiration of one hour, so that they will fall to the floor in a helpless condit on. If used, however, the precaut on above recommended by Dr. Gorgas should be strictly followed; that is, the room should be opened at the end of three hours, and all insects carefully swept up and burned. The practice of d stroying all mosquitos in adjoining houses, as carried out in the city of Havana with such excellent results we consider of the greatest importance, since only in this way can we hope to destroy infected mosquitos, and thus prevent the occurrence of secondary cases. In other words, relying upon the well-known slow progress of the spread of yellow fever, we seek to catch and destroy all mosquitos within a given radius of the first case. If secondary cases should occur, the same hygienic measures should be rigorously enforced along the lines above indicated. Upon the completion of the case, the room occupied by the patient should be disinfected, and in a matter where so much is at stake, we believe that sulphur should be given the preference as a disinfectant. In case of death, the body should be carefully screened against mosquitos, as stegomyia will bite the dead body, and might in this way acquire the parasite.

We have said nothing about the protection of non-immune individuals who enter the patient's room or house, since if the case, under consideration is the infecting case, no danger is incurred. As the duration of the attack is short, generally less than ten days, the patient's room will have been disinfected, and the infected mosquitos destroyed before they have become susceptible of conveying the disease to others. We desire to emphasize the fact that the interval elapsing between the infection of this mosquito by biting a case of yellow fever and the time when it has become capable of conveying the disease, viz. about twelve days, is of the utmost importance in our efforts toward stamping out yellow fever at its very commencement, since it furnishes a non-dangerous interval during which all infected insects should be easily destroyed. It thus makes the control of yellow fever, hereafter, a simpler and more certain matter than the suppression of an outbreak of any of the other acute infectious diseases. If non-immunes entering an infected house desire protection against the bites of stegomyia, this may be obtained by rubbing all exposed surfaces of the body, including the ankle surfaces, with spirits of camphor, oil of pennyroyal, or a 5-per-cent. menthol ointment. The protective effect of these substances is, however, only temporary.

What we have already said concerning the breeding places of *stegomyia fasciata* should sufficiently i ndicate the general hygienic measures that should be taken in order to prevent the spread of yellow fever. These should consist in enforcing such measures as will effectually destroy the breeding places of this very domestic mosquito. The methods adopted by the Chief Sanitary Officer of Havana, during the present year, may be taken as a model by our sanitary officials.[1] It should not be forgotten that a well-drained and well-sewered city, with a pure water supply and clean streets, has no protection against the spread of yellow fever, provided rain-water barrels and other collections of water are present, in which stegomyia may breed. In one of the forts, on the outskirts of Havana, which was otherwise in an excellent sanitary condition, we found thousands of *stegomyia fasciata* breeding in tin cans placed about the legs of a table in an officer's kitchen. Our conception of yellow fever, therefore, as a "filth" disease must be abandoned, and our attention turned to yellow fever as a mosquito-borne disease. In illustration of what may be accomplished by sanitation based on the latter method of propagation, we present herewith a chart (Fig. 10) showing the actual monthly mortality from yellow fever in Havana, for the period from 1880 to 1899, and also for the years 1900 and 1901. Comparing the mortality from this disease for 1899, which was the most favorable year for yellow fever that Havana had experienced in twenty years, with 1901, during which sanitation, based on the demonstration that yellow fever is propagated by the mosquito, has been enforced, we find a reduction in mortality of 83.3 per cent. in favor of the present epidemic year (April 1 to August 31); or if we compare the mortality for the epidemic year 1900 with the present year we observe a still greater reduction in favor of the latter, viz. 411 per cent.

The sanitary regulations put into force February 15, 1901, by Dr. Gorgas, resulted in freeing Havana from yellow fever within three months, so that for a period of fifty-four days—May 7 to July 1—no case occurred. On the latter date, the disease was brought into Havana from Santiago de las Vegas, and, according to Gorgas, has been introduced into the city at least a dozen times from this and other sources. In spite of these new sources of infection, July has only furnished four cases, with one death, and August eight cases, with two deaths. If such admirable results, under new methods of sanitation, have been obtained in this hotbed of yellow fever, we cannot believe that the intelligent and efficient boards of health of our cities will again permit this disease to assume an epidemic form in any city of the United States.

Measures Directed Against the Importation of Yellow Fever Into the United States.—Under the admirable system of inspection and reports, as carried out by the Marine Hospital Service, the appearance of yellow fever at any foreign port is promptly reported for the information of the health authorities of our several Atlantic ports. We may, therefore, divide foreign ports within the so-called epidemic zone into (*a*) infected, and (*b*) non-infected ports. Heretofore, no distinction has been made by the health officers of our Southern ports, as regards quarantine regulations from April 1 to November 1, between infected and non-infected places. All ports within the epidemic zone of yellow fever were considered as being infected places, and hence passengers and vessels were subjected to quarantine and to disinfection of both baggage and cargoes.

With our present knowledge of the way in which yellow fever is propagated, we believe that in the treatment of passengers, as well as of cargoes, a sharp distinction should be made, first, between infected and non-infected ports; and, secondly, in the case of vessels sailing from infected ports, between those that have received their cargoes and passengers in mid-stream and those that have loaded at the wharf.

We believe that no quarantine restrictions should be placed upon either passengers or cargo from non-infected ports. In the case of a vessel loading in mid-stream at an infected port by means of lighters, we believe that she can only receive infection in one way, *i.e.* by passengers who have been exposed

[1] Medical Record, New York, Vol. 60, No. 10, September 7, 1901.

yellow fever on shore, and who, coming aboard, may thereafter be seized with the disease. The possibility of infected mosquitos reaching the vessel, either by flight or by means of lighters, may be considered as highly improbable.

Vessels, loaded under the foregoing circumstances (*i.e.* by lighters in mid-stream), and arriving at our ports without yellow fever developed *en route* should have their non-immune passengers quarantined for five days, counting the time consumed by the voyage as part of the quarantine period, and should be allowed to discharge their cargoes without delay. If the disease has developed *en route* among crew or passengers, the sick should be promptly removed; the forecastle or staterooms, as the case may be, thoroughly disinfected with sulphur or formaldehyde gas, and the vessel allowed to proceed to her wharf.

On the other hand, if the vessel has received her cargo at the wharf of an infected port, there is a possibility that she may have received infection in three ways: First, either by contaminated mosquitos that have bitten a case of yellow fever in the immediate vicinity on shore; secondly, by mosquitos that have become infected from biting a yellow-fever patient present on another vessel loading at the same, or at an adjacent, wharf; or, thirdly, by some individual who has acquired the infection on shore and afterward taken passage on the vessel.

In our opinion, however, the chances of infection of a vessel by contaminated mosquitos coming aboard from a house or ship in close proximity are very slight; although such a possibility must be admitted, and the further possibility that recently infected mosquitos may have sought refuge on the vessel during the night preceding her day of departure. It is also possible that a case of mild, and hence undetected, yellow fever may occur on board, and be the source for the infection of mosquitos already present in the vessel.

Under these circumstances, if a sufficient number of days have not elapsed between her port of departure and port of arrival in the United States, *i.e.* sixteen to twenty-one days, to demonstrate the presence of infected mosquitos by the occurrence of a case or cases of yellow fever *en route*, we know of no way of absolutely excluding the possibility of importation of the disease by such a vessel than by the detention of all non-immune passengers for such number of days as will show their freedom from infection, and by careful disinfection of crew's and passengers' quarters.

If more than twenty days have elapsed during the voyage, without the occurrence of yellow fever, we see no good reason why either passengers or vessel should be detained.

We have said nothing about the disinfection of the vessel's cargo, for the reason that we do not consider this to be necessary. The only possible excuse for subjecting the cargo to disinfection would be the fear of the presence of infected mosquitos in the vessel's hold, provided she had loaded at the wharf of an infected port. In this instance, if the voyage has consumed five or more days, all mosquitos contained in the hold will have died; for, as we have already pointed out, *stegomyia fasciata* lives only a few days if deprived of water. We cannot too strongly insist that the danger of importation of yellow fever into the United States lies, not in cargo or personal baggage, but in the individual sick with that disease. With our present knowledge of its propagation, personal baggage should no longer be subjected to disinfection, and, with our increased ability to prevent its spread by measures easy of application, instances should be few and exceptional when a vessel coming from a yellow-fever port should be delayed longer than will be necessary to remove her non-immune passengers who have not yet completed their period of five days since leaving the port of departure.

The chief duty of quarantine officers hereafter will consist in the detection of mild or very mild cases of yellow fever. In a series of twelve cases of experimental yellow fever produced by the bite of *stegomyia fasciata*, we have, elsewhere,[1] pointed out that four, or 33 per cent., were mild or very mild in character, and have indicated the difficulty of making a positive diagnosis in such cases.

In discussing the period of incubation of experimental yellow fever, we have shown that in 16.6 per cent. of our cases the period of incubation exceeded the usual quarantine period of five days. If we add Carter's cases to those observed by ourselves, we find that of twenty-four cases the period of incubation exceeded five days in three, or 12.5 per cent.

We can thus readily see what great danger heretofore lay in the passage through quarantine of just such mild cases, or of those having an incubation stage of more than five days.

While the exclusion of such cases is of the greatest importance, we doubt whether, with our improved knowledge of how to prevent the spread of yellow fever, it would be advisable to place a greater burden upon ships' passengers by extending the quarantine period to more than five days. It appears to us rather that in view of the troublesome delays to which passengers and vessels from yellow-fever ports have been subjected in the past, the time has now arrived, when, standing upon more solid ground, we will be justified in seeking in every way to lessen, as much as possible, the restrictions placed by present quarantine regulations upon the ship's cargo, while we add nothing to those of the passenger.

To this end a most important part will have been accomplished if we can persuade the sanitary authorities of our sister republic, Mexico, and of the Central and South American States, to join us in the adoption of more enlightened methods for the suppression of this widely prevalent epidemic.

ON THE MODE OF TRANSMISSION OF THE INFECTIOUS AGENT IN YELLOW FEVER AND ITS BEARING UPON QUARANTINE REGULATIONS.*

By A. H. DOTY, M.D.,
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The stimulus given to bacteriological research and scientific investigation during the past twenty years has led to many discoveries regarding the means by which infectious diseases are transmitted. The evidence presented is indisputable, although in many instances it is at variance with our former theories regarding this subject.

The recent experiments in Havana under the direction of Dr. Walter Reed, U. S. A., and his colleagues, have conclusively shown that the infectious agent in yellow fever is transmitted by the mosquito, and there is reason to believe that this is the only means by which the disease is propagated. Therefore, it is fitting at this time that we should consider in connection with the above experiments the practical experience of those who have dealt with this disease, in order that we may come to some definite conclu-

[1] "Experimental Yellow Fever," Transactions of the Association of American Physicians, Vol. XVI., 1901.

*Read at the meeting of the American Public Health Association, held in Buffalo, September 18, 1901.

sion regarding the future control of yellow fever and the necessary sanitary procedure in the case of persons and vessels arriving from infected areas or ports. The extent to which commerce has been crippled by what we now believe to be unduly vigorous quarantine regulations can hardly be overestimated, and it is but proper and just that we should take prompt action to give such relief in this direction as is consistent with public health.

The history of yellow fever in the United States and elsewhere has shown that it is usually confined to geographical limits, and that sections beyond these are as a rule free from the disease, although it has occasionally appeared outside of the yellow-fever zone. For instance, between the years 1798 and 1805, many cases of yellow fever occurred in New York, first appearing at the lower end of the city in the vicinity of Peck Slip. Medical history indicates that the disease had shown itself here before that time, but it was not until the period I refer to that it was fully recognized and studied. I have been fortunate enough to secure a copy of the official medical statements relative to these outbreaks, and the opinions which are expressed are in such harmony with the conclusion of modern sanitarians that I submit the following extracts:

Dr. James Hardie, who in 1822 published an official account of these outbreaks, says in reference to cases of yellow fever at Bellevue Hospital in 1798:

"There is one thing very remarkable, with respect to the attendants of this hospital, which ought not to be omitted. Their situation, to most people, must have, no doubt, appeared peculiarly dangerous, as they were literally surrounded by pestilence. It so happened, however, that neither physicians, nurses, nor washerwomen caught the infection. The boatmen, too, belonging to the Health Office, who enter the hospital at all times, and were not only engaged in bringing the sick from the city and shipping, but, likewise, in removing them from place to place, enjoyed a uniform state of good health; and of those persons who accompanied their friends and relations, stayed with them, and nursed them, there is not a single instance of an individual being infected. In short, Dr. Douglas, one of the assistant physicians, was the only person, residing there, who was seized with fever; but he had been in the habit of occasionally visiting his friends in the city, and three days previous to his being taken ill had slept in a house the vicinity of which was highly infected, and it is more than probable that his sickness was occasioned by that cause."

The following extract is taken from the official report of the resident physician at the Marine Hospital on Staten Island regarding the outbreak of yellow fever in 1799:

"During the months of July, August, and October (1799), there were in all about two hundred and fifty (250) persons sick of yellow fever in the Marine Hospital, a great part of whom were from the shipping; the rest from the city. At that time, there were of physicians, nurses, washerwomen, boatmen, and my family, composed of myself, my wife, and three children, thirty-seven (37) persons, not one of whom, although daily and hourly amongst the sick, experienced the least indisposition."

From the official communication addressed to Governor Lewis, January 12, 1806, by Dr. Edward Miller, resident physician of Bellevue Hospital, I quote the following:

"No communication of the disease was ever observed in yellow-fever hospitals, situated at a distance from the cities to which they belong. No exception to this has ever occurred in any of the numerous seasons of this pestilence, at our hospital, at Bellevue, the Marine Hospital on Staten Island, that of Philadelphia, or any other in the United States, provided the malignant air of the city had been avoided. The force of this fact seems never to have been duly considered or appreciated. The numerous retinue of medical attendants, nurses, washerwomen, servants, etc., which belong to our hospitals, must be known to everybody. How greatly they are exposed to contagion, if it could be supposed to exist in this case, is equally known. The most malignant cases of the disease are constantly found in these institutions. The exposure of physicians and their assistants is well understood. The duty of the nurses leads to an incessant and unreserved intercourse with the sick; they sleep and pass the greater part of their time in the apartments of the sick, the dying, and the dead.

"The nurses at Bellevue Hospital became so entirely free from all apprehensions of the contagiousness of this disease that they often slept on the same bed with the sick, and it happened more than once, in the course of the season, that a nurse, overcome with fatigue and want of sleep, threw herself in the night, for a little repose, on the bed of a dying patient and continued there asleep until the patient was dead, and it became necessary to remove the corpse."

The official reports from which I have just quoted contain many statements similar to the above.

Fifty years after these statements were made, a most notable congregation of sanitarians took place in New York City (1859) under the name of the Third National Convention. After a most careful and exhaustive discussion of yellow fever, the following resolution was passed by a vote of eighty-five yeas to six nays:

"*Resolved*, That in the absence of any evidence establishing the conclusion that yellow fever has ever been conveyed by one person to another, it is the opinion of this convention that the personal quarantine of cases of yellow fever may be safely abolished provided that fomites of every kind be rigidly restricted."

To what I have presented above, I shall add my personal experience with this disease, and with persons and vessels arriving from yellow-fever-infected ports. This experience, which covers a number of years, is in full accord with the previous records of the New York Quarantine Station. Its special importance lies in the fact that probably more than one-half of all foreign vessels coming to the United States reach the port of New York, which is in daily communication with yellow-fever ports.

For the purpose of better studying the statistics which I am about to present, it will be necessary to divide the vessels arriving from yellow-fever ports into two classes: (1) Those which are a week or less in transit, such as vessels from Cuban, Mexican, and Central American ports, and (2) vessels coming from ports far away, as Santos and Rio Janeiro (Brazil), which are three weeks or longer in passage. In the first class are found the greater number of vessels, and those with which we come in daily contact. These include both passenger and freight boats. The vessels from Havana, the most numerous, and on which we have heretofore found a large percentage of the yellow fever reaching this port, are from three to five days in transit, while at Havana they do not, as a rule, approach the docks, but discharge and receive their passengers and cargoes in the open bay. A still further restriction has been made. I have recommended that the crews of these vessels be detained on board and not allowed to go ashore. Some of the fast mail steamship lines carrying passengers have made this a rule of the company, and have required its strict enforcement. Vessels from Mexican

and Central American ports, which are included in the first class, are about one week in transit to New York.

The patients with yellow fever removed from these vessels have in every instance been taken sick within five days from the time of departure from the infected port; a large percentage of them showed the first symptoms of the disease during the first forty-eight hours, and some have stated that they were not feeling well at the time of embarkation. As a rule, these cases were found among the second cabin or steerage passengers, and although there was free exposure, in no instance has a secondary case ever occurred. I want to emphasize my statement regarding the exposure, as in the cases referred to it was practically unlimited. Sometimes the disease was not recognized, and the patient remained in the same apartment with others during the entire voyage; at other times, although the patient may have been removed to other quarters, fellow passengers or members of the crew were detailed to care for him, as these vessels do not, as a rule, carry surgeons. The exposure was not only to the patient, but to his clothing, bedding, and discharges also. In instances where a member of the ship's crew contracted yellow fever, it was found that the patient had been ashore, but in no case, so far as I know, has the disease ever occurred among crews which have been kept on board vessels anchored in the bay of Havana. I have no reason to believe that members of the crews of Colon vessels are kept on board during the time that they are in that port; however, I am aware of no case which has occurred among them. This is easily explained by the fact that Colon, in recent years, has been free from yellow fever, and cases of this disease which vessels from Colon bring to the United States are from Panama, about thirty-five miles distant on the opposite side of the isthmus.

Vessels coming from Rio de Janeiro and Santos may be taken as examples of the second class, which are long in transit. These ports are notorious for the prevalence of yellow fever, the bills of health having frequently shown the existence of 400 to 500 cases at one time. Some of the vessels from these ports carry passengers and have medical officers—the majority, however, do not. It is not uncommon for the captain or surgeon to report that, while at Santos or Rio de Janeiro, or within two or three days after leaving, a passenger or member of the crew became sick with symptoms clearly indicating yellow fever, and either died and was buried in port or at sea, or recovered. Their report also shows that in no instance were these followed by secondary cases after the boat had been five days at sea, although there was full exposure and no disinfection. But in no instance has a case of yellow fever been found on a vessel reaching here from these ports. This can easily be accounted for, as all who had yellow fever on these vessels were taken sick at Santos or Rio de Janeiro, or within three or four days from departure, and either died or recovered long before the vessel reached this port, the voyage taking about twenty-one days; whereas cases occurring on vessels of the first class reach here during the active stages of the disease. Neither have secondary cases ever occurred among those connected with the Swinburne Island Hospital in New York Bay, to which place all persons suffering with yellow fever are transferred from incoming vessels.

A careful analysis of these statistics clearly shows that secondary cases have not occurred as the result of exposure to those who have contracted yellow fever in the infected area, or to their clothing, bedding, etc., and that when persons have reached New York and are well after having been five days or more from the port of departure, they have not afterward developed the disease. Inasmuch as passengers and crews arriving on incoming vessels which have yellow fever on board are not detained at this station if they are well and have been five days from a yellow-fever-infected area, it is naturally asked, how can I be certain that mild cases, at least, may not develop after they have left my jurisdiction? My answer is this: First.—If secondary cases occurred as the result of personal contagion, or exposure to clothing, bedding, etc., there would be many of them, as there is full exposure; furthermore, cases occurring as the result of this exposure would not all be mild, and some would surely present themselves in a typical and fatal type. If this occurred in New York City, or elsewhere, it would be known and the disease traced to its origin. Second.—Those who are removed at this port sick with yellow fever are, as a rule, second-class or steerage passengers, and their apartments are on the same deck and in constant communication with the crew of the vessel, and entirely separate from the cabin passengers, who are on the deck above. Therefore the exposure is largely confined to the crew, who are frequently in close contact with the patient; moreover, members of the crew are often detailed to look after those sick with this disease, and in this way freely handle the clothing, bedding, etc. The crews of the vessels upon which the cases are usually found are, as a rule, permanently employed by the companies, and although they visit their home while the vessel is in this port, they return again to the ship before sailing. If they were confined to their homes with yellow fever, or any disease resembling it, or were taken sick in transit to Havana, it would sooner or later be brought to my attention. Third.—We have the experience of sanitarians during many years past to show that yellow fever is not transmitted by personal contagion, or by exposure to the clothing, bedding, etc., of those sick with this disease.

When we study the practical experience which I have just presented and which comes to us from different periods during the past century, we can reach but one conclusion, *i. e.* that yellow fever is not contracted by personal contagion. This, however, is not by any means all that it shows, as the same evidence just as clearly proves that the clothing, bedding, discharges, etc., are not media of infection. In Dr. Miller's communication to Governor Lewis and in Dr. Hardie's hospital report, cited above, as well as the experience which I have presented, specific reference has been made to the full exposure in the hospital, on shipboard, etc. If those who are in constant attendance upon persons suffering from yellow fever and are in close and prolonged contact with their clothing, bedding, discharges, etc., at all times and under all circumstances, are not infected through the medium of this material, when does it transmit infection? Both Dr. Miller and Dr. Hardie refer particularly to the exposure of washerwomen—they unquestionably mean through the medium of the linen, bedding, etc., of the sick. This could not have been previously disinfected, as at that period such treatment was not carried out, and there is every reason to believe that these helpers received the bed linen, clothing, etc., direct from the patient, often contaminated with vomited matter and other discharges, both dry and moist, and the records show that in no instance did secondary cases occur. The opinion of these early observers, which represents their personal experience, is of inestimable value, as they were meeting this disease for the first time, and it is reasonable to suppose that they had formed no previous ideas regarding the means by which yellow fever is transmitted. In order to make these views acceptable

from a practical standpoint, it has been necessary to show in what way, other than through the affected person, or his clothing, bedding, etc., yellow fever is transmitted. It would seem that the experiments of Dr. Reed have furnished this information, inasmuch as the result of his work conclusively shows that the disease is transmitted by the mosquito and not by clothing, bedding, etc. This may be regarded as a confirmation of our practical experience.

To those who have had but little practical experience in this matter, or those who live within the yellow-fever zone, where extreme measures have been regarded as necessary to prevent the appearance or extension of yellow fever, this view carries with it such a complete and abrupt change in the treatment of yellow fever, as well as the treatment of persons and vessels arriving from yellow-fever ports, that it can hardly receive unbiased consideration.

The opposing views regarding the means by which yellow fever is transmitted may briefly be summed up as follows: On the one hand, we have conclusive evidence, as the result of practical experience and scientific investigation, that yellow fever is not contracted by personal contagion, nor by the clothing, bedding, discharges, etc., of persons suffering with this disease; furthermore, there is positive proof that yellow fever is transmitted through the medium of the mosquito. On the other hand, those who hold that the disease is transmitted either by personal contagion or by the clothing, bedding, etc., of the sick, have had but little to support their theory aside from the fact that the true cause of infection was unknown. The result of the Havana experiments leaves now but little justification for this belief.

I am well aware that from time to time evidence has been presented, which is intended to show conclusively that yellow fever is contracted by personal contagion, or through the medium of clothing, bedding, etc. In considering this, we must bear in mind that heretofore we have had no positive evidence as to the means by which yellow fever is propagated, and all have been free to form their own ideas regarding this subject, and very naturally persons, or clothing, bedding, etc., have been accepted as the medium of infection. However, I believe that it is pertinent to ask if, in the instances just referred to, the presence of the infected mosquito would not afford a full explanation for the appearance of the disease. Furthermore, we do not fully appreciate the danger from mild or unrecognized cases as the cause of outbreaks, not only of yellow fever, but also of other infectious diseases, nor is it fully understood how frequently such mild cases occur. Again, we do not consider the errors in diagnosis which may occur, even on the part of the best diagnosticians. Unconsciously, we are very apt, after having accepted a theory, to entertain only such evidence as tends to strengthen our belief in that direction. How can we reasonably entertain a statement that yellow fever follows the exposure to some garment, or other material, when we have such indisputable evidence as I have presented to show that the disease is neither contracted by personal contagion nor by the clothing, bedding, etc.? The hospital reports of 1798 to 1805, to which I have referred, are invaluable, as at that time disinfection was not understood, and there is not the slightest evidence that any protection was afforded in this manner. Furthermore, I am unable to find any reliable or conclusive evidence to show that in the outbreaks of yellow fever, which from time to time have occurred in the South, disinfection has been of any value in abating the disease. In connection with this, I will call attention to the fact that, in the experiments made by Dr. Reed, non-immunes were placed in prolonged contact with the bedding, clothing, etc., of those sick with yellow fever without the slightest evidence of infection; and is it not significant that those living within the yellow-fever zone have learned to look forward to the appearance of frost, the period which terminates the activity of the mosquito, as the only prompt and sure means of ridding a community of yellow fever?

If we accept a sanitary science, we must abide by its teachings, and I know of no better time than the present to look this matter fairly and squarely in the face, and make such changes in our sanitary regulations as are necessary to conform to our present knowledge of yellow fever. What I am now advocating I put into practical operation five years ago, at the port of New York, as, after a careful consideration of the subject, I was convinced that yellow fever is contracted neither by personal contagion, nor by the clothing, bedding, etc., of those suffering with this disease. Since the time stated above, many vessels have arrived here with persons sick with yellow fever, and with the bodies of those who have died of the disease during the voyage; but in no instance have those on board been detained if they are found to be well, and if five days have elapsed since the departure of the vessel from the infected port, although there may have been free exposure to the patient, his clothing, bedding, etc.; however, no secondary cases have ever occurred. It is true that, after the removal of the patient, disinfection is performed in compliance with existing quarantine regulations; but this treatment on the arrival of the vessel can in no way affect those who had been in close contact with the patient while *en route*. I believe the value of Dr. Reed's experiments lies largely in the fact that they indicate a line of procedure in the treatment of yellow fever which, if promptly and properly carried out, limits at once the extension of the disease. I refer to the use of netting, and other means, to guard against the mosquito. Commerce has patiently suffered the enforcement of regulations which, in the present light of our knowledge, are uncalled for, and it is but just that we should give this subject prompt consideration.

There are some details regarding the relation between the mosquito and yellow fever which are yet to be made clear; for instance, why do not infected mosquitos reach vessels lying in Havana harbor, not far from the shore, or vessels which lie at the dock at Santos and other infected ports, and at some subsequent time, or at different periods, transmit the disease to those on board, or at the point of destination? Yellow fever does sometimes occur among the crews of vessels docked at yellow-fever ports, but this is easily explained by the fact that the crews are allowed to enter the town. In explanation of this it may be said that all who have studied the habits of the mosquito fully agree that it prefers to remain in the immediate vicinity of its breeding or abiding place; this is also borne out by the fact that we do not see secondary cases of yellow fever on shipboard, provided the vessel has left the infected port, and there is but little reliable evidence that infected mosquitos are transmitted to foreign shores. It is not impossible for this to take place, and instances have been reported where secondary cases have occurred after leaving port. How many of these statements are authentic, I do not know; but of this I am sure, that it occurs only in rare instances, and we are surely not justified in making our rules conform to these possible exceptions. Suppose that it should be deemed necessary to take action against this possible danger, what can be done that is reasonable? We cannot assume that the mosquito is confined to any special part of the ship; it may be in the

forecastle, saloon, engine room, or in the hold of the vessel. Therefore, if we are consistent in carrying out such an extreme measure, we cannot stop short of fumigating or in some other manner treating every part of the ship. To those who are familiar with this work, I need say nothing; to those who have never undertaken it, I say that such treatment is the most formidable and expensive that a quarantine officer is called upon to perform, besides the long delay to the vessel. Moreover, such action is justifiable unless there is satisfactory evidence that infected mosquitos are on board, as would be indicated by the appearance of secondary cases of yellow fever after a departure of five days from an infected port.

Another question may here be presented for consideration, and it is this: Does five days represent the maximum period of incubation of yellow fever, or may the disease develop after a longer period of time? I am aware that instances have been cited where the disease has occurred after a period of incubation of six or seven days, or even longer, but none have come under my notice. I believe the early symptoms generally present themselves on the third or fourth day. There is no doubt that errors are often made in computing the period of incubation, as persons may be passing through the early stage without any well-marked evidence of it. This I have detected a number of times by the use of the clinical thermometer. A reference to the opinion of many careful investigators, among whom we find Dr. George M. Sternberg, will show that it is the general opinion that five days is the maximum period of incubation. I believe this is sensible and safe, and that regulations should be made accordingly, notwithstanding the fact that evidence has been presented which tends to show that it occasionally covers a longer period.

If we believe that yellow fever is not transmitted by personal contagion or by the clothing, bedding, etc., of those sick with this disease, and that the medium of infection is the mosquito, we must admit that disinfection offers but little protection. No other view is reasonable or logical. Our efforts, therefore, should be turned toward the detection of cases of yellow fever and their treatment according to our present knowledge of the disease. There is no doubt that many outbreaks of yellow fever have been caused by the presence of mild or unrecognized cases where the infection was attributed to clothing, etc. For this reason special effort should be made to detect this type of the disease, which can be done only by a careful and thorough inspection. Moreover, each community which is liable to be visited by yellow fever should be provided with means for the special care of yellow-fever patients, where the most approved methods of protection against the mosquito are in operation. Furthermore, health officials should be familiar with the different varieties of mosquitos, and should, from time to time, make investigations to ascertain, if possible, the presence of the insects which transmit infectious material. I cannot agree with those who hold that a bad sanitary condition does not constitute an important factor in the propagation of either yellow fever or malaria. I am satisfied that it does, inasmuch as filth and bad drainage furnish the breeding places for the mosquito.

In accordance with the above views, the treatment of incoming vessels from ports infected with yellow fever becomes very simple: if they are five days or more in transit, and all on board are found to be well after a careful inspection and the use of the clinical thermometer, the vessel, its passengers, and crew shall be released without further detention or treatment. If the vessel has been less than five days in transit, all on board who cannot present satisfactory evidence of immunity should be removed and held for observation until the completion of a period of five days from the time of departure from the infected port, and then released only after a careful inspection. When yellow fever is found on incoming vessels, the procedure should differ only so far as it concerns the removal of the patient to a properly constructed hospital or apartment for treatment.

Dr. Reed's experiments have not conclusively shown that there may not be some other means than the mosquito by which yellow fever is transmitted. But when these experiments are considered in connection with the results of our practical experience, it is clearly evident that this disease is not contracted by personal contagion or through the medium of clothing, bedding, cargoes of vessels, etc. Therefore I believe we are justified in changing our quarantine regulations to conform to these views, and that such a proceeding is safe and reasonable, particularly as we now have at hand a method which, if properly and scientifically carried out, can be depended upon to limit the extension of yellow fever. If the future shows that there are other means of infection, it will then be time enough to add whatever restrictions are necessary for the protection of the public health.

I am convinced that in following this line of action we are not only offering full protection to the public, but are extending to commerce a relief from unnecessary and unreasonable regulations.

ARTERIO-SCLEROSIS: IMPORTANCE, DEFINITION, ETIOLOGY, AND SYMPTOMATOLOGY.*

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Importance.—To appreciate properly the importance of arterio-sclerosis, we must begin by divesting ourselves of the idea that the blood vessels are mere tubes for the conduction of the blood. They are not mere appendages of the heart, but the heart is rather an appendix to the blood vessels, for low in the scale of life the circulation is carried on without a heart. The study of the blood vessels is the study of the ultimate processes of life, for not only have they the mechanical functions of contraction and dilatation, but they have also the living functions of oxygenation, nutrition, and all of that wonderful and little understood group of changes which are classified as metabolism. Nature, as yet, works here in her secret laboratory, and we must perforce be content with the study of changes visible to the eye.

The time when pathological changes begin in the vascular walls of an individual marks for him the beginning of his decline and decay, irrespective of his length of years. One man may be old at thirty, another young at fifty, and the time of one's death may be precipitated by causes which accelerate or intensify these pathological changes. So many of these causes enter into the lives of working physicians that the importance of a careful study of this subject is manifest, that our own days may be long in the land.

It will be recalled that the walls of the vessels are three in number. The outer wall, chiefly fibrous carries the nutrient vessels and gives strength to the structure. The middle wall is muscular and elastic; it receives the nerve supply, and is the essential factor in the regulation of the circulation and the distribution of the blood. The inner wall is a layer of apposed flat cells, endowed with a peculiar kind of osmotic function which ministers to metabolism and

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forms part of the phenomena of life in the capillary vessels.

The influence of the nervous system is shown in its driving power, not only on the heart, but also on the vessels themselves, in whose muscular walls there are "local hearts;" and these local hearts regulate local pressure, and have, moreover, immediate connection with the central heart. External influences, such as cold, heat, abdominal massage, and hydriatic methods, also influence very markedly the smallest vessels. The vaso-motor center has been located in the medulla, but the influence of the cerebrum itself is shown in the phenomena of blushing, pallor, and the anomalous circulatory changes of hysteria. Pathological conditions influencing the vessels are many and varied. Bright's disease causes hypertrophy of the heart by irritation of the vaso-constrictors by the excrementitious substances accumulating in the blood in consequence of defective renal excretion. Hysteria causes marked and sudden changes by an abnormal mechanical irritability of the cutaneous vessels, as seen in dermographism, blue œdema, subcutaneous hemorrhages, and the free hemorrhages corresponding to the wounds of Christ.

All this change does not depend upon muscular contraction and dilatation. Much of it is caused by the action of the cells which compose the walls of the capillaries; this shows that the blood vessels are not inert tubes, but highly differentiated organs doing part of the work of life. With this preliminary understanding, we may consider that pathological state known as arterio-sclerosis, or, more correctly, as arterio-capillary fibrosis, the name originally given it by Gull & Sutton in 1872.

Definition.—Arterio-sclerosis is a hyaline degeneration of the structural elements of the arterial wall, with connective-tissue substitution, hyperplasia, and subsequent contraction with induration, whereby the characteristic functions of the vessel wall, retention, absorption, metabolism, with the power of expansion and contraction, are weakened and lost. The hyaline process is usually associated with atheromatous and often with chalky and fatty changes. Atheroma may be regarded as the physiological form of thickening of the arterial wall, and arterio-sclerosis the pathological; but arterio-sclerosis may exist without atheroma, and atheroma without arterio-sclerosis, though frequently both are manifested in the same subject. Whether the first change begins in the blood, or in the blood-vessel wall, or in the nervous system, cannot be determined as yet; but the tendency of modern opinion is to locate the origin of arterio-sclerosis in the blood.

The first effect of arterio-sclerosis shows itself in the impairment of contractility, later in weakening of elasticity and osmosis, and consequent interference with metabolism.; next, in the escape of fluid, constituting the various dropsies, and the exudation of albumin from the walls of the vessels of the Malpighian bodies; finally, in the failing nutrition, emaciation, and marasmus which mark the terminal stage. The increased resistance in the vessels throws extra work upon the heart, which first hypertrophies and then dilates. But if the heart continues strong and the vessel grows weak, we may have distention of the vessel wall (giving aneurysm) or rupture, causing apoplexy. Thus the arterial system, which leads the van in the development of the body, is also that upon which the finger of decay is earliest laid. The assault of death begins at the circumference and ends at the center, and though we cannot prevent the sapping of the outworks, we can reinforce the citadel, and thus we are often able to postpone the ultimate surrender. But it is sometimes impossible to foretell whether the enemy will first storm the heart, the kidneys, or the brain.

Etiology.—The causes of this condition may be considered under the headings of heredity, age, sex, alcohol, syphilis, gout, rheumatism, certain acute infections, high living, and hard work. In Osler's terse English, the onset may be said to depend, in the first place, upon the quality of arterial tissue (vital rubber) which the individual has inherited, and secondly, upon the wear and tear to which he has subjected it.

Age is a very indefinite expression. That a man is as old as his arteries may be a trite saying, but it is true. It is failing arterial nutrition that produces advancing age, and cuts off most men's chances of reaching a century of existence. The habits largely influence the production of arterio-sclerosis, however, and give to lives of self-denial or of self-indulgence their corresponding reward of longevity or punishment of short life. Of course, the gross alteration of atheroma is undoubtedly a disease chiefly of middle and advanced life, but the finer changes of arterio-sclerosis may be determined much sooner, even in childhood and early youth. In fact, there is no doubt that individuals are born differing in the thickness and strength of arterial walls, as much as in structure of other organs. Since men are more frequently affected with alcoholism, syphilis, gout, etc., and are subject to more mental and physical strain than women, it follows that the preponderance of cases occurs in the male sex.

Alcohol acts in many ways to bring about arterial degeneration. First, it over-excites the heart, so that the vessels are subjected to greater strain; second, it disturbs digestion, causes liver cirrhosis and kidney insufficiency which load the blood with poisons; third, alcohol is itself a poison to the blood.

Syphilis causes so much thickening of the inner wall of the vessels as to lead to great diminution, or final obliteration, of their caliber. It may also deposit gummatous nodules in the outer wall. Syphilitic changes seem to show a predilection for the brain arteries, especially for the brain that has been weakened by other injurious influences, and sometimes produce, besides the endarteritis obliterans, a circumscribed granulation tumor (syphiloma) in the walls of arteries and veins. Syphilis attacks the brain vessels by preference because syphilitic arteritis is localized in arteries supplied with lymphatic sheaths.

Certain acute infectious diseases, especially typhoid fever, malaria, influenza, scarlet fever, and diphtheria, may lead to arterio-sclerosis, either by injuring the vaso-motor nerves, and thus leading to changes in the vessel walls, or by directly affecting the endothelium by their specific micro-organisms or toxins.

Chronic diseases, like gout, rheumatism, saturnism, and diabetes, are frequently attended by arterio-sclerosis or atheromatous changes in the vessels. Toxins, like ergot and lead, produce protracted spasmodic contraction of the smallest vessels, whereby the blood pressure is increased and extra work thrown upon the heart and large vessels.

Overfeeding and drinking induce a simple plethora of the vessels, but, in addition, load the blood with toxins in the case of high livers with sedentary habits. Yet, as an initiative, there must be peripheral obstruction to produce hypertrophy of the heart, because Strasburg geese may be stuffed to repletion to supply the market with *foie gras*, or young porkers fattened for the butcher, without producing cardiac enlargement. Hard work acts by raising the blood pressure and subjecting the heart to hypertrophy and the vessels to strain. This is especially true if the work be accompanied by depressing psychical emotions, or accomplished under circumstances of pro-

longed mental and physical strain. The labor we delight in pains, yet who has not felt the increase of his arterial tension and the booming of his heart when, after a long night's vigil by the bedside of a parturient primipara, the time had arrived to assist Nature's failing efforts. It is not work, but worry, which leads to premature senescence. Yet, how little the public credits us with worry about our work! How many believe that men become but specimens in our eyes, and that there is no room left in us for ministry to the agony of hearts whose only disease is grief! Yet who has not seen some great leader of our profession, whom forty years of hard practice has not yet hardened, with moistened eyes and blanched cheek, forcing himself to say that for some beloved relative science had no remedy. Sleepless nights and anxious days, hours of tense apprehension, the exertion of almost superhuman ingenuity to relieve pain, are alike the portion of our rural William MacLure's and of our city brethren. Few, indeed, have the opportunities, few also have the cares and strain of a good physician who is also a good man. And arterio-sclerosis, the cause, not the effect, of advancing age, finds its root in these. The death rate of medical men in New York and Brooklyn, from 1884 to 1892, was exceeded only by that of saloonkeepers who are intemperate by that of butchers who are gluttonous, by that of quarrymen who are exposed to the dangers of explosives, and by that of the most underpaid of factory operatives. And of those who died, 35 per cent., or more than one-third, died from the threefold sequela of arterio-sclerosis, that is, from Bright's disease, apoplexy, and heart disease. As against this showing, the death rate from these causes was only 25 per cent. among all the male adults in New York City, including all the tramps, vagabonds, and drunkards who drift into the city to die. Arterio-sclerosis, then, is preëminently the doctors' disease.

Symptomatology.—The clinical history of arterio-sclerosis is not the mere story of the past few weeks, but comprises the life history of the patient from his cradle, and often includes that of his forefathers also. The symptomatology sometimes makes its diagnosis easy and certain, sometimes only presumptive, sometimes impossible. The disease may be extensive and show no external signs whatever. Or it may be distinctly indicated by the hardness and serpentine course of a radial, temporal, or other accessible artery. Latent arterio-sclerosis may require for its detection an increase in the blood pressure discernable only by instruments of precision, like the sphygmometer, arteriometer, or the sphygmograph. The disease may be latent for a long time, and the symptoms which eventually appear will depend upon the organ which is most affected. Thus, when the aorta suffers, we may have aneurysm with its accompanying train of symptoms. When the coronary arteries are implicated, we have heart failure, arrhythmia, and stenocardia. Affection of the bronchial and intercostal arteries may give weak respiratory efforts, defective expansion of the chest, emphysema of the lungs. When the process is general (arterio-capillary fibrosis of Gull & Sutton) or when it involves large organs, and by increasing blood pressure throws extra work upon the heart, we have hypertrophy of that organ, giving place later to dilatation, each condition giving its characteristic symptomatology.

Sclerosis of the coronary artery announces itself by palpitation after meals, dyspnœa after slight effort, oppression over the upper part of the sternum, or a sharp pain in the left arm, which is at first relieved by cessation of muscular effort. Later on, attacks of true angina pectoris may set in. Arterio-sclerosis produces nowhere more serious change than in the kidney, leading to cirrhosis with its classical signs, to wit: abundant urine of low specific gravity, little albumin, hypertrophied heart. Brain symptoms at first require keen observation, or rather keen perception, on the part of the patient himself. Earlier fatigue, disinclination to effort, especially to the physical effort which has perhaps made the man successful in life, irritability, alteration of disposition, headaches in crowded assemblies or in the study, headache after the very moderate use of alcohol, tobacco, or coffee, all indicate the point where the habits of life must be revised and corrected, where the individual must take in sail. The city doctor of forty years of age must consider selling his horse, abandoning his dinner glass of wine, cigar, or coffee, and spending more time in the open air. His summer vacation must be longer, and must be spent in some place where he will firmly decline to infringe upon the practice of the local practitioner. The pursuit of the elusive golf ball may be taken up in lieu of the still more elusive pursuit of fame and wealth. Outdoor air expands arteries better than iodides do. Night work, if possible, must be handed over to some younger man with more elastic arteries. It is by securing these advantages and turning them to the good that vital decline is arrested and chronic ailments remedied when that is possible, rather than by the unguents, the hot baths, and the elixir vitæ, by which our forefathers sought to emolliate the rigidity of age, and to add a fresh stock of vital force to that which was fast wearing away.

Herbert Spencer's definition of life, *i. e.* that it is "the continuous adjustment of internal relations to external relations," while not answering all the problems of our inquiring reason, is yet practically sufficient for the physician who deals only with the physics involved in life.

By adopting these measures, one affected may hope to escape the advanced brain symptoms of the process. These are, weakening of the mental faculties, vertigo, insomnia, transitory speech-disturbances, mental disturbances, melancholia, irascibility of temper, or perhaps an abrupt closure of the scene with apoplexy.

In the vessels of the extremities, coldness of the surface, rheumatoid pains on walking a short distance; later, changes in the color of the skin and perhaps gangrene may be observed. Raynaud's disease is sometimes referred to this cause.

I have endeavored to present here, concisely, what is given in the writings of the authors, references to which are hereto attached; but I am indebted chiefly, almost wholly, to the comprehensive article by James T. Whittaker.

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CINCHONISM AND ITS EFFECT UPON ARTICULATION AND VOCALIZATION.*

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It is by no means my intention to enter into a detailed and lengthy dissertation upon the apparently impossible relation between subjective audition and sound emission, as such an attempt, even in its merest outline, would carry me far beyond, not only the legitimate time for a paper, but even beyond the limit of laryngology and otology, and land me in the as yet unexplored vastnesses of what for want of a better name might be called psycho-physiological physics.

All I wish to bring before the society is a summary of the deductions and quasi conclusions which I have arrived at from a large number of observations, including the tests made on myself and my own personal experiences, of the effect of tinnitus aurium, the aural symptoms of what is generally termed cinchonism, as well as of external, non-subjective noises, upon vocalization and particularly upon articulation, most prominently noticed by the subjects in the pronunciation of certain of the consonants. That it was no easy matter to get definite data in regard to the loudness and pitch of the subjective aural sensations in the majority of cases can be readily appreciated, and also that the difficulty was greatly augmented when it became necessary to determine the loudness and pitch of the external non-subjective noises interfering with articulation. Still, by perseverance and with the aid of an occasional musically trained subject, I now, after more than ten years of study of the subject, whenever opportunity offered, and with the aid of a complete set of Rudolph Koenig's test tuning-forks and rods, feel justified to draw the following conclusions as being reasonably correct:

In the first place, I found that the ordinary tinnitus aurium due to middle-ear disease never transgressed the limits of pitch from "d-1," 297 vibrations as the lowest point, to the "f-2," 704 vibrations as the highest, as near as it was possible for me to determine, and that these subjective noises, although variable in quality or timber of the sound, had no appreciable effect upon vocalization or articulation; but that they would invariably and very materially affect the perception of sounds which had the same, or nearly the same, number of vibrations per second.

The subjective noises of so-called cinchonism as produced by the systemic toxic effects of various drugs, such as quinine, salicylate of sodium, alcohol, ether, and many others, I found to be invariably of a very high pitch, varying from as low as the "g-3" (1,584 vibrations) to as high as the "1-4" (3,960 vibrations) and often even higher. And in the few cases of musically educated persons whom I have had the opportunity to examine and who were familiar with aural analysis of sound, inquiry elicited the fact that the noise was composite in character, being made up of a variable number of individual sounds. These sometimes were harmoniously blended, thus forming a chord, the fundamental tone of which, however, was always constant in pitch, but varied in its pitch with the drug producing the cinchonismal noise, and was usually lowest if quinine was the cause, and highest when salicylate of sodium produced the subjective aural sensations—a fact which I have had frequent occasions to verify in my own person.

The third fact which I observed in this connection, and which should, by rights, be the first, because it was the one which led me to pay any attention to the subject at all, was that any composite noise of high pitch, such as is produced by the hissing of escaping steam or the noise of rapidly revolving grindstones, etc., not only interfered with the pronunciation of those consonants, which, according to the investigations of Helmholtz, Wolf, Seiler, and others, have for their characteristic (independent of vocal or vowel sound, by which they are usually accompanied in articulate speech) a combination of sounds of very high pitch, such as the "th," "s," "sh," "z," and the like consonant sounds of articulate speech, but also caused them to be the most easily obliterated and consequently most difficult to be appreciated and recognized by the ear. This fact which, if attention is called to it, is quite familiar to steam engineers, grinders, and others working among machinery can easily be explained by the well-known acoustic law of interference with each other of sound waves of the same or nearly the same length; and that the higher the pitch of two *non-harmonious* sounds, the greater the difference can be in the number of vibrations allowing interference. It is not necessary for a high-pitched noise, such as the hissing of steam, to be in unison with the noise of a consonant, the characteristic pitch or position in the musical scale of which is near that of the external noise, for the latter to react upon the former and to make its perception by the ear and production by the organs of articulation difficult, if not impossible.

But acoustic or physical laws fail us completely when a subjective, in reality physically non-existing, noise, such as that of cinchonism, materially interferes, as it undoubtedly does, with the *pronunciation* of those consonants of high-pitched composite characteristic sounds, and even alters the quality and timber of the high-pitched vowel sounds.

I offer this brief summary of facts as I have observed them, and refrain from any explanation or hypothesis of the to me inexplicable but undoubtedly existing influence of a purely subjective, and therefore non-externally, produced sensation upon a purely physical phenomenon, such as vocalization and articulation. But I hope that other and perhaps younger investigators may find them of use, and be able to turn them to practical account.

*Read at the annual meeting of the American Laryngological Association at New Haven, June, 1901.

French Snail Gardens.—As is well known, remarks the London *Morning Post*, certain species of snails form a favorite dish with French gourmets, and the cultivation of these land mollusca is conducted on a large scale in the outlying suburbs of Paris, particularly in the Department of Aube, where there are large snail gardens, with plantations of thyme, mint, parsley, and chervil for the animals to feed on. When a Frenchman takes snails wild, he, if prudent, leaves them a few days to digest their last meal, for there is a current belief that they may be dangerous if they have recently fed on poisonous plants.

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MORTALITY RATE IN THE UNITED STATES.

THE statistics recently published by the census Bureau of this country with regard to the death-rates are of exceptional interest, and are of a nature to give rise to hopeful views regarding the checking of the spread of disease, and perhaps even the extinction of some maladies.

The mortality rates given in the bulletin are those for 1890 and 1900, and the comparison between the death list of these periods shows conclusively that the efforts made by hygienists to lengthen the lives of American citizens have been attended with complete success.

The statement is made that the proportion of deaths to population has decreased within the dates mentioned by nearly 10 per cent., and that the average age at death of an American is now 38.2 years, as compared with 31.1 in 1890. This, of course, is a magnificent showing, and the only drawback to the picture is that the bettered conditions of living apply only to the larger cities. The country districts exhibit according to the bulletin no such relative improvement.

The most striking feature of the report is the great reduction in the death rate from tuberculosis, which has fallen from 245.4 per 10,000 persons in 1890 to 190.5 per 10,000 in 1900, a gratifying proof of the efficacy of modern sanitation, and of the means now employed in fighting the disease. Diphtheria, cholera infantum, bronchitis, diarrhœa, and typhoid fever, also, for the same reasons, claim far fewer victims at the present time than in 1890, the decrease in mortality from these causes having been substantial and progressively steady.

On the other hand, pneumonia, as a factor in the death rate, occupies a more prominent position, there having been 191.9 per 10,000 deaths in 1900, and 186.9 per 10,000 in 1890. The cause of this increase in the occurrence of pneumonia has been on many occasions given in the RECORD, and in other medical journals as undoubtedly due to influenza. This insidious malady has made rapid progress since 1890. In that year, the deaths directly attributed to it were, the census bulletin states, 6.2 per 10,000, while in 1900 the number was 23.9 per 10,000. The fact must also be taken into consideration that influenza peculiarly predisposes its victims to other diseases, notably to pneumonia, by rendering the system susceptible in a high degree to the ingress of disease germs.

Pneumonia as a sequela to influenza is also a most fertile cause of death, the vitality of the patient when seized being at a low ebb, and recuperative powers well-nigh used up by the drain put upon them by the former affection.

Cancer, again, has been conspicuously on the increase during the past ten years, as have kidney complaints, heart affection, and apoplexy. The activity of scientific men in different parts of the world, who are engaged in the investigation of the origin and causes of cancer, give rise to the hope that some of its unknown features may soon be definitely solved, and that, as a consequence, its treatment may be conducted upon more intelligent preventive and curative principles.

The bulletin of the United States Census Bureau is a most satisfactory document, and the tale it tells is a feather in the cap of our city boards of health, and of our municipal reformers generally. There is yet, however, room for much improvement in the sanitary conditions of the large cities of America, particularly in the direction of wholesome dwellings for the poor.

THE GUILD OF THE DOCTORS.

IN all parts of the world, in which qualified physicians follow their calling, their souls are vexed within them, and their pockets suffer by reason of the strenuous competition encountered on all sides. As if it were not enough that the medical profession itself is full to overflowing, and that within its own ranks the struggle for position, and sometimes even for existence, must be continuous and unremitting —the additional burden of fighting the free lances of medicine and surgery is superimposed.

The most bitter drop in the medical man's cup of misery is the knowledge that the illegitimate practitioner, the faith curer, and charlatan of every description are permitted to contend on equal terms with the qualified man who has expended time, money, and brains in becoming competent to practise the healing art.

A case has come to light recently in Great Britain, peculiarly indicative of the anomalous situation in which a medical practitioner often finds himself in consequence of the laxness of the laws provided for his protection, and the strict adherence to the code of ethics, rightly prescribed by the governing medical bodies.

It appears that the Duchess of Sutherland, a lady active in good works, conceived and carried into execution a scheme for the physical amelioration of crippled children in the Potteries district of Staffordshire. In that hive of human industry, owing to the conditions of life prevailing, an immense proportion of children are born into the world afflicted with a variety of diseases, many of which are curable. The duchess formed a league for the benefit of these unfortunates, and enlisted in her service the freely given aid of the doctors of the locality. Later on, however, she also called to her assistance a bone-setter well known in New York.

The *British Medical Journal* then urged the qualified practitioners to withdraw in a body as a protest against the introduction of the new incumbent. This perfectly regular and correct action on the part of the organ of the British Medical Association has aroused the ire, and inspired the sarcasm, of writers in many of the British lay journals, and in particular of a philosophic contributor to the *London Referee*, a journalist be it said whose writings are usu-

ally characterized by an impartial fairness and a sound common sense. The gentleman in question takes the ground that the point of the whole matter is that the bone-setter is not a member of a guild, and that in consequence the medical profession is prejudiced against him, without stopping to investigate his alleged skill in surgery.

There can be no doubt that the charge levelled against the profession, the British Medical Association, of being a guild, is correct, if by the term guild is meant a banding together of medical men for the protection of their own interests, and for the safeguarding of the general public against the wiles of incompetent persons.

The fact that the new man does not fall within this category does not weaken the position taken by the *British Medical Journal* in the least, but rather strengthens it, for if the distinguished bone-setter—who is, we believe, a Fellow of the Royal Veterinary College—possesses the knowledge of surgery and skill claimed for him, why, then, does he not qualify as a regular practitioner? The bone-setter has, according to authentic testimony, demonstrated a rare ability in the treatment of fractures and dislocations; he is not a fraud in this respect, and is thus so much the more dangerous; for numbers of impudent quacks, spurred on by his success and by the countenance given him by prominent and educated persons, have and will enter the same field, and, if not checked, will do an infinite amount of harm.

The truth is, probably, that he finds it much more profitable to keep outside the medical profession than to roam the world armed with a license.

An inherent weakness in human nature should also be taken into consideration, the tendency of a large number of persons, and especially of women, to believe rather in anything new, than in the established order of things.

So far, from the introduction of some of the principles of trade unionism into the medical profession being regarded as a reproach, it should be esteemed a necessary and sensible step, taken to preserve the interests of the medical man, and of the general public.

A far greater degree of cohesion than now prevails among the fraternity of medicine might exist with advantage to all concerned.

MASSAGE IN THE TREATMENT OF FRACTURES.

In *The Practitioner* for August, 1901, there is a contribution by Bennett of London on the value of massage in the treatment of fractures, and a number of important points of the subject are discussed. It is undoubtedly the case that many of the routine methods of treating simple fractures with various immobilizing splints, while fixation is secured, leave much to be desired in some other respects. The long-continued immobility produces stiffness of joints and tendons, causes œdema, and permits the muscles to atrophy, and any method which avoids these things, and at the same time does not allow any undue movements of the fragments, should receive attention. The great value of massage in the treatment of sprains has long been recognized, but the similarity of the conditions in fractures and sprains has not often been noted, though it undoubtedly exists. A sprain may be followed by extravasation, œdema, and involvement of tendons in the exudate in exactly the same way as in the case of fracture, and the treatment of these conditions in each case should be the same.

It is not entirely correct to think that absolute immobility of fragments is necessary after reduction has been accomplished, for under certain conditions of delayed union a little movement of the broken ends of the bone does more good than harm by stimulating the formation of callus. Indeed, it has long been a recognized way of hastening union in such cases of retarded or incomplete repair, viz., to move the partially united fragments vigorously on one another at certain stages in the treatment.

With means employed to prevent actual displacement of the fragments, we have, therefore, in a simple fracture the same conditions to contend with as in a severe sprain, and we may expect to get the same beneficial results from massage and passive movements as we are accustomed to obtain in the latter condition. The massage is rarely painful after it is employed the first time, and it may be made gradually more vigorous. The removal of the extravasated blood is thus completed much more quickly than is possible in any fixation method, and œdema is kept down practically completely. In the neighborhood of a joint, where extravasation and œdema are apt to be extensive, and where the tendon sheaths are liable to be filled with blood when the adjacent bones are fractured, the early removal of the extravasation has an important bearing on the future function of the joint and the tendons, and is a determining factor in the time required for the full restoration of function. Properly regulated massage is the only certain means of accomplishing this removal, and, combined with judicious passive movements, is coming more and more to be a recognized adjunct to the treatment of simple fractures. A shortening of the time of treatment is a matter of importance, since most of the persons who sustain fractures are those to whom sound bodies are a necessity in earning a living; and the picture of a man with the tendons of the wrist almost immobile and a somewhat œdematous hand, after the common fracture of the radius, undergoing manipulations sometimes for weeks, is only too well known to surgeons. If such tendons are not allowed to become adherent, and if the extravasation is provided for by massage, a much earlier return to work is possible.

In certain fractures, such as the patella, the olecranon, and the neck of the femur in old people, in which osseous union is not the rule, the early employment of passive movements and massage is of special value, and results are often specially prompt and satisfactory. In the case of the patella or olecranon, even after operative treatment, the early use of massage is valuable, and passive movements may be made with benefit at a much earlier date than is generally supposed, if made at right angles to the line of fracture, and of a very moderate extent at first.

It has been urged that massage in the presence of an extensive extravasation of blood will increase the danger of embolism, and is therefore of questionable utility. Under ordinary circumstances, thrombosis and embolism need not, however, be considered as any more likely to occur with massage than without

it, and it is only under special conditions that it must be used cautiously or not at all. When large vessels, especially veins, are in the neighborhood, and when the amount of contusion is extensive, it is conceivable that massage might dislodge a portion of a clot, and thus cause serious trouble, though under these circumstances accident seems to be a remote possibility, and more of a theoretical danger than anything else. Even when the extravasation is very extensive, the massage seems only to hasten its removal. Of course, if large veins are known to be in the region of the fracture, and to have been subjected to severe bruising force, no one would subject them to vigorous massage, though gentle massage and passive movements in the neighborhood outside the contused area would be valuable in restoring normal conditions of local circulation. The beneficial effect of massage in preventing muscular atrophy is well known and needs no comment, except to say that the after-treatment is much shortened when the muscles are kept in good condition, and that, in almost all cases of simple fracture, massage is therefore a desirable adjunct to the treatment. A considerable amount of dexterity, only acquired by practice, is necessary to get the full benefits of the plan of treatment which we are considering; but when systematically carried out the results will be very gratifying, and the number of fractures in which absolute and long-continued immobility is considered necessary will be very greatly diminished. Almost all simple, uncomplicated fractures of the long bones can be treated by this method, the chief care being that whatever in the nature of apparatus is employed should maintain reduction, and permit access to the site of the injury, so that the treatment may be carried out. The method is deservedly attracting much attention both here and in Europe, and so far has proved very satisfactory.

TREATMENT OF ACUTE PNEUMONIA BY OXYGEN.

Oxygen in the treatment of pneumonia is generally regarded nowadays with lessening favor, and much skepticism is evinced by a large number of medical men as to its beneficial remedial qualities. To such a large extent has this antipathy developed that the inhalation of the gas in cases of pneumonia would seem to be falling altogether into disrepute. It is, therefore, somewhat refreshing to meet with a practitioner who has a good word to say for gas, and who can point to a practical illustration of its merits as an enemy to the toxins of pneumonia.

According to Dr. Andrew H. Smith, pneumonia is not a direct inflammation of the lung, for the reason that in his opinion it does not affect the nutrition of the organ, but is a process of germ culture in which the pneumococcus grows in a medium supplied by the functional capillaries of the lungs. The cocci do not enter the lung substance, but are enclosed in the air vesicles, in which they flourish and produce their toxins, thus causing by absorption the fever and other characteristic symptoms of the malady.

The pneumococci of Fränkel do not thrive in pure oxygen, and this fact suggested to the mind of an ingenious physician that the inhalation of the gas might prevent the spread of the disease to healthy parts, and might probably prove inimical to those cocci which had already gained a footing in the lungs.

Dr. G. E. Richmond of the Imperial Yeomanry Hospital, Pretoria, South Africa, relates in the *Lancet*, September 28, his experience in the use of oxygen administered to a patient under his charge suffering from double pneumonia.

The man in question was young, fairly robust, and his temperature never rose above 104.6. The pneumonia was double. The disease progressed *pari passu* on both sides, until the upper lobes alone were left intact, and the patient fell into a typhoidal state, with respirations of 80 per minute and a pulse varying from 120 to 136. Dr. Richmond is of the opinion that if this condition had lasted a day or two longer, the patient must have died. From the time, however, the oxygen was given, the temperature began to fall, while before it had been rising. The patient made an excellent recovery.

Dr. Richmond remarks that whether this was due to the patient's constitution or the benign influence of oxygen is difficult to decide, but that he personally is disposed to attribute the favorable result to the action of oxygen in preventing the spread of infection to the upper lobes. The object in the treatment of pneumonia is to arrest or inhibit the growth of the pneumococcus, and when the extreme sensitiveness of the germ is considered, there would seem to be no reason why, if oxygen be antagonistic to the cocci, it should not check their spread.

The case against oxygen as a remedy in pneumonia is that in a large number of trials its beneficial effects have not been very obvious. On the other hand, delay in its use may have, in many instances, invalidated its action for good. Dr. Richmond only advises the use of oxygen in the early stages of pneumonia. Given then in conjunction with other remedies, oxygen may yet be found to play a useful part in the fight against the poison of the disease.

The Use of Insects as Food.—M. Dagin, a French entomologist, has recently written an article in which he recommends certain insects as an article of diet. He speaks with authority, having not only read through the whole literature of insect-eating, but having himself tasted several hundreds of species raw, boiled, fried, broiled, roasted, and hashed. He has even eaten spiders, but does not recommend them. Cockroaches, however, he says, form a most delicious soup. Pounded in a mortar, put through a sieve, and poured into water or beef stock, Dagin says they make a purée preferable to bisque. Wilfred de Fonvielle, the French scientist, prefers cockroaches in the larval state. The perfect insect may be shelled and eaten like a shrimp. Then, caterpillars are a light food and easy of digestion; not only African and American natives like them, but they are also appreciated by Frenchmen. M. de Lalande, the astronomer, dined every Sunday with the zoologist Quatremere d'Isjonvalle, and Mme. d'Isjonvalle used to collect caterpillars and serve them to the guest. The locust is much eaten by the Bedouins, and may be enjoyed fried, dried in the sun, ground into flour, boiled in milk, or fried and served with rice. The Jesuit father Cambon thinks that locust flour might become popular in Europe as a condiment. The precise opinions which are expressed by travelers as to locusts differ considerably. Amicis said that they taste like shrimps; Niebuhr, like sardines, and Livingstone, like caviare—another illustration of the differences of palatal appreciation.—*Medical Times and Hospital Gazette.*

News of the Week.

Celebration of Virchow's Eightieth Birthday in St. Louis.—One hundred and ten of the representative physicians and surgeons of St. Louis celebrated the eightieth birthday of Professor Virchow on the evening of October 12, by a banquet and speech-making. Dr. Robert Luedeking served as chairman and toast-master. The following addresses were delivered: "Rudolph Virchow," by Dr. Hugo Summa; "Virchow, the Pathologist," by Dr. Willard Bartlett; "What Hygiene Owes to Virchow," by Dr. A. N. Ravold; "Virchow's Work in Anthropology," by Dr. Robert Terry; "Virchow as a Public Man," by Mr. Chas. Nagel; "Medicine as a Cosmopolitan Science," by Mr. Perry Post Taylor. Drs. Schwarz, Spiegelhalter, Summa, Bernays, Luedeking, Barck, Bartlett, and Close acted as a committee of arrangements.

The New York Obstetrical Society.—At the annual meeting of the New York Obstetrical Society, held October 8, 1901, the following officers were elected for the ensuing year: *President*, Dr. Malcolm McLean; *First Vice-President*, Dr. J. Riddle Goffe; *Second Vice-President*, Dr. LeRoy Brown; *Recording Secretary*, Dr. George L. Brohead; *Assistant Recording Secretary*, Dr. George G. Ward, Jr.; *Corresponding Secretary*, Dr. E. E. Tull; *Treasurer*, Dr. J. Lee Morrell; *Pathologist*, Dr. W. S. Stone.

Naval Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medica Corps of the Navy, week ending October 19, 1901: October 11—Assistant Surgeon F. M. Furlong, ordered to the Naval Hospital, New York, for treatment. October 14—Pharmacist J. M. Hurd, detached from the Boston Navy Yard and ordered to the *Wabash*. October 16—Surgeon S. H. Griffith, order to report for duty as a member of medical examining boards modified, ordered to report as a member of the medical examining board only, and not as a member of board for examination of medical officers. Dr. U. R. Webb, commissioned Assistant Surgeon from October 11, 1901.

The Association of Military Surgeons.—The following Committee of Arrangements has been named for the meeting of the Association of Military Surgeons of the United States, to be held in Washington, D. C., June 5-7 next: *Chairman*, Major George Henderson, Surgeon-General, N. G. D. C., 817 T Street, N. W.; *Members*, Major Louis A. La Garde, U. S. A., Major W. C. Borden, U. S. A.; Major F. P. Reynolds, U. S. V.; Captain E. L. Munson, U. S. A.; Surgeon S. E. Dickson, U. S. N.; Assistant Surgeon L. L. Williams, U. S. Marine-Hospital Service; Dr. George M. Kober, Dr. J. Ford Thompson, and Dr. Wallace Neff.

Examination for Assistant Surgeon of the Freedman's Hospital.—The U. S. Civil Service Commission announces that the examination fixed for October 29-30, 1901, to be held in any city in the United States where postal free delivery has been established, for the position of assistant surgeon at the Freedmen's Hospital, is postponed to November 12-13.

The San Angelo (Texas) District Medical Society.—A meeting was held in San Angelo, Texas, on the evening of September 23, at the call of Dr. Robert L. Greene, to organize a medical society. The name of San Angelo District Medical Society was selected, and Dr. S. L. S. Smith, the oldest physician, was elected President; Dr. Boyd Cornick, *First Vice-President;* F. F. Tucker, *Second Vice-President;* Dr. Robert L. Greene, *Secretary*, and Dr. Bascom Lynn, *Treasurer*.

A New Cure for Cancer and Tuberculosis.—Dr. W. Bezly Thorne writes to the *Lancet* that he has recently been a disinterested and, he believes, impartial observer of a number of cases of cancer and of pulmonary tuberculosis which are at the present time undergoing treatment without the aid of drugs at the hand of a physician and an expert in electrical science, whose desire it is that their names should for the moment not be divulged. The cases of tuberculosis are all in the stage of cavitation; those of cancer have, with one exception, been pronounced by authorities well known to the medical world to be hopeless. All those which have been more than a week under treatment, he says, are both as to local conditions and general health in a state which, to all appearance, is one of imminent cure. Very shortly, he adds, there will be given to the medical profession a full statement of these cases and a detailed account of the means and methods which are being brought to bear on their treatment.

Virtuous Indignation of Sir Dyce Duckworth.—In a recent issue of the London *Spectator* appeared a letter signed by a physician of that town, named Sir Dyce Duckworth, in which the medical attendants of President McKinley were soundly berated for the bulletins which they issued concerning the condition of their patient. The illustrious critic expressed the opinion that these bulletins were furnished with but slender regard to the decency and respect due to the privacy of the patient, and that many related to matters of treatment which were obviously unfit to be read, much less to be discussed, by the general public; and he also informed the British public that the publication of such bulletins was a new departure and a bad example afforded by America. Of course, he is wrong as to this statement, for the publication of bulletins when any illustrious person is seriously ill is a very old and laudable custom. There was, furthermore, nothing in the official bulletins to offend against the decency and respect due the patient. Sir Dyce seems to have been at loss for something to write about, and we fear he has laid himself open to another reproof from the *Lancet*, which some years ago called him to account for an item, prominently published in a society paper, announcing that "Sir Dyce Duckworth, the well-known physician, has gone to America. He intends to be back in this country September 16." The *Lancet* seemed to think that the visitor to our shores was hardly of sufficient importance as a public character to have his movements so definitely recorded simply as a matter of news.

Trouble in the New Rochelle Hospital.—It is reported that the attending physicians and surgeons of the New Rochelle (N. Y.) Hospital have resigned because of the action of the Governor in limiting the term of service of the staff to one year, although not forbidding reappointment. The medical staff maintains that, although the Governors had the legal power, they had not the moral right to do it, because of an agreement between the physicians and the hospital association that the staff should have a permanent tenure, and no member should be removed without cause, and only on charges, after trial before the medical board.

A Family of Suicides.—A man named Edgar Jay Briggs, who hanged himself on his farm, near Danbury, Conn., a few days ago, was almost the last surviving member of a family which has practically been wiped out of existence by suicide. The history of self-destruction in this family extends over a period of more than fifty years, and in that time, so it is stated, at least twenty-one of the descendants and collaterals of the original Briggs suicide have taken their own lives. Among these were the great-grandfather, grandfather, father, brother, and two sisters of the one just dead. Many of the suicides were effected in an unusual way.

One man drowned himself by holding his face in a shallow brook, another attached a weight to a collar about his neck and then waded into a pond. Others shot or hanged themselves in a way evidencing fixed determination to end their lives. All of the suicides were not blood relations, some being women who had married into the family. If the newspaper accounts, from which we have quoted, are correct, this is certainly a remarkable instance of contagion of the suicidal impulse which deserves accurate study and record.

Malaria as an Antidote to Cancer.—Professor Loeffler has suggested the inoculation of a cancerous patient with malaria as a means of cure of the malignant growth. He thinks he has discovered an antagonism between the two diseases, asserting that cancer is a rare disease in tropical countries where malaria is rife.

Partial Failure of Antivenene.—Dr. Calmette of the Pasteur Institute at Lille was recently, as we noted at the time, bitten by a cobra during the course of some experiments he was making. He immediately injected subcutaneously a dose of antivenene which had been prepared by himself, and his life was preserved. He was not saved, however, from all the consequences of the injury, for it was found necessary three weeks later to amputate the bitten finger, on account of gangrene which set in soon after the accident.

The Plague.—It is officially announced that Naples is now entirely free from plague, no new cases having developed after the disease was discovered, and the sick were isolated. At Rio de Janeiro there were on Sunday last fifty-two cases of plague, two or three new cases being reported daily. In Foo-Chow, China, the disease is raging, if a report in the London Church Missionary Society is correct, according to which the number of new cases average 1,500 daily.

The Contagion of Leprosy.—The newspapers publish a dispatch from Copenhagen stating that City Physician Feilberg of that place, who recently visited the West Indies, is suffering from a marked case of anæsthetic leprosy, which he is believed to have contracted from a patient whom he attended while in the West Indies.

Dr. Sternberg on Yellow Fever.—In his annual report to the Secretary of War, Surgeon-General Sternberg, himself an acknowledged authority on yellow fever, adds the weight of his official approval to the mosquito theory. He says: "The results obtained were especially valuable, showing that the bacillus icteroides (Sanarelli) bears no causative relation to yellow fever, and that the mosquito serves as an intermediate host for the parasite of this disease. Further experiments of a most interesting character demonstrated that yellow fever is transmitted to non-immunes by the bite of a mosquito that has previously fed on the blood of those sick with this disease; that yellow fever can also be produced by the subcutaneous injection of blood taken from the general circulation during the first and second days of the disease; that an attack of yellow fever produced by the bite of the mosquito confers immunity against the subsequent injection of infected blood; that yellow fever is not conveyed by clothing, bedding, or merchandise soiled by contact with those sick with the disease; that a house may be said to be infected with yellow fever only when there are present in it mosquitos capable of conveying the parasite of the disease, and that the spread of yellow fever can be most effectually controlled by measures directed to the destruction of mosquitos and the protection of the sick against the bites of these insects." He adds that the results of these investigations are of far-reaching importance, as the surgeons are now in possession of knowledge which enables them to stamp out yellow fever.

Faith Curists in Trouble.—The Butler County (Ohio) grand jury recently returned indictments for manslaughter against a man and his wife, faith curists, whose eight-year-old child, Esther, was burned by a gasolene explosion last July. The parents declined to call a doctor, but surrounded the child's bedside with members of their sect, offering prayers for her recovery. The coroner in his verdict said that medical attention would have saved the girl's life. A second indictment for criminal neglect was returned against the father. In Chelsea, Mass., a prominent Christian Scientist has died of typhoid fever. For three weeks he grew worse under treatment of one of the "readers" of his sect, and then they called in a physician. He did what he could for the man for a few days until death occurred. In his certificate of death the physician, Dr. Leeds, stated that the primary cause of death was typhoid fever, and the contributing cause was Christian Science. He said that while it was, of course, not certain that the victim would have recovered if a doctor had been called in to the case early, it was certain that the lateness in calling a doctor greatly reduced the patient's chances for life. The man had a strong constitution, and his chances for recovery should have been excellent.

Leprosy in Hawaii.—According to a recent report of the Marine Hospital authorities in Hawaii there are now 909 lepers and 164 healthy persons in the leper settlement of Molokai. The cost of the settlement, including the housing, feeding, and clothing of these persons, is about $80,000 per annum. The three oldest patients at the settlement arrived in 1874, 1875, and 1879, respectively. The number of commitments to the settlements each year during the last decade, ranging from 132 in 1891 to 85 in 1900, show a gradual decrease, despite the fact that the hunt for lepers throughout the islands has never before been so vigorous.

A Beginning of Fair Play for Women in Germany.—The two German women, Dr. Irma Klausner and Elsa von der Leyen, who were the first ladies to take their degree and pass the German medical state examination, have now settled at Berlin, where they intend to practise as physicians. Now, that this is allowed in Germany, it is believed that a great number of ladies will study for their medical degree in Berlin.

Mosquitos Attracted by Sound.—Major Ronald Ross writes to the *British Medical Journal* that he has recently received a communication from Mr. Brennan of the Public Works Department, Jamaica, containing the following observation: "You will pardon me for drawing your attention to the fact, if you have not already noticed it, that the mosquitos (I do not know if every variety) will respond to such sounds as a continuous whoop or hum. I have tried the experience lately, and find swarms gather round my head when I make a continuous whoop. There may be, however, some particular note or pitch that would be more attractive to them." This would afford an interesting subject for investigation, the journal quoted remarks, on the lines of Dr. Nuttall's recent research on the colors attractive to mosquitos.

The Alvarenga Prize.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about $180, will be made on July 14, 1902, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been

published and must be received by the Secretary of the College on or before May 1, 1902. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1901 has been awarded to Dr. George W. Crile of Cleveland, Ohio, for his essay entitled: "An Experimental and Clinical Research Into Certain Problems Relating to Surgical Operations."

Some Alleged Old Folks.—A recent cable dispatch from Athens records the death at Khuti, Albania, of Ismail Hudjo, said to have been the oldest man in the world. It is said that he was 160 years old. His faculties were unimpaired, and he had all his teeth when he died. He leaves 200 descendants. On the same day a telegram from St. Joseph, Mo., announced that Mrs. Ann Taylor, one of the historical characters of that city and State, had died there aged 110 years. For more than a century she had been addicted to the use of tobacco and liquor.

The Need of a Gall-Bladder.—Dr. Joseph D. Bryant writes: "In the report of the meeting of the Medical Society of the State of New York (page 633), I am made to say regarding the need of a gall-bladder: 'Whereas, those whose diet consisted of proteids entirely, could scarcely live without it' (p. 633).

"On the contrary, I made the statement that in many instances its removal from dogs had not been followed by any appreciable change after a long time."

Obituary Notes.—Dr. Charles Henry Brown of this city died on October 15. He was born in New York on June 18, 1856, and was graduated from the New York University Medical School in the class of 1879. For many years prior to his death he was Managing Editor of the *Journal of Nervous and Mental Diseases*. He was a member of the Medical Society of the County of New York, of the Academy of Medicine, of the New York Neurological Society, and of the American Neurological Society.

Dr. Horace Bigelow of this city died in Roosevelt Hospital on October 15 of pneumonia. He was born in Fayetteville, N. Y., in 1873, and was graduated from the Medical Department of Columbia University in the class of 1896, subsequently serving on the house staff of Bellevue Hospital.

Dr. Hannah E. Longshore, one of the pioneer woman physicians in Philadelphia, died in that city on October 18 at the age of eighty-two years. She was graduated from the Woman's Medical College of Pennsylvania in the class of 1852, and was appointed demonstrator of anatomy immediately upon graduation. She practised medicine for about forty years, retiring about ten years ago.

Dr. Henry Raymond Rogers of Dunkirk, N. Y., died on October 10, at the age of eighty years. He was a graduate of the Jefferson Medical College in the class of 1851. He was a member of many years' standing of the American Medical Association.

Dr. Joseph Sanders of this city died at Oil City, Penn., on October 20, of typhoid fever. He was born in New York City on July 6, 1867, and in 1892 he was graduated from Bellevue Hospital Medical College. After a period of post-graduate study in various German universities he began the practice of medicine here in 1895. At the time of his death he was Assistant Chief of the Nose, Throat, and Ear Dispensary of Mount Sinai Hospital. Dr. Sanders was a member of the Academy of Medicine, County Medical Society, and the German Medical Society.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

OPENING OF THE SESSION—INTRODUCTORY LECTURES—GENERAL IAN HAMILTON ON THE R. A. M. C. REORGANIZATION—THE SMALLPOX EPIDEMIC—THE DROUGHT.

London, October 4, 1901.

The schools are now at work, the opening day having been duly celebrated, though in a fashion less impressive than formerly. Dinners and entertainments are more and more displacing the introductory lecture, but some of the schools still adhere to the time-honored custom, and the addresses certainly contrast favorably with the post-prandial speeches.

At Charing Cross Hospital, Professor Taylor of Birmingham gave the lecture, which he began by remarking that, though this marked to many their acceptance of the medical career, the choice they had made was of far less importance than the manner in which they would follow it. It may matter little, he said, to a man whether he is a soldier, sailor, doctor, clergyman, or lawyer, but it will matter very much afterward whether he acted as became a man called to the duties and responsibilities of his chosen life. He then referred to the requirements for successful service, such as a healthy, well-trained body, a well-educated mind, and a high moral purpose. The last of these he pronounced of the greatest value, and commented on the increasing perception of its importance as life advanced. Having referred to the qualities which go to form the ideal doctor and instanced love of truth, love of his fellows, and love of service, he asked, "And, after all, what if we know we are wanting?" Then, he said, it is necessary to insist on the gospel of true education, especially while so much nonsense is scattered broadcast about heredity. "There is no weakness you cannot grow out of if you set your heart upon it; no strength or goodness you may not aspire to, and in some measure attain."

At the Middlesex Hospital, Dr. T. H. Kellock dilated on the relations between hospitals and students during their pupilage and afterward. Hospitals provide the best instruction and all the new and costly things required by the progressive medicine and surgery of to-day. On the other hand, the student could help the hospital while acquiring knowledge, both by the faithful discharge of his duties as dresser or clerk and his careful behavior in the wards and other departments, and even outside the walls. After he left and was in practice, a visit to his old hospital would always be profitable and better than post-graduate courses. By working together, too, hospitals and general practitioners can educate the public to keep hospital abuse within moderate limits.

At St. Mary's Hospital, Dr. Wm. Hill spoke of quackery and superstition, tracing their connection with medicine from the earliest times, to show that theology has really nothing to do with the investigation or treatment of disease. At the outset of his lecture, he commented on the surprising fact that nearly 2,000 persons should annually enter on an expensive course of study to prepare for a profession already overcrowded. On this point, he took a more gloomy view of the prospects of the new students than some of the other lecturers, and than most of the persons I have heard speak about it.

At St. George's Hospital, Dr. P. W. Latham of Cambridge took for his subject "Medical Study," on which his experience at the University gives him considerable authority. He advised men not to devote more than a due share to preliminary studies—the two years which are compulsory are also enough. At Cambridge, 50 per cent. of the medical students he found did not take their M.B. Five years constitute the curriculum required by the Medical Council, but Cambridge graduates take usually seven or eight. Some, no doubt, yield to the allurements of pure science and abandon medicine, but there must be other causes in operation for such a result. Dr Latham pointedly told his audience not to attempt to cram too much science in the time at their disposal, but to learn what was really required, and then, above all, to learn to apply what they really did know

Dr. Risien Russell welcomed the students at University College, and in the course of the introductory discussed the influence of their chosen school on medical education. He held that the teaching there is unsurpassed by any in this country, and begged his hearers to cultivate the spirit of scientific inquiry exhibited by so many of their predecessors. As an incentive to seek the advance of medical science he suggested the reading of the horrors of surgery before the days of antiseptics, and contrast them with what they would see in the hospital. This might stimulate them to emulate men like Lister, who could very well

ignore the vituperations of a gang of agitators in face of the benefits his researches had conferred on his fellow creatures.

Dr. Russell also advised his hearers to become "good all-round men," though he emphasized the growing importance of bacteriology and chemistry. He called their attention to the prospects of their future, taking a rather optimistic view, in support of which he instanced the falling off of the number entering the profession since 1893, when it may be objected there was a state of overcrowding from which we have not recovered.

The reorganization of the army medical service would, he thought, induce an increase of candidates, and a similar reform of the naval department must follow. The attraction of men to these and other public services was calculated to leave more room for private practice. He thought, therefore, that those who would be ready to begin practice five or six years hence would find satisfactory prospects.

Complaining of the unsatisfactory status of the profession with the public, he attributed it to the way in which some of its members comported themselves, even some occupying high positions. He thought, too, that dispensing their own prescriptions hindered the due appreciation of the public, who were apt to confuse the doctor with the mere vendor of drugs. The abolition of the custom of supplying the medicines they prescribed would, Dr. Russell considered, teach patients to value the practitioner for his advice and give him more time to keep up with the advances of medical science.

Another aspect of this subject was treated by Dr. A. P. Luff, who delivered the address at the Pharmaceutical Society. He pointed out that the art of prescribing is declining through the fatal tendency of practitioners to accept indications from manufacturers. He held it to be a travesty on the art to order, say, No. 4 mixture (Smith & Jones). It was degrading to compel the scientific pharmacist to hand over such a proprietary article. It was degrading to a qualified practitioner to exploit such a puffed and probably over-vaunted article. Such prescribing he put on a par with the dosing sometimes carried out on a ship which carried no surgeon, but had a medicine chest, with numbered bottles and a guide book to indicate the numbers called for by certain symptoms. The captain who, when No. 9 ran out, mixed equal parts of Nos. 4 and 5 displayed a similar intelligence. Dr. Luff further dwelt on the danger of self-drugging by the public, which is fostered by the uncontrolled sale of powerful drugs in tablet form. Many of these, he said, do infinitely more harm than the quack medicines they partly replace; for tablets often contain dangerous doses, while many of the nostrums are to a great extent innocuous. The cocaine habit has been greatly fostered by the exploiting of tablets, and another pernicious craze, the uric-acid diathesis, was pandered to by unscrupulous advertisers. In consequence, it was no uncommon thing to see at a dinner party neurotic young men dropping lithia tablets into their champagne to counteract what they fancied to be its acidity, lacking, as they did, gastric vigor to deal with the wine, and moral vigor to abstain from it.

Among other openings I can only mention St. Thomas's, and that because Major-General Sir Ian Hamilton came, distributed the prizes, and made a most interesting speech. After a very pretty compliment to the profession as one "who had seen doctors in the field," he considered the new scheme for the reorganization of the R. A. M. C., which has just been promulgated. He took a very favorable view of it, and believed it retained what was good in the system, removed the bad, offered much advantage to the doctors, and would revivify a corps which in matters purely professional had fallen upon evil times. Let us hope the anticipation may be realized. "The scheme should be read between the lines," he said, and described it as a framework of which its possibilities in sympathetic hands were promising. This may be true—the first look at it appears so. But it is only a scheme on paper, and the hands to work it are by no means sure to be sympathetic. Yes, it promises well—on paper—but the "trail of the serpent (*i. e.* War Office) is over it all," and with every disposition to agree with Sir Ian, I cannot help seeing the slime. It will not, therefore, surprise me if its promise is broken. It is not easy to forget the many former promises which have been ignored, even the Royal Warrant has been set at naught.

Smallpox continues to spread, and the whole of London may be regarded as an infected area. From six to eight cases have been added to the admissions on most days, but on Saturday there were twenty and yesterday twelve. The number remaining now under treatment is 187. The return of thousands of hop-pickers constituted a serious danger, as the disease had been reported on some of the fields; one virulent case had come from this employment, and Dr. S. Murphy, the Medical Officer of the County Council, was consulted. As a result, a kind of picket of the railway was arranged, and about 700 passengers examined. Five or six cases were detected, and removed to the hospital. Other stringent measures have been adopted, trains are still being watched, and persons returning from infected districts are kept under observation. Posters setting forth the importance of revaccination have been affixed by some of the authorities, and free vaccination is offered. Assistant vaccinators have been temporarily appointed, and one of them says he has been vaccinating about 300 a day for the last week. The middle classes are undergoing revaccination by their own doctors, and it is a common thing to meet men with a tape tied on their arm to signify it is still tender. If the anti-vacs have any perception, they must see that the masses prefer the temporary inconvenience of a sore arm to the risk of a loathsome disease, and the judgment of the profession to the prejudices of cranks. In some districts, a house-to-house visitation has been made. At Aldershot, the soldiers are being revaccinated.

The drought in the North has been relieved by some rain, but not nearly enough so far to avert the danger. Many factories are closed for want of a supply, and households are still on short allowance. Telegrams yesterday announced some rains. There has been a very heavy fall here, and we may hope the northern towns are sharing the benefit.

OUR PARIS LETTER.

(From Our Special Correspondent.)

GONOCOCCIC ENDOCARDITIS—PHOTOTHERAPY IN THE TREATMENT OF LUPUS (LEREDDE)—A NEW THERMO-CAUTERY—ELECTRIC TREATMENT OF MUCO-MEMBRANOUS COLITIS.

PARIS, October 3, 1901

THE gonococcus as a cause of septic endocarditis has been looked upon with some suspicion, but recent examples cited, not only in America, but also in Germany, show that the heart may be affected seriously by this infection. Dr. Wassermann of Munich has described a case in a man twenty-seven years old. He had no hereditary antecedents, and had already had gonorrhœa three times. This last attack was treated by injections of permanganate of potassium. After six weeks' treatment, the attack seemed to be cured, but eight days later the urine became cloudy, micturition painful, and there were signs of partial retention. Catheterization was performed, and two liters of urine were removed. The patient was removed to the hospital, where the urine was found to contain albumin. The temperature was over 39° Celsius. Nothing was found on examining the heart and lungs. Local treatment was applied, but gave no result. Death took place on the fifth day. The autopsy revealed an abscess of the left part of the prostate, incipient nephritis, and cystitis, with ecchymoses of the mucous membrane. The heart showed a slight degree of hypertrophy of the left ventricle. On the aortic valvulæ were to be found, near the free edge, wart-like excrescences of a grayish-red color. Microscopical examination showed diplococci, which proved, on being cultivated, to be gonococci.

The treatment of lupus by such methods as electricity and phototherapy has been investigated of late by the French dermatologists, and they have recently published the results they have obtained by these therapeutical agents. Dr. Leredde, former chef de clinique at the St. Louis Hospital, has founded a private clinic somewhat after the German plan, and he has treated several cases of lupus by phototherapy. In an article he has just published in the *Presse Médicale*, he gives a few characteristic reactions produced by its use. The first and most important one is that it acts below the surface, sometimes being able to pass through the thickness of the cheek. Another is that the photogenetic reaction does not seem to destroy the tissues. The apparatus of Finsen can be left in place two hours, that of Lortet and Genoud forty-five minutes, without any noxious effect. Some redness and the appearance of phlyctenes are the only modifications to be noticed. This is far from being the case with Röntgen rays. Cicatrices are generally quite perfect, nor is there any subsequent pigmentation. There is not much pain produced by the use of phototherapy (the writer knows of one case where there was intense pain). Two different types of apparatus are being used at present, that of Finsen, which is undoubtedly already known in America, and the one invented by Professor Lortet and Dr. Genoud. In the latter, what has been aimed at is to place the patient as near as possible to the lamp. A much weaker arc is used, of only 10 to 20 amperes. A current of water is made to pass around the lamp, and the rays are centralized by lens. By means of this modified apparatus, it is not necessary to expose the patient to its effect more than a quarter of an hour. Moreover, the cost of such an apparatus is much less than that of

Finsen. The great objection made to Finsen's method was that it could only be used for wealthy patients, or where a great outlay could be made easily. This is no longer true with Dr. Lortet's apparatus.

Dr. Leredde established a comparison between phototherapy and the older methods, such as galvano-cauterization, scarification, or total excision. He stated it was more advantageous to use one or the other method, according to the form observed. Galvano-cauterization and scarification should be tried, but not too long, as the cicatricial tissue produced thereby hinders the action of phototherapy. In erythematous lupus, the electric current would seem to be more advantageous, according to Jacquot. Still, in some cases phototherapy proves to be the only true remedial agent. A practical distinction should be made, according to Brocq, between aberrant lupus and localized lupus, as the treatment is not the same in both cases. In the first case, such agents as black soap, pyrogallic or salicylic acid, mercurial plasters, or electricity are efficacious, whereas in the other they may fail to produce the required result. The treatment of nævi by phototherapy has not as yet produced important results. Dr. Leredde does not believe in treating epithelioma of the skin by phototherapy unless there are special indications. Such lesions should be seen to by surgeons.

Paquelin's cautery, which has been used so much of late years, has diminished in price during the last three years on account of the time-limit of its patent having expired.

It is, however, a cumbersome instrument, and another one has been invented, the aphysocautery, which can be handled much more readily. It resembles the ordinary cautery, but the handle is hollow and contains a small reservoir of ether, which serves to keep the cautery incandescent. This instrument would seem to be dangerous, but it is built so that it can resist a pressure of 30 atmospheres.

The therapeutics of muco-membranous colitis do not give satisfactory results in many cases. Dr. Doumer, a Belgian physician, has tried electricity in several cases and advocates it strongly. One patient was suffering from constipation accompanied by muco-membranous colitis and stenosis of the ascending colon. All sorts of treatments had been tried. He was subjected the first day to a 30-milliampere current during ten minutes. The following days the current was slowly increased to 70 and 80 milliamperes, and after ten days the constipation disappeared, as well as all the other symptoms. Five other patients reaped the same benefit from this treatment. The technique adopted by Dr. Doumer is as follows: Two large tampons of coal, 6 cm. in diameter, are covered with chamois skin, dipped in water and placed in the iliac fossæ. The current used is at first only of 30 milliampere strength. Later it may be increased to 120 or 150. This treatment should be kept up ten to twelve days.

The Annals of the Pasteur Institute, a journal published monthly, has recently given the proportion of deaths from hydrophobia after treatment at the Pasteur Institute. In 1880 the percentage was 0.94 per cent.; in 1887, 0.79; in 1888, 0.55. It has been going down steadily since then, and during the last three years out of 4,499 cases there have been only eleven deaths, or a proportion of 0.25 per cent. It is worth while noting that, according to the statistics of Tardieu, Thamhayn, and Bouley, when no treatment has been followed, the percentage of deaths is 46.6 per cent.

AWARDS OF INTEREST TO MEDICAL MEN MADE AT THE PAN-AMERICAN EXPOSITION.

(From Our Special Correspondent.)

BUFFALO, N. Y., Oct. 16.

THE list of awards to exhibitors at the Pan-American Exposition contains many items of interest to medical men, a number of whom have themselves received recognition as exhibitors, either directly or through the institution, organization, or association through which their exhibits were made. This is particularly the case with respect to the exhibits in the sections on public hygiene, hospitals, and sanitaria, and similar institutions. While services as collaborators are also to be officially recognized, this matter has been left for subsequent action by the Exposition authorities, to whom the recommendations of the juries of award on this matter have been referred. In making the awards, the juries took into consideration only the absolute merits of the articles judged, and had no regard for the commerical, scientific, or professional standing of the parties making the display. For this reason, a low award made upon an exhibit could not be construed as being, in any way, a reflection upon the standing of the institution making the display. As an instance, the poor showing made by a certain board of health, whose great practical efficiency was well known to the jury of award, resulted in the withholding of any special recognition of its exhibit by the Exposition authorities. This did not mean that the board of health in question was inefficient, but that the evidence of its workings, as submitted to the public at the Exposition, was of inferior character. A question that arose very early in the sittings of the juries concerned itself with the standard of comparison to be adopted. Were the exhibits in the same class to be compared with each other or were all to be compared with an ideal standard? The discussion of this question resulted in the rule by which an ideal standard was created; this ideal being based upon the highest state of an art under present conditions rather than upon the possible or anticipated developments of such an art in the future. Under this ruling it was possible for more than one exhibit in the same class to receive the highest award; but, on the other hand, no award was granted, merely because of lack of competition. Obviously, the granting of awards of the same grade to entirely dissimilar objects or exhibits implied no comparison between them. A subject for complaint on the part of some who had exhibited at the Paris Exposition was that exhibits which had received gold medals at Paris only obtained silver or bronze medals at Buffalo. At Paris, however, there were five grades of award, the highest being the "Grand Prix," while the Pan-American had but four grades of award, and recognized nothing higher than the gold medal. Exhibits were thus necessarily graded, with respect to awards, one grade lower at Buffalo than at Paris.

While the exhibits of the various departments of the United States Government were not entered in competition for award, the Exposition authorities gracefully acknowledged their obligations to these departments by appointing a special jury to examine their exhibits, report upon their importance and characteristics, and to submit recommendations upon which appropriate recognition might be made to such departments and those assisting in the collaboration of their exhibits. This special jury made the following remarks and recommendations with respect to the exhibits of the medical departments of the army, navy, and marine hospital service:

"The medical department of the army has established immediately south of the Government Building a model brigade field hospital. Seldom has the public been able to inspect such an exhibit. It is especially interesting since it represents the new equipment of the medical department in the field—scarcely an important article of which has not been adopted since the outbreak of the war with Spain, and has never been shown previously. A detail of enlisted hospital corps men give daily exhibition drills in first aid to the wounded, litter drills, demonstrations of various means of transporting the wounded, tent pitching, and hospital establishment. The drills are very popular, and in connection with them the hospital forms a most complete and creditable exhibit of the medical service of the army." In the grading of the exhibits made by the various bureaus of the War Department for recognition in respect to their importance, that of the medical department was placed first on the list.

With respect to the exhibit of the medical department of the navy, the jury says: "The bureau of medicine and surgery (exhibits) a complete sick-bay as constructed and equipped on a man-o'-war, and a model of the hospital ship *Solace*." The display was graded second in the list of the exhibits made by the various bureaus of the Navy Department.

Concerning the exhibit of the marine hospital service, the jury says: "(There is a) model of a fully equipped marine hospital ward, models of different quarantine stations established by the Government, and other exhibits illustrating the great care the marine hospital service is taking to prevent the introduction and spread of contagious diseases and epidemics." This exhibit was graded by the jury fourth in relative importance of the exhibits made by various bureaus of the Treasury Department.

In the general subjects of hygiene, sanitation, and public health, the following exhibits from the United States were found worthy of award, the awards being listed alphabetically according to the names of the respective exhibitors:

Gold Medals.

1. Abbott, Dr. Samuel Q., Boston.—Collection of material relative to public hygiene.
2. Bath Department, City of Boston.—Public hygiene.
3. Chicago Department of Health.—Sanitation.
4. Health Officer's Department, Quarantine, Staten Island, N. Y.—Sanitation.

5. Massachusetts State Board of Health, Boston.—Sanitation.
6. Tenement House Committee of the Charity Organization Society, New York City.—Models, photographs, and plans.

Silver Medals.

1. Buffalo Health Department, Buffalo, N. Y.—Sanitation.
2. Maine State Board of Health, Augusta.—Sanitation.
3. Michigan State Board of Health, Lansing.—Sanitation.
4. Prudential Insurance Company, Newark, N. J.—Vital statistics.
5. Street Cleaning Department, New York City.—Sanitation.

Bronze Medals.

1. Buffalo Society for Prevention of Tuberculosis, Buffalo.—Sanitation and public hygiene.
2. Bath House Committee, Brookline, Mass.—Public hygiene.
3. Boston Health Department, Boston.—Sanitation.
4. Connecticut State Board of Health, New Haven.—Sanitation.
5. Philadelphia Board of Health, Philadelphia.—Sanitation.
6. Pittsburg Board of Health, Pittsburg.—Sanitation.

Honorable Mention.

1. Maryland State Board of Health. Baltimore.—Sanitation.
2. New Hampshire State Board of Health, Concord.—Sanitation.
3. Providence Board of Health, Providence, R. I.—Sanitation.
4. Rhode Island State Board of Health, Providence, R. I.—Sanitation.
5. Vermont State Board of Health, Richford.—Sanitation.

Beside the exhibits which received the above awards, there were about sixty others which were not regarded by the jury of awards as being possessed of sufficient merit to entitle them to any special recognition. The exhibits relating to public health consisted chiefly of charts, statistics, photographs, reports, and blank forms for use by health officers and others, together with a few models. The exhibits from Massachusetts and the city of Boston and vicinity were of a particularly high order, and reflected much credit on those in charge. To Dr. Abbott, for his excellent work in bringing together such a valuable collection of material relating to public hygiene, the jury awarded a gold medal. It is understood that this collection, which was got together by him for the Paris Exposition, is to be returned to the collector at the end of the present Exposition. It would be highly desirable if it might be turned over by him to the Surgeon-General's Library in Washington or the Naval Museum of Hygiene, where it would be more generally accessible to those interested than in any other location.

On sanitary plumbing, fixtures, and appliances the following awards were made:

Gold Medals.

1. American Encaustic Tiling Co., New York City.—Sanitary flooring.
2. Mott Iron Works, New York City.—Model bathroom and fixtures.
3. Perfect Sanitary Flooring Manufacturing Co., New York City.—Sanitary flooring.
4. Standard Sanitary Manufacturing Co., Pittsburg.—Sanitary fixtures and plumbing.

Silver Medals.

1. Hyde Furniture Co., Rochester, N. Y.—Sanitary public drinking-fountain.
2. Trenton Potteries Co., Trenton, N. J.—Sanitary earthenware.

The samples of sanitary flooring receiving high awards consisted of cemented tiling and of small marble chips laid in cement and rubbed down to a smooth finish. Both were admirable from a sanitary standpoint, but the remarkable decorative possibilities of the American Encaustic Tiling Company's product must be seen to be thoroughly appreciated. The model bathrooms and displays of sanitary fixtures made by the Mott Iron Works and the Standard Sanitary Manufacturing Company were both not only attractive to the eye, but admirable from a sanitary standpoint. The Hyde Drinking-Fountain furnishes uncontaminated drinking water for public places, and marks a distinct sanitary advance in this respect. The apparatus, however, is not without certain minor defects which require remedy. In general, the exhibit of sanitary appliances was not large, but the articles shown were of generally excellent character.

The following awards were made upon exhibits having to do with hospitals, sanitaria, and hospitals for the insane:

Gold Medals.

1. Johns Hopkins Hospital, Baltimore.—Plans, photographs, reports, and publications.
2. McLean Hospital for Insane, Waverly, Mass.—Photographs, etc.
3. McGarr, Thos. E., Albany, N. Y.—Services in collection of material relating to hospitals for the insane.
4 Presbyterian Hospital, New York City.—Model, plans, and reports.

Silver Medals.

1. Boston City Hospital, Boston.—Photographs, plans and reports.
2. Municipal Hospital for Insane, Pierce Farm, Boston, Mass.—Photographs, etc.

Bronze Medals.

1. St. Luke's Hospital, New York City.—Photographs, etc.
2. St. Mary's Hospital for Children, New York City.—Model of hospital ward.
3. Worcester Hospital for Insane, Worcester, Mass.—Photographs, etc.

Honorable Mention.

1. Buffalo General Hospital, Buffalo, N. Y.—Photographs, reports, etc.
2. Charity Hospital, New Orleans, La.—Photographs, reports, etc.
3. Hospital of St. John's Guild, New York City.—Photographs, etc.
4. Roosevelt Hospital, New York City.—Photographs, etc.
5. Sloane Maternity Hospital, New York City.—Photographs, etc.
6. St. Lawrence Hospital for Insane, Ogdensburg, N. Y.—Photographs, etc.
7. Vanderbilt Clinic, New York City.—Photographs, etc.
8. Willard State Hospital for Insane, New York City.—Photographs, etc.

The exhibit having to do with hospitals and insane asylums was large, but, as a whole, not of high character. The displays made usually included merely a few annual reports and a few photographs, which had little practical or scientific value. Little was to be gained by the study of this exhibit as a whole, though a few individual exhibits, as that of Johns Hopkins Hospital, were of a high degree of merit, so far as they went. In making the awards, the jury was desirous of recognizing, among other things, what it regarded as a higher type of hospital report, and for this reason recommended a number of low awards. The jury was impressed with the desirability of the creation of some full collection of material relating to the plans, construction, and management of hospitals and similar institutions, which could be used for reference by those interested. As with a similar collection relating to public health, such a collection should be deposited in the Surgeon-General's Library at Washington, where it would be of benefit to the greatest number.

The following awards were made with respect to surgical instruments, appliances, and supplies:

Gold Medals.

1. Andrews, A. H., Chicago.—Adjustable invalid bed.
2. Belding Bros. & Co., New York City.—Surgical silk.
3. Erickson Artificial Limb Co., Minneapolis, Minn.—Artificial limbs.
4. Kny-Scheerer Co., New York City.—Surgical instruments and appliances.
5. Meyrowitz, E. B., New York City.—Ophthalmological and optical instruments.
6. Marks, A. A., New York City.—Artificial limbs.
7. Seabury & Johnson, New York City.—Surgical dressings and supplies.

Silver Medals.

1. Frees, C. A., New York City.—Artificial limbs.
2. Meyrowitz, E. B., New York City.—Surgical instruments.

Bronze Medals.

1. Alexander, H. M., & Co., Marietta, Pa.—Vaccine virus.
2. Fuller Co., Rochester, N. Y.—Artificial limbs.
3. Pocono Laboratories, Swiftwater, Pa.—Vaccine virus.

In the above class, the number of exhibits was comparatively small. The Andrews adjustable bed is simple and practical, and is probably the best appliance of this character yet brought out. A high grade of artificial limbs was shown. The most full exhibit in this line was made by Marks, but the jury was also favorably im-

pressed with certain features of the limbs made by Erickson. The exhibit made by the Kny-Scheerer Company was complete, attractive, and in all respects admirable. Meyrowitz, of course, made an excellent display of ophthalmological instruments and appliances, while Seabury & Johnson showed a very full selection of their well-known wares.

Among the exhibits of drugs and medicines, the following awards were made:

Gold Medals.

1. Armour & Co., Chicago.—Animal extracts.
2. Larkin Soap Co., Buffalo.—Glycerin.
3. Roessler & Hasslacher Chemical Co., New York City.—Acetone and chloroform.

Silver Medals.

1. Matheson & Co., L't'd, New York City.—Sodium sulphite and hyposulphite.
2. Mathieson Alkali Works, Saltsville, Va.—Sodium bicarbonate.

Honorable Mention.

1. Crescent Silicate Works, New Orleans, La.—Silicates of sodium.

The display of drugs, medicines, and medicinal supplies was very meager, not a single one of the large pharmaceutical firms making an exhibit at the Exposition. A considerable number of articles of this character were shown in the exhibits of the South-American countries, but none of these were in any respect noteworthy. A considerable number of patent medicines were exhibited, both by exhibitors from the United States and foreign countries. All such articles or secret preparations were thrown out of competition by the jury of award, and received no official consideration. This attitude of the jury was not at first understood by foreign exhibitors, who were accustomed to see preparations of this character held in higher estimation in their own South-American countries. A number of vigorous protests on this matter were registered, but without effect as far as the Exposition officials were concerned.

In looking over the situation at the Pan-American Exposition, one is profoundly impressed with the remarkable paucity of the exhibits having to do with the welfare of the individual or the health of the community, as compared with those representing the industrial arts. Evidently, the public is in need of education with respect to the purposes, methods, and responsibilities of the medical profession. Such education should be given at the Louisiana Purchase Exhibition in 1903, a date which permits of the preparation in the meantime of a sanitary exhibit which could be made at once instructive, interesting, and popular, and which, properly installed in sufficient space in a suitable and attractive building, would do an incalculable amount of good in educating the public in respect to matters affecting the general and individual health and welfare. It is to be hoped that this matter may be forcefully presented to the authorities of the Exposition at St. Louis, and that the collection of a sanitary and medical exhibit, extensive and well-chosen, may be at once begun by competent and energetic individuals, backed by sufficient funds to insure success.

A HELP THAT DOES NOT HARM.

To the Editor of the Medical Record:

Sir: A year ago I submitted in these columns a letter setting forth some observations which I had made while inspecting the vacation parties that the New York Association for Improving the Condition of the Poor had sent down to Sea Breeze, their summer place on Coney Island. Once or twice each week during this past summer I again inspected such parties.

As before, the main object was the elimination of contagious diseases. I again saw some of the conditions which I had previously found, but these were certainly mitigated. On hot days I still came upon red-faced, panting infants, with half a dozen thicknesses of clothing bound about them, and the layers, when they were peeled off, would be reeking with perspiration. But these experiences were now comparatively infrequent. Generally, the reason given for all this redundancy was to protect the infant from catching cold. Another reason, I learned, was that clothing is carried easier that way. The mothers themselves and their older children, I am told, wore much superabundant clothing, of which they divested themslves when they got to Sea Breeze. They made of themselves a species of "walking trunks."

It seemed to me that there was not so much irregularity in diet and overfeeding. I imagine that the visiting staff of the association has been doing most useful missionary work in disseminating advice concerning sanitation, infant dietetics, and hygiene generally.

The cases of contagious eye disease were quite as numerous as ever—some 10 per cent. of the children were thus afflicted. Most of these cases were of granular lids. It seems that not infrequently, when such a child complains, the mother will consider the eyes are strained and that glasses are needed. In one case, a kind-hearted neighbor loaned a pair of spectacles which someone else had worn with satisfaction, and these I found the boy wearing. He had granular lids.

In the beginning of the summer there was a rather unusual amount of smallpox in this city. So it was particularly noted whether the children were vaccinated. At first the proportion of unvaccinated children was very large. On one occasion there were in a total of sixty-four children, under six years of age, twenty-two who had never been properly vaccinated. Again, among fifty-nine women and children, fourteen children were unvaccinated. Again, among seventy-three children, thirty-four had never been vaccinated. The proportion of unvaccinated children was so great that to have excluded all such was out of the question.

Almost daily do the steamships bring to our already plethoric city thousands of steerage passengers who carry with them almost ideal conditions for the spread of any contagion. An unvaccinated child should, therefore, be a rarity. Only children under a few months of age should be exempt from this slight operation.

As the summer wore on there was a most gratifying difference in the proportion of vaccinated to unvaccinated children. The change was due, I believe, to the vigilance of the association's visitors, so that on July 1 there were but thirteen unvaccinated children, all of them but a few months old, in a total of seventy-five children, and on July 18 there were but six unvaccinated children, mostly infants, in a total of sixty-seven children.

A pathetic reminder of the prolonged great heat of the summer was the loss of an unusual number of children, whom the mothers deplored.

The association evidenced its usefulness in refreshing aged women, in strengthening others after long periods of illness and misfortune, and in helping to restore to convalescence those who have sustained operations in the hospitals. Again, not a few women were going to Sea Breeze to recuperate sufficiently to undergo operations on their return.

Two mothers, each having several children, evidenced consumption. Their sufferings were for the time being alleviated during their vacation. It will be a great boon when our State establishes sanatoria for such sufferers.

As I think back upon these inspections, I seem to have contemplated a truly Hogarthean panorama. Old women, mothers, and children passed by me in rapid succession; old women who could only guess how old they were and who were suffering from rheumatism, asthma, heart disease, and the like; a lame woman over seventy, whose leg had been broken in childhood; a child with hip disease that had two abscesses draining away its strength; a child who was a cretin; another with a curvature of the spine; a large family of children who came by themselves and whose mother was sick in the hospital; several members of a family, all obviously hysterics; children browsing continually upon cakes; a woman with goiter; an infant of several weeks whose eruptions betrayed the sins of the father; a woman who could not remember whether she had three or four children and had to ask her mother to tell her; a woman who a year ago had had eleven children and, to her deep sorrow, had lost one of them since then; a girl of fourteen who was blind and had been so since birth, when she contracted purulent conjunctivitis, and so on.

Yet there was little of melancholy among these people; indeed, a spirit of general optimism was universally pervasive. They needed the outing very badly, and they anticipated being benefited by it.

It was certainly a pleasure to appreciate this wholesome charity, which is a help that does not harm. It were fortunate, indeed, if this could be said of all our municipal charities.

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Anatomy of the Frontal Sinuses.—Sieur has studied various skulls, and concludes that the absence of the frontal sinus is less frequent than is supposed; in fact, in almost a third of the cases this sinus has no relation with the squamous or ascending portion of the frontal bone. The sinus is often small, and occupies the superior internal angle of its orbit, and corresponds to the narrow, thin lamella of the frontal bone which takes part in the formation of this angle. In inflammation of such sinuses the proper route of attack is through the orbit.—*Revue Hebdomadaire de Laryngologie, etc.*

THE USE OF SULPHATE OF COPPER IN AFFECTIONS OF CORNEA AND CONJUNCTIVA.

To the Editor of the Medical Record:

Sir: In your issue of September 21, 1901, there appeared an article by Dr. Cornelius Williams which practically amounted to a critique on an article of mine which recently appeared in your journal, entitled "The Use of Sulphate of Copper in Corneal Affections and in Affections of the Conjunctiva, Other Than Trachoma." In my article I strongly advocated the use of this salt in affections of the conjunctiva, other than trachoma, which are sometimes associated with corneal complications; and also in selected cases of infiltration of the cornea, uncomplicated by conjunctivitis and caused by a preceding corneal disease. A gentleman of Dr. Williams' age and experience is entitled to an opinion of weight. His criticisms, however, upon my own views lead me to reply to this critique in order that I may lay stress once more upon what I think is the scientific truth, and point out to those of less experience what I consider to be a scientific untruth.

Dr. Williams will, of course, understand that this expression of opinion is caused by no other than a desire to arrive at the truth. Those who are of the age of Dr. Williams, have already formed their opinions on the subject, and neither his nor my statement will influence them. But there are other and younger members of the profession, and to them my remarks will be addressed.

Dr. Williams' paper has been taken up mainly with a discussion of the treatment of trachoma—a matter which I strictly avoided, as shown in my title. Dr. Williams, in the first place, recited a case of mixed infection of trachoma and blenorrhea in which there were corneal complications. The patient subsequently was sent to New York and was treated by some one with bluestone. No atropine was used, but the ulcers of the cornea were treated with peroxide of hydrogen. The patient referred to the pain experienced from the application of the bluestone as "infernal." After a month of this treatment he returned home, and his physician found that he had been suffering from iritis, associated with occlusion of the pupil and ulcer of the cornea, which was perforated. Some one, presumably Dr. Williams, operated for glaucoma which supervened; and under the use of weak solutions of nitrate of silver and irrigation with weak solutions of bichloride of mercury the patient got well, with vision of 5/200. Dr. Williams admits himself that the bluestone is not entirely to blame for this disaster, and goes on to say: "I think that even Dr. Claiborne must admit that it was faithfully used by skilled hands." He thought the iritis in this case was excited by bluestone in addition to the corneal complications; and would not have occurred had not both exciting causes been operative.

In this sad story even the youngest ophthalmologist will recognize the misfortune that may come to any one. The quotation used above would intimate that I myself knew something of this case or had treated it. I disclaim any knowledge of it whatsoever. In past years it was my custom following my early instruction to use atropine in every case of trachoma that exhibited corneal infiltration or ulcers. Subsequently, my attention was called to this error by some of the distinguished gentlemen at whose feet I had formerly sat, and I commenced to observe that atropine was not indicated in every case of trachoma as described above. I continued and have always continued to use atropine in those cases in which there is so much as a suspicion of iritis. I think this is good practice, and will be commended by all sensible eye surgeons. There is no earthly occasion for the use of atropine in the majority of cases of trachoma that are uncomplicated by iritis. Its disadvantages are too well known to be recounted here; but I may say that in my opinion its constant use in trachoma retards recovery. I feel that I shall be upheld in this opinion by a large majority of eye surgeons in New York.

From the history of the case, as described by Dr. Williams, I should be inclined to think that iritis was caused by the perforation of the cornea. I conceive this case to prove nothing against bluestone; it is simply a pathetic story. I think there can be no doubt that trachoma has different phases in different portions of the country. When I was studying with Hirschberg in Berlin, I heard him say in a lecture that he cured all cases of trachoma with a 1-per-cent. solution of nitrate of silver. My observation of the trachoma in Berlin at that time led me to think it a mild disease there; and I doubt very seriously the accuracy of the observation, even with the mild trachoma of Berlin. If he should come in contact with the Hibernian trachoma of the lower classes in New York, I believe he would change his opinion. Dr. Knapp's opinion concerning those who fail properly to treat an iritis will be backed up by every surgeon. But Dr. Knapp has never suggested to treat a patient for iritis when there is none. Dr. Williams lays great stress on the congestion, pain, and ciliary spasm which follow the use of bluestone. He goes so far as to suggest congestion of the entire uveal tract. Bluestone to some people is excessively irritating, but if it be applied skilfully, lightly, and the surplus washed off, it produces, in my opinion, no such effect as Dr. Williams describes. I cannot conceive it to produce an iritis. Patients get used to it, and are finally inconvenienced almost to no extent.

Dr. Williams recites another case that to me is simply astounding. He cites the case of a man with trachoma which had been treated by six or eight eminent surgeons. There was entropion, shortening of the lid, scars on the inner surface of the lids, fresh corneal ulcers, and old corneal scars; there was lacrymation and a "running nose." He cured this patient completely by the use of a $\frac{1}{16}$ to $\frac{1}{8}$ of a grain of nitrate of silver solution, and by frequent irrigations with bichloride salt solution, 1 to 40,000. He laid stress on the necessity of cleansing the conjunctiva first. He cured this case in three months. This gentleman communicated the results of his treatment to another family in which there were four persons with trachoma. They were all treated in this manner, and were eventually entirely cured. Such a result as this is, to say the least of it, astounding.

I have no further remark to make upon it except to say that I have never seen such results in my own treatment, nor yet in any one else's.

If Dr. Williams has discovered that trachoma, chronic and acute, can be cured by the use of $\frac{1}{16}$ to $\frac{1}{8}$ of a grain of nitrate-of-silver solution, associated with irrigation of the conjunctiva with a salt solution of bichloride of mercury, 1 to 40,000, he has made one of the most remarkable discoveries in medicine. It is high time that he made it known, and I rejoice that my paper should have called forth this statement. For my own part, I am willing to learn and be convinced of anything; but I should prefer to see these results under Dr. Williams' own hands before I forsake the paths pointed out to me by the eminent authorities under whom I have studied, and along which my own experience has led me, so far, fairly successfully.

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Heart Lesions and Pregnancy.—O. Fellner says that with suitable treatment the majority of patients with cardiac disease pass safely through labor, only mitral stenosis appearing to be particularly dangerous. With this exception, it is the severity and not the nature of the lesion that is of importance, and it is particularly the quality of the heart muscle that must be considered. It is the exception for pregnancy to exercise an untoward influence on the heart, and with good compensation, abortion is indicated only when a previous labor was followed by serious consequences; with broken compensation, immediate induction of labor should be done only when internal medication appears hopeless, otherwise the operation should be postponed until the condition has been improved by suitable treatment. Marriage should be forbidden only in cases with marked disturbance of compensation, or in mitral stenosis, and when tuberculosis or chronic nephritis are complications.—*Monatsschrift für Geburtshülfe und Gynækologie.*

The Climate of the Coast of New South Wales in Relation to Pulmonary Tuberculosis.—W. C. Wilkinson believes that the air of the seacoast of New South Wales, far from being injurious to those suffering from pulmonary tuberculosis in the early stages, is beneficial and may have as much curative virtue as any other climate in the world. In that country there are 500 fewer deaths per 1,000,000 from tuberculosis than there are in England. The climate is mild and equable, being free from great variations in temperature, and with a cool, refreshing northeast wind from the sea supplying relatively germ-free air during the hotter months (from January to April), and during the cooler months with winds that are less severe and more propitious than the cold, piercing winds of the mountains. There is a mean summer temperature of 70° to 75° F., a mean winter temperature of 53.5° F., and a mean annual temperature of 63.2° F.—*Australasian Medical Gazette.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, October 17, 1901.

Privileged Medical Communications.—David W. Cheever urges a modification of the Massachusetts law, which differs from the rule adopted in the courts of New York, where the doctor is not only protected, but even forbidden to testify as to his knowledge obtained in a professional capacity. Mental obliquity, cases of conscience, private diseases, hereditary taints, sins of a sexual nature, once committed but long repented of, hysterical fears, questions of inheritance, of mental responsibility, of illegitimacy, of adultery, of suicide, of life insurance, of testaments, etc., should be matters held sacredly in confidence. The doctor should be obliged to speak only in cases of crime, and where justice would miscarry if he refused to tell the fatal secret. Let the criminal court decide, the writer holds, and relieve the doctor of his obligation of secrecy. In all civil suits let him be protected. But in crimes there can be no proper security for society, if the doctor becomes a *particeps criminis* by concealing the truth.

Gangrenous Appendicitis.—Charles L. Scudder reports the case of a woman of twenty-eight years, unmarried, who had always had good health. She was suddenly seized with acute general abdominal pain, slightly more severe in the epigastrium than elsewhere. Since that time there were periods of pain, unprovoked by the taking of food, occurring every second or third day. Vomiting and distention of the abdomen also occurred. This went on for a fortnight. Operation disclosed that the bowel was everywhere adherent to the anterior abdominal wall and to itself. Puriform material was found between the adherent coils of intestine. Over the surface of the gut in many places were dark bluish-black areas, the size of a finger tip, so soft that by very gentle pressure one could penetrate into the intestine. In the left iliac fossa was an accumulation of fecal and of purulent material. The woman lived seven days after the operation. At the autopsy the appendix was found to be gangrenous.

Malignant Disease of the Tonsil.—F. E. Hopkins says that the diagnosis between carcinoma and sarcoma, in these cases, is not always easy. Males are more subject to cancer than females. Epithelioma quickly ulcerates; sarcoma more frequently forms a rounded, smooth, distinct tumor, ulceration occurring later, and beginning at a point which comes in contact with some other surface, as, for example, the base of the tongue. It is stated that carcinoma tends to invade tissues forward, while sarcoma extends backward. The best hope for successful operation lies in early and complete removal. In early sarcoma, operation may be performed through the mouth. To shell out the growth with the finger, or blunt dissection, would seem to offer better promise of thorough removal than the use of the knife or the cautery. Any enlarged lymphatic gland should certainly be removed. At a later stage the external operation is to be performed. Coley treated a case of sarcoma of the tonsils with injections of the toxins of erysipelas. The patient died of recurrence, but after an interval of eight years. Massey has reported cures by the cataphoric destruction of cancer cells. Hubbard successfully treated a case of epithelioma of the soft palate by injections of liquor potassæ.

New York Medical Journal, October 19, 1901.

Social Aspects of Dermatology.—In the sixth Lane Lecture, Malcolm Morris discusses the light treatment, mentioning the effect of chemical rays on the skin and giving a full description of Finsen's work. Concerning the prospect of a cure, Morris says that cases that have not been treated are, other things being equal, the most suitable for the light method. In old cases in which the patients have suffered many things from many physicians, the seat of disease is likely to be so deeply scarred by the cauterizations and scrapings it has undergone as to be almost impenetrable to light. If the disease is recent, if there is no scarring or thickening, and if the configuration of the part is such that the pressure-glass can be accurately applied to it (a most important point in practice), there is every reason to look for a thoroughly satisfactory result. If the disease is extensive, the treatment must at the best be tedious. It should be applied daily on six days a week, if there is nothing, as, for instance, excessive reaction, to make interruption necessary. In cases in which there may be a special urgency, the treatment may be carried out twice a day without any ill effect.

The Sanitary Work so far Accomplished in the Philippine Islands and the Present Shape of Their Sanitary Administration. The results of the work are summarized by C. R. Greenleaf of the U. S. Army medical service. The local authorities have had to contend against plague, smallpox, typhoid fever, tetanus, tuberculosis, whooping cough, measles, mumps, and beriberi. The author makes a frank statement regarding the question of dealing with venereal disease, saying that the influx of a foreign population—Asiatic, European, and American—has caused a large increase in this class of disease, which is spreading from the seaports as centers outward into the provinces, and in time a large number of native women will be affected, and with less prospect of cure than their sisters in the cities; the native women outside of the cities are, as a rule, free from disease, but it is they, without opportunity, knowledge, or means sufficient to obtain treatment, who will, when infected, become the greatest sufferers and the greatest menace to the public health. The segregation of this class of women to a certain portion of the towns, a supervision of their health, and a duly recorded treatment of the diseased should be systematically carried out, lest an irreparable injury be done to the people of these islands by those whose duty it is to help and elevate them.

The Advisability of Early Operative Intervention in Acute Mastoiditis.—E. B. Dench claims that in doubtful cases an exploratory incision upon the mastoid is perfectly justifiable. The fact that patients sometimes recover without operation does not in his opinion militate against the truth of his main proposition. He believes that whenever there is an inflammation within the mastoid cells sufficiently severe to cause a fluctuating postaural swelling, operative intervention is invariably indicated and spontaneous recovery is absolutely impossible. Under aseptic precautions the opening of the mastoid is devoid of danger. Delay in a doubtful case may lead to the most serious complications. An otitic brain abscess may remain latent for a long time, but may be excited into renewed activity by some recent infection, such as an acute inflammation of the middle ear. It seems not improbable, therefore, that when we have an acute purulent otitis media, some of the microorganisms may find their way into the mastoid cells. Here they may lie dormant for some time, or they may at first give rise to symptoms indicative of a mild mastoiditis. Under proper local treatment all of these symptoms may subside and the germs may lie dormant for an indefinite period. From some exciting cause, leading to a congestion of the tympanic mucous membrane, these germs may again become virulent and capable of infecting the deeper structures of the mastoid. For this reason he believes that in every case in which there is any evidence of mastoid involvement, it is safer for the patient that the surgeon should advise immediate operation, simply for the purpose of exploration, rather than attempt to abort the inflammatory process by the local abstraction of blood, the application of cold, and kindred measures.

Journal of the American Medical Association, Oct. 19, 1901.

Some Considerations Regarding the Hygiene of Early School Life.—J. Noer utters a vigorous protest against the assumption on the part of certain modern educators that many of the points insisted upon by physicians in regard to school hygiene are matters of psychological pedagogy, and must be settled by the pedagogues themselves. He claims that physiological studies show that the child is an exceedingly immature and delicate animal, undergoing important developmental changes having no analogues in the adult, and that his plastic tissues and delicate nerve cells are easily warped and injured by long-continued mental or physical efforts. Children have actually been injured by injudicious school work, and for this and other reasons physicians should favor shorter hours, more attention to the physical side of the child, more nature study out of doors in contact with actual natural objects, less of textbooks, and less of the exhaustive rote drill, which simply burdens the memory. Pedagogues disagree among themselves on many of the points at issue. It is therefore absurd to leave the question solely to their own decision when they are without well-formulated plans. Regular periodic medical inspection, which should include physiological and anthropometric examination of the school children, should be a requirement in all public schools. These examinations would not only furnish valuable physiological and anthropometric data, but would disclose cases of infectious and other communicable diseases. They would also detect mental and physical defects—stigmata—not readily recognized by parents and teachers. The children with marked mental and physical abnormalities, developmental defects, or stigmata should be segregated for special training. Every town with a school population of from 800 to 1,000 will have a sufficient number of children of this sort to fill a room, which should be in charge of a person having the exceptional qualifications necessary for success in work of this kind.

American Medicine, October 19, 1901.

Purpura Hæmorrhagica Following Acute Lobar Pneumonia.—H. L. Underwood reports the case of a boy aged four and a half years whose convalescence from pneumonia was followed by an attack of persistent epistaxis. The stools also showed that hemorrhage from the bowels had occurred. Purpuric spots were numerous on all four extremities, chest, abdomen, and back; also on the hard and soft palate, lips, and dorsum of the tongue. The face was almost clear. Fluid extract of ergot was ordered, together with syrup of calcium hypophosphite and protonuclein. Again epistaxis set in. Iron, manganese, and Fowler's solution were given. There was exfoliation of the epidermis. An ulcer formed on the side of the tongue. Within two months after the onset of the attack of pneumonia, the patient had made a good recovery.

The Practical Value of Blood Examination in Medicine and Surgery.—Thomas R. Brown declares that in most cases, the examination of a fresh specimen of blood will show whether the blood is normal or abnormal, and in the latter case will indicate the special direction for further study. The diagnosis of malaria and its differentiation from typhoid fever, from syphilitic or gonorrhœal intermittent or remittent fever with chills, can be clearly made by blood examination. Certain forms of primary anæmia can be diagnosed only by blood examination. Lymphatic leukæmia can by this means be diagnosed from Hodgkin's disease, tuberculous or syphilitic adenitis, and sarcomatosis of the glands, while splenomyelogenous leukæmia is differentiated from Banti's disease, chronic malaria with enlarged spleen, tuberculosis, syphilitic or malignant growths of the spleen, hydronephrosis, or renal or ovarian neoplasms. Trichinosis can be definitely diagnosed. In diabetes, the Williamson test is of great value in the diagnosis of cases of coma with anuria. The study of leucocytes has been productive of most valuable results. In surgery, systematic blood examination is of no less importance. Leucocyte counting is of inestimable value in appendicitis. The field of this work is very large. It offers valuable information regarding the prognosis in all forms of infection and inflammation. It is of great value in showing whether the pathological process is increasing or diminishing. It is a field for practical men as well as for theorists.

Philadelphia Medical Journal, October 19, 1901.

A Case of Transplantation of the Ureter for the Cure of Ureterovaginal Fistula.—A. Lapthorn Smith reports the case of a woman aged thirty-four, who was suffering from a ureterovaginal fistula, resulting from a difficult labor. The patient had undergone several previous operations without success, so the writer resorted to radical measures and opened the abdomen. Owing to several conditions he was obliged to open the peritoneum to find the ureter. About one inch of its lower end had to be sacrificed; a silk ligature was pulled taut about it, and this end was cut off a little above the ligature and covered with a gauze sponge, as urine came from it. The end of the ureter was split open for a third of an inch, in order to avoid subsequent stricture. A slit was made in the right upper corner of the bladder, and the ureter was stitched into it. Van Hook's method was employed. The bladder was then distended with methyl blue solution and there was found to be no leakage. A drainage tube was passed down from the edge of the abdominal incision to a little below the bladder opening, and a piece of iodoform gauze was inserted down to the lowest point between the peritoneum and the pelvic fascia. The patient has made an excellent recovery.

The Co-ordination of Respiratory Movements.—R. du Bois Reymond declares that if the origin of nervous excitation in respiratory function is not purely automatic, it must be reflex in nature. These reflexes are, first, want of oxygen and excess of carbonic oxide in the blood; the second reflex action on the respiratory centers is purely nervous, comprising the inspiratory and expiratory effects of the vagus nerve and all like reflexes. Since respiratory movement is brought about by many different muscles widely separated and acting together in separate, more or less clearly defined groups, the question of co-ordination of movement is most important. This co-ordination of movement must be due to co-ordinate action of the groups of motor cells corresponding to the different muscles. Certain experiments have been conducted in the investigation of this subject which show that when the animal has ceased to breathe, and artificial respiration has been resorted to, the glottis presents regular accessory movements synchronous with the artificial respiration. These movements were not caused by the direct mechanical influence of the manipulation; nor were they caused mechanically or reflexly by the passage of air through the glottis. Again, all known sources of excitation of the respiratory centers have been excluded by the conditions of the experiments which have been conducted, viz., complete apnœa and complete pneumothorax (or, in several cases; section of the vagus below the origin of the recurrent nerve). So the phenomenon must be due to a hitherto unknown kind of reflex. Further experiments show that the respiratory movements of the larynx are dependent, at least in part, upon the excitation of the muscular sense or posture—perceptive sense of the thorax. Thus the co-ordination of respiration is in this case shown to be exactly analogous to the co-ordination of different muscles in the motion of the limbs. It is probable that the other separate parts of the respiratory mechanism are linked together by similar reflexes. The experiments prove that artificial respiration acts as a direct stimulus, at least on the laryngeal motor center, and probably on other respiratory centers as well.

The Lancet, October 12, 1901.

Cancer, Its Nature and Its Treatment.—John Holden Webb declares that cancer is not communicable, and yet is autoinfective. Cancer is uncontrolled proliferation of the cell. Cholesterine in the economy is in solution, and is kept in this condition by its natural aqueous solvent—soap. It is the loss of this soap that permits cholesterine to separate from the living cell, and cell-cancer to start. The uncholesterine cell is the uncontrolled cell. Cholesterine is at fault in this disease as the bad odor shows. As treatment, the writer uses injections of soap. A bit is dissolved in boiling distilled water and strained. Never more than a teaspoonful should be administered at a time. When thyroid is not contraindicated, it is given per os. This treatment has met with excellent success. When the soap injection is given even alone, pain and odor have been avoided in most trying cases, such as cancer of the tongue. The writer defines malignancy as the crystallization of cholesterine from the living cell.

Mucin in Desiccation, Irritation, and Ulceration of Mucous Membranes.—W. Stuart-Low states that mucin acts by supplying what is deficient in abnormally dry mucous membranes—that is, mucus. He gives it in doses of five grains with an equal amount of sodium bicarbonate. One of the leading clinical indications for its use is the presence of a clean, red, angry, or dry tongue, often a clean, red, fissured tongue, indicating a deficiency of gastric protective coating. With this condition is often associated, a pale and thin, or a pale, thin, and desiccated state of the mucous membrane of the nose and pharynx, or a semi-secretionless post-nasal and pharyngeal surface, and obstinate constipation. If the tongue is rather coated and dry, than red, and there is pain after taking food, and constipation, a saline aperient is indicated to clear away the old gastric mucus and prepare the way for mucin. Peptonized foods are avoided in cases of gastric irritation, erosion, or ulcer. Mucin has a laxative action. It probably aids in protecting the stomach from self-digestion. Besides being used for these affections, it is used as a douche for dry nasal membranes.

A Remarkable Case of a Foreign Body Impacted in the Rectum.—A. Marmaduke Sheild reports this case. The patient was a man aged sixty years. Four days before he asked for treatment, he had forced a gallipot (about the size of a Dundee marmalade jar) up the rectum. He had passed some loose stools since, and there was no great pain or difficulty in micturition. The patient had attempted to remove the pot and had broken it leaving several jagged edges. An anæsthetic was given the patient, and the broken edges of the pot could just be felt by the index finger. These points were imbedded in swollen and prolapsed mucous membrane. The operator made a free incision in the bowel posteriorly down to the coccyx behind, the bistoury being entered above, close to the foreign body. By using a short-bladed pair of obstetric forceps, with careful traction and "swaying" movements, the mass was brought into the large wound and extracted. The wound was closed, but soon became very septic. The stitches were removed, the wound was lightly plunged, and a warm boric hip-bath was employed. The patient made a good recovery.

The Present Treatment of Inoperable Cancer.—Alfred Cooper concludes: (1) That in cases of inoperable sarcoma, more especially the spindle-cell variety, the patient should have the option of Coley's fluid given to him, since a certain number of cases have been cured. (2) That in cases of inoperable cancer of the breast in women of about forty years of age, in whom the menopause has not occurred, the operation of oöphorectomy should be proposed, and this treatment may be combined with

thyroid feeding. (3) That in cases of inoperable rodent ulcer and of superficial malignant ulceration in other parts, the Röntgen rays give a good hope of improvement. (4) That in cases in which these other methods are declined or are inapplicable, the internal administration of celandine is worthy of trial, and when the case appears quite hopeless, morphine should be pushed without hesitation. (5) Finally, the writer suggests that before trying any of these remedies the risk should be fully pointed out to the patient, that the faint hope that most of them afford should not be magnified, and that the discomfort of treatment should be fully discussed; in fact, the surgeon should not do more than offer the treatment and leave the person to accept or reject it.

Berliner klinische Wochenschrift, September 30, 1901.

Renal Tumor in a Child of Six Months.—A. Schönstadt says that tumors of the kidney are relatively frequent in childhood, but that it is rare to observe them in infants less than a year old. His patient was a boy of six months, from whom an adenosarcoma the size of the fist was removed by a lumbar incision. Difficulty was experienced with the narcosis, but the child recovered speedily, and now, seven months after operation, is doing well, with no signs of recurrence.

Gastric Splashing and Atony.—B. Stiller vigorously opposes the dicta of Elsner, who recently deprecated the value of gastric succussion as an indication of atony. According to Stiller's views, there may be atony without muscular insufficiency, and this may be a forerunner of gastroptosis, which condition Elsner admits greatly favors the production of the splashing sound. Stiller therefore argues that the presence of this sign means both ptosis and atony, and says that this triad forms the most constant symptom of nervous dyspepsia. Atony of the stomach means a relaxation of its musculature, which leads to impaired contractility, dilatation, and depression of the lower limits of the organ, with ultimate ptosis. In pure atony only the tonic contraction, and not peristalsis, is defective, but this also becomes gradually impaired so that complete motor insufficiency and gastrectasia may, but does not necessarily, occur. Only rarely is atony a purely local condition dependent on regional causes. In most cases it is due to atony of the entire organism, which leads to enteroptosis, nervous dyspepsia, and general neurasthenia. Such a condition may be called *asthenia universalis congenita*, and of this the atony of the stomach is the most constant sign. The presence of splashing is of the utmost importance as indicating the presence of such a nexus, and its value as a diagnostic aid cannot therefore be underestimated.

Apparent and Actual Disease Foci.—Buttersack says that the prevalent view of the bacteriological origin of disease, which assumes that a given organ is invaded by the organism, and then becomes the seat of disease, is not wholly satisfactory. In the case of viscera, like the lungs and intestine, which have a direct connection with the outer world, the proposition seems tenable and the occurrence of pneumonia, typhoid fever, and pulmonary tuberculosis is explicable on such grounds; but when we come to enclosed structures, like the pleura, pericardium, and joints, to say nothing of the spleen, testicle, or spinal cord, some elaboration of the theory is necessary. Accordingly, the author suggests the lymphatic structures of the body as representing the centers where disease germs congregate and are either disposed of or else sufficiently overcome the forces of the body to make further invasion along the lymphatic channels possible. It is only in this way that it is possible to explain why in typhoid fever, for example, the bronchial lymph nodes, as well as the intestinal ones, are affected, or why it is nearly always the lung, and not the larynx, that is first attacked by the tubercle bacillus, instead of the reverse, which would seem more natural if infection were simply due to inhalation.

Münchener medicinische Wochenschrift, October 1, 1901.

A Case of Pseudoleukæmia with Intermittent Fever and Glycosuria.—A. Goldschmidt's patient was a man of sixty years who, six years ago, developed glandular swellings in the neck and axilla which were diagnosed as due to pseudoleukæmia. After a period of two years, during which the general condition became gradually worse in spite of energetic arsenical therapy, intermittent fever, accompanied by a glycosuria of variable degree, set in and persisted for several months. The condition then improved and remained good until the winter of 1901, when the leucocytes began to increase and the pseudoleukæmia gradually developed into a true leukæmia, which terminated fatally a few months later.

A Foreign Body in the Nose.—Gross was called to see a boy suffering from an intensely fetid discharge from the left nostril which had persisted for over two years and produced deep excoriations about the upper lip and nostril. The right nostril was found clear, but all attempts at examination of the left side were so painful that for eleven days the treatment consisted solely in cocainization and the introduction of swabs charged with argentum Credé. At the end of this time it was possible to introduce a speculum and diagnose a large rhinolith. Under chloroform this was removed with a curette, and the severe hemorrhage which followed was controlled by packing with hydrogen-peroxide gauze. On breaking open the rhinolith it was found that the nucleus consisted of a shoe button which the patient confessed to having introduced four years previously. The author's comment is that every foreign body should be removed from the nose at once, and that a unilateral fetid discharge from the nose of a child always means a foreign body.

Diplococcus Semilunaris, an Accompanier of Tuberculosis.—E. Klebs describes an organism which he has so often encountered in connection with tuberculosis as to cause him to attach importance to it. It is found in the tonsils of tuberculous patients, and its occurrence in greater or less number in these regions gives an idea of the powers of resistance of the patient; when present in abundance, it indicates a less favorable prognosis and diminished capacity of resistance. It is observed not only in pulmonary tuberculosis, but also in bone and joint disease as well as in tuberculous skin lesions, and it may possibly have something in common with the organism described as the germ of articular rheumatism. It also has a relationship to vesical catarrhs and is observed with great frequency in the body of the house fly, from whose crushed head it may easily be obtained in pure culture. Its pathogenic powers are shown by the author's experiments, in the course of which he was able to produce fatal cellulitis in rabbits by the injection of the organism. Its occurrence in man is illustrated by the description of two cases in which it accompanied tuberculous adenitis and pulmonary tuberculosis. The significance of such mixed infections is very marked in tuberculous bone and joint lesions, which become rapidly progressive when the diplococcus semilunaris is present in large numbers.

Deutsche medicinische Wochenschrift, October 3, 1901.

A Special Form of Stenocardia (Pseudostenocardia Rheumatica).—G. V. Voss reports two cases of what at first sight appeared to be angina pectoris, but which on closer analysis resolved themselves into a rheumatic complication. In both instances there was marked tenderness of the muscles of the back which yielded to firm massage, while the pectoral pain seemed due to the involvement of the intercostal muscles.

The Treatment of Anthrax.—I. F. Schultze's patient was a butcher who became infected while skinning a cow, afterward discovered to have died of anthrax. Nine days later a small pustule developed under the left eye, which rapidly became swollen and soon involved both eyelids in an intense œdema. The original pustule formed itself into an ulcer with indurated edges, the pulse ran up to 140, albumin with hyaline and granular casts appeared in the urine, and the œdema rapidly extended over the whole face and neck. In the course of the next few days the temperature went up, there were severe dyspnœa and delirium which persisted till the eighth day, when defervescence occurred, and a line of demarkation formed about the necrotic areas. At the end of six weeks the patient was discharged after a plastic operation had been done to correct ectropion. The site of the disease, almost directly involving the eyes, did not permit of radical measures of any sort, and the only treatment consisted in local applications of alcoholic bichloride solution (1-1000) with five grains of quinine every three hours during the febrile period, and several five-grain doses of naphthalin given for the diarrhœa.

Prosthetic Subcutaneous Injections of Paraffine.—A. E. Stein reports very good results from the subcutaneous injection of paraffine for the purpose of replacing defects following various forms of trauma or disease. Missing testicles or defects due to accident or cicatricial contraction can be replaced in this way with good cosmetic result, and incontinence of urine or fæces due to damaged sphincters can be wholly relieved. The two points that require consideration are the possible toxic effects that may be produced by the slow absorption of the mass from the tissues, and whether pulmonary embolism can occur through the entry of the still-fluid paraffine into the blood current. The author's experiments show both of these dangers to be minimal; for in mice one-third of the body -

weight of paraffine could be injected without bad effects, while in a very large number of injections no pulmonary symptoms developed. The mass to be employed should be absolutely sterile and have a melting point of from 42 to 43° C. If the melting point is much lower than this the proper form is not retained, and if it is too high, local irritation is produced, often ending in gangrene. In favorable cases it is probable that the mass is invaded by a gradual fibrous ingrowth from the surrounding parts, giving it permanence and firmness. Not more than about a gram should be injected at a single sitting. The operation is not painful, and the patient usually is not kept from his work. Several photographs show good results in cases of saddle-nose and cleft palate.

French Journals.

Obstetrical Stigmata of Degeneration.—Larger declares that all of the anomalies of conception, of pregnancy, of labor, and of the fœtus are signs of degeneration. In this class he includes sterility, extra-uterine pregnancy, monstrosities, abnormal presentations, and all alterations in the fœtus, placenta, membranes, or amniotic liquid. These stigmata may be transmitted by heredity in the original form, or they may be transformed by heredity into other kinds; for example, mental or physical stigmata can be transformed into obstetrical stigmata, and *vice versa.*—*La Presse Médicale*, October 9, 1901.

Signs of Tubal Pregnancy.—Martin insists particularly on the colicky pains resembling uterine pains, and on the continuous discharge from the cervix. He shows that besides those cases in which rupture of the tube occurs, with flooding of the peritoneum, there are others, perhaps more frequent than the first, in which the phenomena are less striking, and which have to be observed most carefully in order to establish the diagnosis. He draws a parallel between tubal abortion and uterine abortion.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, October 10, 1901.

Enucleation of Uterine Fibroids.—Albert Martin believes in conservative surgical treatment of these tumors. In patients who are not pregnant, he gives the following advice: If the tumor is a sub-mucous fibroma, dilate the cervix and enucleate the tumor piece-meal; if the tumor is subperitoneal, multiple or not, practise laparotomy, and enucleate the fibroid *en masse* or in two parts, and then close the uterine wound. Finally, it is only in those patients with multiple or very large interstitial fibromata that it is necessary to resort to total or nearly total abdominal hysterectomy, and in case of doubt as to the position and the exact connections of the tumor, one must always try to do first a myomectomy by the abdominal way, as by this method alone can a clear insight and judgment be obtained. In the case of pregnant women, surgical intervention should be resorted to only after the most careful thought and consideration. In cases of dystocia from a uterine fibroma, cæsarian section followed by conservative myomectomy is the operation of choice, total or partial abdominal hysterectomy being undertaken only as an operation of necessity.—*La Revue Médicale de Normandie*, October 10, 1901.

Arrhythmical Hysterical Chorea of Childhood.—G. Carrière and F. D. Sonneville state that, according to Pitres, all hysterical manifestations have five distinct characteristics: (1) They are the result of purely functional troubles of the nervous system. (2) They can be suddenly called forth, modified or suppressed by psychical influences or by physical causes which have no influence on similar phenomena dependent upon organic lesions. (3) They are rarely isolated, certain of the latent stigmata coexisting with the striking manifestations of the neurosis. (4) They have no regular evolution, occur without preëstablished order, and take place under different forms and at different periods in the same subject. (5) They have not habitually the same influence on the general health and on the mental state of the individuals afflicted, as similar phenomena dependent upon another cause. It cannot be stated positively that arrhythmical hysterical chorea is not associated with organic lesions, for, as far as the authors are aware, there has never been an autopsy on such a case. The reason why they believe that this affection is not connected with organic lesions is the rapidity with which these movements are cured and disappear under the influence of any suggestion whatever. What organic lesion disappears thus under such circumstances? It is a fundamental characteristic of hysterical phenomena to be called forth, modified, or suppressed by external manœuvers, or by psychical causes. Arrhythmical hysterical chorea of childhood is indeed only a form of hysteria.—*Archives Générales de Médecine*, October, 1901.

Therapeutic Monthly, September, 1901.

The Treatment of Exophthalmic Goiter with Special Reference to the Use of Sodium Phosphate.—Joseph Sailer concludes from his experience with two cases that in those instances (probably the majority) in which operation for one reason or another is considered inadvisable, sodium phosphate offers at present the best means at our command for relieving the patient. The dose appears to be from about one drachm to one-half ounce daily, guarded, if necessary, by some mild astringent, such as aromatic sulphuric acid.

Caribou or Water-Buffalo Virus.—Charles A. Cattemole says that he has had evidence, from a case observed in the Philippines, that an attack of variola does not invariably protect the subject from vaccinia with caribou virus. It cannot be said, however, that this individual would not be protected from another attack of variola. There is no essential difference in the course of vaccinia with caribou virus and that produced by bovine virus. The former seems to be the more potent, and is more resistant to the deteriorating effects of a hot climate.

The Therapy of Pulmonary Tuberculosis; A Study of Some Forms of Medical Treatment.—Thomas Luther Coley draws the following conclusions: 1. That there is no specific treatment for pulmonary tuberculosis. 2. That the most satisfactory results of treatment can be accomplished only when a careful and repeated study has been made of the patient's powers of digestion and assimilation, and when these are kept at the highest possible point of efficiency. 3. That the action of tuberculin is unquestionably beneficial in a certain percentage of incipient cases. 4. That of the so-called antitoxins some may possess a little antitoxic power, but scarcely sufficient for curative purposes in the vast majority even of incipient cases of tuberculosis, either in man or in animals. 5. That the treatment of pulmonary tuberculosis with antiseptics has not yielded especially favorable results Antiseptics administered internally are of value largely on account of the action on the gastrointestinal tract. Intratracheally, or intravenously, or by atomization, they are of no appreciable value. When given by inhalation, they are of value only on account of the possible deterrent effect on secondary infection. To secure the best results from inhalation, Ruata's method, while heroic, seems the most logical, but is difficult of attainment in the majority of cases.

The Climatic Treatment of Tuberculous Consumption.—T. Mellor Tyson believes that cases of early apical affection and little constitutional disturbance are most benefited by altitude. Cases with more advanced disease, showing some consolidation, but no excavation or any serious disturbance, do well. When both the apices are inuolved, or much of one lung,and the temperature is generally over 100° F. (37.7 C.), it is best to begin with a low altitude. Hemorrhagic cases, early cases with hæmoptysis and without fever or extensive lesions, are benefited. Patients with advanced disease, those with cavities or severe hectic symptoms, should not be sent to high altitudes. A small, quiet cavity is not a contraindication; hectic symptoms are a contraindication. Patients in an acute condition should not be sent. Cases of fibroid phthisis are not suitable. Convalescents from pneumonia or pleurisy are usually well suited for elevated regions. Advanced cases of tuberculous laryngitis, if good local treatment and freedom from dust can be had, may do no worse than elsewhere. In cases complicated by other diseases there is much care needed. Cardiac dilatation precludes high altitudes; so also does hypertrophy for the most part, though with exceptions. A cardiac murmur, the result of old endocarditis, with no signs of enlargement or deranged circulation, should not deter. Nervous derangements of the heart are usually contraindications. In renal disease, and in chronic hepatitis, the local physicians claim that benefit is often obtained. Intestinal ulceration is not barred out, but benefit is doubtful. Heredity to phthisis does not contraindicate high altitudes. Diabetes is a contraindication. Syphilis is no contraindication, though the combination with phthisis always makes the prognosis bad.

American Journal of the Medical Sciences, October, 1901.

Influenza as a Causal Factor in Acute Mastoiditis and the Early Treatment.—James Francis McCaw emphasizes the fact that in influenza we get two distinct types of tympanomastoiditis: First, the suppurative, which invades the tympanum, antrum, and cells almost simultaneously in an unusually virulent and destructive process, which calls for early surgical treatment, and in which abortive measures are contraindicated. Second, the hemorrhagic, with very pronounced symptoms at first,

but which yields readily to abortive measures, and, in the writer's experience, only about 5 per cent. go on to suppuration requiring radical interference.

A Case of Malarial Nephritis, with Massing of Parasites in the Kidney.—James Ewing states that microscopical examination of the kidneys of fatal cases of malaria has yielded evidence of three main types of acute renal lesions occurring in this disease: 1. Acute degeneration of toxic origin, often reaching a degree in which exudation of blood serum into the tubules is added. This lesion is responsible for the vast majority of the cases of albuminuria in malaria. 2. An extreme form of acute degeneration, with focal necroses, numerous hemorrhages, and exudation into the tubules of blood serum and blood pigments. This lesion is seen in cases of hæmoglobinuric malarial fever, and it has not yet been found associated with an excessive number of parasites in the capillary vessels. 3. Massing of parasites in the renal capillaries, with extreme degeneration of parenchyma cells, multiple hemorrhages, and exudation of blood serum into the tubules. It seems certain that this type of lesion can occur only in severe estivoautumnal infections. There is anatomical evidence that in the pernicious estivoautumnal cases the three types of lesions may be variously combined, but no good reason for believing that with the benign tertian infection occurring in this latitude any other than the first type can exist.

The Journal of Tropical Medicine, October 1, 1901.

Influence of Color on Mosquitos.—Osborne Browne has observed that mosquitos seek out dark places to retreat to in the intervals of their attacks, and holds that walls, furniture, etc., should be of a light color. He believes that to fight them one should pay attention to details, screen windows and doors, open the house to sunshine and fresh air, brush ceilings, corners, and behind furniture daily, put all dark clothes away, kerosene the tanks, keep natives (on the Gold Coast) at a distance, paint houses white, use a good net hung within the poles of the bed, thrown up during the day and personally tucked under the mattress at night, use light-colored clothes, and avoid late dinners with friends. He does not believe that upturning the earth frees resting spores.

The Geographical Distribution of Bilharzia.—W. G. Tottenham Posnett holds that the distribution of this parasite is of much greater extent than is generally supposed, and reports two cases seen in the hospital at Bloemfontein. He believes that 80 per cent. of the cases of so-called hæmaturia that have occurred among the troops in this campaign have been due to bilharzia. It is not surprising that a large number of cases should occur when we consider that the thirsty troops after a hard march, in the great majority of cases have nothing to drink but the water contained in the dams of farms, or a "water hole." It is very probable that we shall find that this parasite is distributed throughout the African continent.

The Danger of Subcutaneous Injection of Quinine.—R. M. Townsend invites discussion on this matter, having had some troublesome cases of abscesses and necrosis over the site of injection, although there was careful sterilization of syringe, solution, and skin, and injections of strychnine produced no signs of inflammation whatever.

James Cantlie asks why, if hypodermic methods of treating malaria by quinine are as effectual, simple, and beneficial as enthusiasts claim, they are not in more general use? He has been prejudiced against its use by seeing the results in the practice of other medical men. In Hong Kong, five or six persons came to him with abscesses on the outer aspect of the left forearm. They had all been treated by subcutaneous injections of quinine for malaria. The abscesses were large, deep, troublesome, very slow in healing and left a permanent and unsightly scar.

Ankylostomiasis in South China.—J. Preston Maxwell holds that a great many of the obscure so-called "malarial cachexias" of the sub-tropical region of which he writes will turn out, on fuller examination, to be cases of ankylostomiasis. Three classes of patients are affected with this parasite: 1. Those in whom it is the sole disease, whose anæmia is due to the parasite and in whose stools are many ankylostomum ova. 2. Cases in which the disease is complicated by malaria, phthisis, Bright's disease, or other malady. 3. Cases in which, so far as one can judge, the presence of the parasite causes little trouble, and would not be suspected were it not found on casual examination of the stools. The disease is, however, not innocuous. In the treatment, the first thing to be done is to clear out the round worm by santonin, followed by a sharp purgative. Thymol (gr. x) given every second night for three or four times, followed by castor oil in the morning, will bring away the ankylostomes, but very slowly. A specific easier of administration and causing less depression would be a boon. The diet should be rich, but easily digested, and in tropical countries the combination of quinine with the iron given is a great advantage.

The Scottish Medical and Surgical Journal, October, 1901.

Skin Grafting by the Wolfe-Krause Method.—H. M. W. Gray reports nine cases. The method consists in the transplantation of strips or pieces of the entire thickness of the skin, thus differing entirely from Thiersch's method, in which strips of epidermis are shaved off, usually from the front of the thigh. The author describes the technique, and says that he considers the process preferable to Thiersch's, because it gives a more natural-looking, more resistant, and less contractile surface in a shorter time. The method is also easier to carry out. The grafts are most successful when placed on clean-cut, freshly vivified areas of normal tissue; less so on scraped granulating surfaces. It is wise, therefore, to procure, whenever possible, a basis of freshly vivified healthy tissue, by excising widely the pathological part for which the grafting is to be done. When this is impossible without resulting in increased loss of function in the case of granulating surfaces, probably Thiersch's method will give better results.

A Case of Musculospiral Paralysis Following Separation of the Lower Epiphysis of the Humerus; Recovery After Operation.—Robert Purves reports the case of a boy of five years, whose left arm after fracture was placed in splints for seventeen days. When the splints were removed, the wrist was flexed and the hand could not be raised. The author operated, exposing the nerve between the supinator longus and the brachialis anticus, and the nerve of supply to the supinator was seen entering that muscle. The main trunk was followed down to the edge of the diaphysis, at which point it became narrower, and was firmly adherent to the periosteum. On tracing it farther, it was found to dip over the projecting edge of the diaphysis into the hollow beneath, and was closely bound down to the line of separation of the epiphysis. It was freed from the fibrous tissue investing it, and followed to its point of bifurcation. The periosteum over the end of the shaft was then pushed aside, the sharp corner rounded off, and the periosteum replaced and sutured. The nerve, which was exceedingly attenuated, was laid in a new channel to the outer side, and the wound closed. After ten days, the wound being healed, massage and electricity were applied daily. Recovery was complete. The child remains left-handed, though for five months he was dependent on his right arm alone.

Wound of the External Iliac Artery Treated by Suture.—J. Hogarth Pringle describes the case of a man who had received a wound of the external iliac artery on the antero-internal aspect of the vessel, the wound being one-quarter inch long, and running rather obliquely to the axis of the artery. The aorta was compressed, while a clot was removed from the wound in the artery, and then catgut sutures were inserted. A decided kink was produced in the artery, but there was no leakage when the aorta was released. The wound was situated about one-quarter inch above the origin of the deep circumflex iliac, which was tied. The wound healed aseptically. Six months later the patient assented that the limb was "as strong as ever it was," and there was no sign of any yielding of the arterial coats, no sign of hernia, no atrophy of the limb, while the measurement at the widest part of the thigh and the calf was the same on each side. Where successful suture of a large artery is possible (by successful is meant the preservation of the lumen of the vessel), it will probably be more satisfactory than ligature. The risk of gangrene is reduced to a minimum; there ought to be no wasting of that segment of the body to which the vessel is distributed, and the peculiar sensation of weakness and the vague pains complained of for long periods after ligation of an artery in continuity may possibly be avoided. The chief factor for success is asepsis.

Edinburgh Medical Journal, October, 1901.

Volcanic Action as a Cause of Outbreaks of Epidemic Disease.—N. Bardswell has made a careful study of this question and brought to light many interesting facts. He confines his attention mainly to the effects of earthquakes which often disturb water and drainage pipes, thus leading to leakage with all its dangers. The health records of various localities show that following severe earthquakes we may expect a marked increase in typhoid fever. Other localities show under similar conditions a marked increase in the prevalence of malaria and choleraic diseases. Again, epidemics of neuroses are very common. These may consist of functional disturbances, such as nausea, vomiting, headache, vertigo, diarrhœa, frequent

micturition, hystero-epilepsy, disordered sensations, etc.; of various abnormal mental conditions (apprehension, depression, prostration, moral instability, and loss of control, mania, and insanity), or there may be a functional paralysis, as paralysis of limbs or railway spine. Other diseases which seem to have followed upon the trail of earthquakes are conjunctivitis, keratitis, tetanus, and erysipelas. The article contains much valuable information and will doubtless be often referred to in coming years.

The Means of Arresting Acute Endocarditis.—Richard Caton advises absolute physical rest for at least six weeks. The patient is kept in bed with the head low; he is not permitted to raise himself, nor leave his bed for any purpose. Sleep is encouraged, pain and also all mental excitement are avoided, the diet is simple and unstimulating. Salicylates are to be given, but they do not do as much for the heart as for the joints. There is no evidence to prove that they prevent or remove endocardial affections. The heart tonics, such as caffeine, digitalis, and strophanthus, appear to exert an injurious rather than a beneficial effect. We must excite the trophic centers of the heart to increased effort in the attempt to combat the rheumatic poison. With this end in view, a succession of small blisters is applied to the wall of the chest, between clavicle and nipple; each blister is followed by a small poultice. If the application is made in the proper manner, scarcely any pain or inconvenience is complained of by the patient, even in the case of children. In the course of the disease, structural changes take place in the valve cusps, or the considerable amount of imperfectly organized material which is effused into the substance and upon the surface of the inflamed cusp. If complete restoration is to take place, it is essential that this effused material should be absorbed and removed as soon as possible. It seems, therefore, wise to administer one of those drugs which are believed to absorb effusions and remove thickening in fibrous tissues. Of these, sodium iodide seems the most suitable; it is consequently given. The iodide may also be of service, along with a restricted diet, in lessening the volume of the blood. From a large experience with the disease in question, the author draws the following conclusions: (1) If the cardiac complications of acute rheumatism receive no special treatment, and the patient is allowed, when the rheumatism has subsided, to return to his usual course of life, he will, in the great majority of cases, become the subject of organic heart disease. (2) In all cases of acute and subacute rheumatism, and in the obscure cases of rheumatism peculiar to childhood, it is important to keep a close watch upon the heart, so as to detect the onset of valvulitis in the early stage. (3) If the disease is early detected, and is then judiciously treated, in a large proportion of cases organic mischief will be averted.

Intermenstrual Dysmenorrhœa.—A. M. Watson reports a case of this nature, the patient being thirty-six years of age. Menstruation was always regular and painless, and the amount was not excessive. The intermenstrual pain dated back to the birth of the last child, five years before, and came on fourteen days after the close of a period lasting for three days. The spasms were like those of ordinary dysmenorrhœa, but there was no discharge of blood or of other fluid. Constipation, always present, was worse at those times, and the patient was troubled with frequent and painful micturition. No special condition of the pelvic organs has been found in these cases, but thickened and dilated tubes, anteflexed and retroflexed uteri, conical cervix with pinhole os, chronic endometritis with lesions of the os, ovarian tumors, and ovarian thickening—all have been found in different cases. In the present case, examination showed the external genitals and vagina normal, but there was considerable leucorrhœa. The cervix felt large and indurated, and mushroom-like in shape, with enlarged Nabothian follicles, most marked on the posterior lip. On both lips was a lage area with a "velvety feel." The cervix was transversely fissured, and the posterior lip felt hard and shotty. The fornices were free; the uterus was normal in size and freely movable, and lay rather more to the right side than normal. As seen by the speculum, the discharge issued from the external os, and was white and glairy. The cervix was large and much fissured, both lips were everted, and showed large patches of granular erosions, and several follicles the size of sago grains. Treatment of the local conditions was followed by relief of the intermenstrual pain for the first time in five years.

Phlyctenular Conjunctivitis.—In the treatment of this condition, Kenneth Scott lays stress upon the necessity of improving the condition of the system by body cleanliness when necessary, by the adoption of warm but light clothing, extra nourishment, food being administered in small and frequent portions, and malt preparations. In regard to local treatment, he believes that every endeavor should be made to assuage the local inflammation. Complete rest of the eye is secured by atropine. In the milder cases, further rest and protection are afforded by the application of a dry cotton-wool pad with a bandage, and if a single thickness of muslin smeared with vaseline is placed next the skin, the secretions do not gather and dry on the eyelashes; thus agglutination of the margins of the eyelids is avoided, and also the harmful retention of secretions within the conjunctival sac. In more severe cases, additional measures are employed. Hot fomentations, changed at frequent intervals, are applied during one hour, either once or twice in the day. The solution which is found most useful for this purpose is salicylic acid in water, 1 in 200, to which are added, in the form of tincture, small proportions of aconite (two parts), arnica (four parts), belladonna (eight parts), and opium (ten parts). Sometimes the last of the fomentations is allowed to cool on the eye, and remain until the next time for repeating it is due, which may be either on that day or the following; at other times it is replaced during the interval with a warm pad of dry cotton-wool. In those cases in which the phlyctenula is situated on the surface of the cornea, there is often very great photophobia, but relief is speedily obtained by instilling some cocaine along with the atropine; and, by holding the eyelids apart for some seconds, the solution has time to take effect before it is washed away by the flow of tears. When there is marked blepharospasm, and more especially when an excoriated fissure has formed on the skin at the outer commissure of the eyelids, relief is afforded by simply dividing the outer canthus. This canthectomy is readily done by the use of a strong pair of blunt-pointed angular scissors.

Journal of Experimental Medicine, October, 1901.

Observations on a Case of Cyclic Albuminuria.—The patient of L. B. Mendel and D. B. Hooker was a young man apparently healthy, who was a laboratory student. Variations in diet did not seem to produce any concomitant variations in the proteid excreted. This point was tested during periods of feeding with a preponderance of carbohydrate and proteid food and again during periods of fasting. It was found that when the patient remained in bed, and perhaps during the period immediately after rising, the urine was usually free from coagulable proteid. The excretion then began gradually increased in quantity until about noon, when it fell off again; a second but smaller rise occurred later in the afternoon, and toward evening the output was again greatly diminished. The effect of muscular exertion, as noted in long walks, did not seem to vary the amount of proteid excretion, nor did posture act as an excitant to the abnormality noted. The most conspicuous proteid in the urine was albumin. Globulin was not found. Nucleo-albumin and proteoses were likewise absent.

Some Experimental Data on the Significance of Concentration and of Multiplicity of Area in Hypodermic Injections.—From experiments on rabbits, S. J. Meltzer concludes that in hypodermic injections the distribution of poison in several parts of the body is more effective than the injection of this quantity in a single dose into one place. The experimental substance used was strychnine. Other experiments demonstrated that the bulk is nothing and the concentration everything; the doses being equal, the more concentrated the injected poison is, the stronger is the result. The meaning is plain: the osmotic pressure is the most important factor in the process of absorption. The general conclusion therefore is that the effect of the subcutaneous injection depends to a considerable degree upon the concentration of the injected solutions, and is materially influenced by a greater distribution of the injected quantity over several areas.

Alloxuric Excretion in a Case of Leucopenia.—The patient in the case reported by R. Hutchinson and J. J. R. Macleod was a woman of thirty-seven years. She suffered from Malta fever, presented an enormously enlarged spleen and a large liver, but no glandular enlargement. She was confined to bed, and was kept on a diet consisting of eggs, milk, bread, and farinaceous foods, but containing no flesh nor other purin-yielding ingredients. The exact amount of food consumed was ascertained, and the urine was collected each day. The fæces were neglected, since no appreciable amount of purins is lost with them. An elaborate series of examinations of the urine was made and the conclusions are thus stated by the authors: 1. In the case investigated, one of Malta fever, the leucocytes were reduced to between 1,500 and 3,000 per cubic millimeter. 2. Notwithstanding this, the alloxur bodies and the phosphoric acid in the urine, the patient being on an alloxur-free diet, showed no distinct diminution from the normal. 3. The suggestion is made that this result may be due to the leucopenia being brought about by an increased destruction of leucocytes in the spleen rather than to a diminished activity of the bone-marrow.

Society Reports.

NEW YORK STATE MEDICAL ASSOCIATION.

Eighteenth Annual Meeting, Held in New York City, October 21-24, 1901

JOHN A. WYETH, M D, OF NEW YORK, PRESIDENT.

First Day—Monday, October 21.

THE meeting of the Council and Fellows, the governing body of the association, was held in the afternoon. The session was wholly occupied with executive business.

Officers Elected.—Dr. Alvin A. Hubbell, Buffalo *President;* Dr. W. H. Biggam, Brooklyn, *Vice-President;* Dr. Guy D. Lombard, New York, *Secretary;* Dr. E. H SQUIBB, Brooklyn, *Treasurer;* Dr. Irving S. Haynes, New York, *Chairman of the Committee on Arrangements;* Dr. E. E. Eliot Harris, New York, *Chairman of Committee on Legislation;* Dr. J. W. S. Gouley, *Chairman of Committee on Literature;* Dr. Alexander Lambert, *Chairman of Committee on Public Health and Medical Charities;* Dr. J. Riddle Goffe, *Chairman of Committee on Publication;* Dr. C. E. Quimby, New York, *Chairman of Committee on Nominations.*

Second Day—Tuesday, October 22.

The Correction of Deformities Following Osteitis of the Knee.—Dr. WISNER R. TOWNSEND, New York, read this paper. He said that it was generally agreed that all except very slight deformity should not occur under proper treatment unless the necessary co-operation of the patient was lacking. The application of force under anæsthesia would correct most cases. Statistics showed that under the protective plan of treatment 95 per cent. were cured with motion of the joint. Cutting the hamstring tendons might not be demanded. If the external tendon required cutting, this should be done through an open incision to avoid injury to the popliteal nerve. Excision was rarely indicated, because osteotomy is less dangerous, is not so liable to cause relapse, and does not sacrifice so much time. The interference with growth after excision had led most surgeons to abandon this operation in children. Cuneiform osteotomy was only indicated when the deformity is extreme.

Appendiceal Fistula.—Dr. JOHN B. DEAVER of Philadelphia, Pa., presented this paper. He said that this was a preventable sequel to operations for appendicitis, for it would be practically unknown if operation were uniformly undertaken in an early stage. The least dangerous fistulæ were those in which an abscess ruptures into the cæcum, colon, or rectum, as in this variety the danger of intestinal obstruction is minimized and the exit for the pus is a safe one. However, he had known even these cases to terminate fatally. In many cases in which the appendix was left behind, it acted as a foreign body and kept open the fistula. In these cases the discharge might be almost pure mucus—indeed, such a discharge indicated almost certainly the presence of the appendix and its connection with the fistulous tract. Fecal fistulæ of the large bowel were more apt to heal spontaneously than fistulæ connected with the small bowel If the appendiceal fistula were non-fecal, a careful search should be made for a foreign body, care being taken not to convert such fistula into a fecal one by wounding the bowel When a fistula developed, the drainage should be removed and the tract should not be washed out any longer. In the experience of the author, fistulæ of the small bowel usually require a section. He preferred to do an end-to-end anastomosis without mechanical appliances, using instead of them sutures. Fistulæ of the large bowel are to be resected or repaired according to the judgment of the operator in the individual case The surgeon should especially guard against overlooking the presence of more than one fistula

Dr. DE LANCEY ROCHESTER of Buffalo said that he had formerly favored temporizing and using the morphine treatment in the beginning with the object of doing an operation in the interval, but further experience had convinced him that it was better to resort to operation promptly whenever consent could be obtained.

Dr. FREDERICK HOLME WIGGEN of New York declared that the important thing in every case, even in suppurative ones, was to go in and remove *all* the diseased tissue. If this were done, there would be no danger of fistula and no necessity for drainage. He was glad to hear the author state that the fistula should not be washed out, for he had frequently known such fistulæ to be kept open for a long time by physicians who should have known better, persisting in irrigations. The simple treatment recommended by Dr. Deaver would usually suffice, but occasionally, where the bowel had become flexed and adherent, the intestinal contents would be forced through the fistulous opening, and in order to cure such a fistula it was necessary first to remove the obstruction of the bowel. He did not agree with the reader of the paper that the cæcum must always be removed. The important point to remember was the necessity of removing all diseased structures.

Dr. E. D. FERGUSON of Troy reported several cases to show some of the difficulties sometimes encountered. Prompt operation should be the rule, and it should be most thoroughly done, but occasionally, even under these conditions, a fistula would develop.

Dr. GIBBON of Scranton, Pa., declared that, in his opinion, the time to operate for appendicitis was before the inflammation had begun.

Dr. S. BUSSBY ALLEN of New York said that he was under the impression that about as many persons recover under the medical as under the surgical treatment of appendicitis.

Dr. PARKER SYMS of New York said that while it was quite possible that 80 per cent. recover from individual attacks of appendicitis, this did not mean the survival of 80 per cent. of those having appendicitis, which is a chronic affection. Even if 80 per cent. did survive without operation, a mortality of 20 per cent. was certainly dreadful, when it was recalled that there should be almost no mortality from cases operated upon early. There was a period in every case of fatal appendicitis when the patient could have been saved by prompt and proper surgical care. In his experience, it had been the attending physician, and not the patient, who had been averse to operation.

Dr. J. R. STURTEVANT of Theresa said that, although a country doctor, he was becoming more and more convinced of the advantages of the surgical treatment of appendicitis.

Dr. ALLAN A. JONES of Buffalo said that he was prepared to-day to tell all his patients that when the diagnosis of appendicitis had been made, an operation should be done immediately or in the interval.

Dr. JOHN EDWARDS of Gloversville said that he had successfully treated many cases of appendicitis by using small doses of calomel throughout the attack and avoiding the use of morphine.

Dr. C. B. TEFFTS of Utica said that in accordance with the sound teaching that the physician should found his treatment upon an effort to remove the cause, he could not see how there could be any basis for the medical treatment of appendicitis. He knew of no drug which would remove the appendix. Moreover, he had followed up some cases of alleged cures of appendicitis by medical means, and had invariably found these persons far from cured.

Dr WALL of Syracuse said that appendiceal fistula could be almost surely prevented by timely operation. Our duty was to adopt that method of treatment by which the greatest number could be saved in proportion to the number afflicted; it was, therefore, the duty of both the physician and surgeon to advise prompt operation in appendicitis

Dr ALFRED T. LIVINGSTON of Jamestown spoke most

earnestly against the too common plan of giving opium. Such practice was both irrational and mischievous, because it interfered with nature's efforts at cure.

Dr. DEAVER closed the discussion. He said that he did not wait for well-marked symptoms of appendicitis, but operated as soon as there was appendiceal colic or pain, rigidity, and tenderness. The laity seemed to him to be better informed than the medical profession at large concerning the modern and best treatment of appendicitis. This was well shown by a question that had once been put to him by a society lady, viz.: "Why don't you surgeons take out the appendix when you tie the navel cord?" He knew of a man who had been "cured" of appendicitis forty-eight times and had been operated upon in his forty-ninth attack.

The Electrophone as an Aid to Deafness.—Dr. SAMUEL G. TRACY of New York demonstrated the action of this instrument, which he had invented. It is an electrical device, combining the principles of the microphone and telephone, and is so constructed as to magnify sound at least five times. It is intended to supersede ear trumpets and conversation tubes. The essential parts are a sound transmitter, a sound receiver, a specially constructed induction coil, and an electric battery. The battery is a dry cell, which does not require renewal oftener than about once a month. The instrument could be used as an aid to hearing in about 80 per cent. of cases of chronic catarrhal deafness and in a small percentage of cases of deafness arising from other causes. It also possesses some therapeutic value from the fact that it gives activity to a dormant auditory apparatus. It should also prove useful as an aid in the instruction of deaf mutes.

Malignant Growths.—A symposium on this subject was presented, and was participated in by the following:

The Clinical Course of Cancers with Reference to Their Resemblance to Inflammatory and Infectious Processes.—Dr. ALBERT E. WOEHNERT of Buffalo opened the discussion with this paper. He said that environment plays some part in the production of cancer. Like tuberculosis, it has no period of incubation. Metastases may occur early and be widely distributed. According to Osler, ulceration and metastasis do not constantly affect the temperature. The more rapid the growth, the greater the leucocytosis. It was reasonably clear that cancer had its own toxæmia, and that the latter might cause a fatal termination without regard to the local process. Sometimes it produces a coma similar to that observed in diabetes. In a general way, it might be said that the more rapid the growth and the metastasis, the greater the toxæmia.

The Present Status of the Infectious Theory of Malignant Neoplasms.—Dr. GEORGE BLUMER of Albany considered this subject. He said that the frequency of cancer of the uterus would lead one to suppose that if cancer were communicable, cancer of the penis would be quite frequent; as a matter of fact, it was so comparatively rare as to refute this theory. The so-called cancer parasite is usually intracellular. It gradually grows larger and often develops radial striæ. The nucleus of the cancer cell is usually plainly visible and is pushed aside by the parasite. The author then critically reviewed the experiments in this field, and came to the conclusion that no one had, up to the present time, been able to cultivate successfully an organism or a group of organisms from malignant growths. It had been claimed that, as a result of inoculation experiments, tumors had been produced; but these, the speaker asserted, had been proved to be only granulomata. Certain facts regarding the distribution of malignant neoplasms were suggestive of their infectious origin, but much more extensive investigation was necessary before any definite conclusions could be reached.

Intrathoracic Growths.—Dr. ALEXANDER LAMBERT of New York treated this topic. He said that in the majority of cases the diagnosis of mediastinal tumor could be made if there were some one symptom present to arouse suspicion of the presence of such a tumor. Paroxysmal breathing and cough are almost always present. The peculiar spasmodic dry cough should always direct attention to the mediastinum. Intrathoracic growths are very apt to cause a local bulging, and alteration in the shape of the chest should be carefully sought for.

The Estimation of the Malignancy of Tumors with Reference to the Reported Cures of the Disease.—Dr. JAMES EWING of New York carefully considered in this paper the different varieties of malignant disease, and by a description of each showed clearly that our knowledge of the prognosis must remain very imperfect until surgeons learn sharply to differentiate the varieties, and report their cases in accordance with such classification.

The Treatment of Carcinomatous Growths by Caustics.—Dr. ANDREW R. ROBINSON of New York took up this phase of the subject, confining his remarks, however, to cutaneous epitheliomata. He said that caustics had long been in use for the treatment of this disease, notably nitrate of silver, chloride of zinc, caustic potash, and the acid nitrate of mercury. Chloride of zinc destroys much normal tissue, and hence possesses no advantages over the knife. Caustic potash penetrates, and the slough which it produces is permeable. Arsenious acid seems to have a special destructive action on pathologic epithelia. Not one in twenty cases of epithelioma of the face could be as well treated by the knife as by the proper use of caustics. Arsenious acid was not only a caustic, but an agent which is selective in its action. It was particularly useful in cases of cancer of the face. Recurrence was much less common than by simple excision.

Malignant Disease of the Nose and Accessory Cavities.—Dr. JOSEPH S. GIBB of Philadelphia, Pa., discussed this subject. Speaking of sarcoma of the nares, the author said that pain is absent in the majority of cases. Unilateral destruction of the nares was early noted by the patient. There was a preponderance of these cases among males. No period of life was exempt. By far the larger number of these sarcomata are of the round or spindle-cell variety. The prognosis was unfavorable, return to health being quite uncommon. Carcinoma of the nose, unlike sarcoma, spreads rapidly into the sinuses, involving both the soft and hard itssues. The pain was the most characteristic symptom, and was present very early. Increasing experience tended to make one disinclined to interfere surgically with carcinoma of the nose. Unless the disease were completely removed, the operation would only serve to aggravate the condition. Carcinoma of the accessory sinuses is very rare.

Cancer of the Large Intestine.—Dr. JAMES P. TUTTLE of New York read this paper. Carcinoma, he said, was especially prone to develop in the rectum. Thus, in a series of over 20,000 cases of malignant disease it had been found that the large intestine was involved in 1,206 cases, and that of this number about 506 were in the large bowel above the rectum. Next to the rectum, the cæcum is the most frequent site. Malignant disease of the large intestine occurs most rarely in the transverse colon. It was now known that when cancer occurs in persons comparatively young, it is in those individuals whose tissues are prematurely old. There were three principal methods of treatment, viz., (1) excision, (2) enterostomy, and (3) enteroanastomosis, or the side-tracking of the fecal current. After excision, life is usually prolonged two years; after enterostomy, nine or ten months, and after enteroanastomosis, seven or eight months. The immediate mortality was higher after enterostomy, because it is not the operation of choice, but is done as an urgency measure. The third method gives the lowest immediate mortality,

about the same prolongation of life, and the patient is much more comfortable.

Malignant Disease of the Penis.—Dr. HENRY H. MORTON of Brooklyn spoke on this topic. He said that malignant disease here is almost invariably epithelial carcinoma. It usually begins on the prepuce or glans as a warty excrescence. The existence in this situation of a sore of long standing, with a hard base in a person of advanced years, points to epithelioma of the penis. The technique of amputation of the penis was then described with the aid of diagrams.

Dr. S. SHERWELL of Brooklyn opened the general discussion with some remarks on Dr. Robinson's paper. He, too, favored the use of the acid nitrate of mercury, which he applied after curetting and thorough cocainization. The application is left for fifteen or twenty minutes, and is then neutralized with bicarbonate of sodium.

Dr. ALLEN A. JONES of Buffalo reported an advanced case of supposed malignant disease which was remarkable because of the existence of only a mild anæmia and a leucocytosis of the polymorphous variety.

Dr. STEPHEN SMITH of New York detailed an experience he had had at one time in the treatment of cancer by the application of anhydrous sulphate of zinc. This, when dusted on the surface, produces a light slough, and leaves a healthy granulating surface. The treatment was only slightly painful, and, in his hands, had acted far better than arsenious acid.

Dr. J. A. BODINE of New York said that as arsenic would not destroy the normal tissues when applied for from six to nine hours, this agent was of diagnostic as well as therapeutic value. The excellent results obtained with this agent were attributable to the secondary inflammatory area, and for this reason he now used the actual cautery instead of the V-shaped incision for the removal of epithelioma of the lip. The caustic which he prefers is composed of arsenious acid, two parts; gum arabic and orthoform, of each one part. The physician should remain with the patient the whole time the paste is on, and the latter should be removed hourly to note its effect. The treatment was not wholly without danger. For the removal of the slough, the speaker recommended digestion with papoid.

The Daily Medical Inspection of Schools.—Dr. FREDERICK W. LOUGHRAN of New York read this paper. He said that such inspection tended to check disease, both acute and subacute, and diminished the total number of days absent. He described in detail the method of inspection adopted in New York City.

Dr. JAMES LEE of New York said that he would go further than the author, and would urge that the inspection extend beyond the domain of contagious diseases, and take cognizance of neurotic states and affections of the eye and ear, as well as of the sanitary condition of the school buildings. The attention of the medical profession was directed to the vast amount of home work required of school children, and the resulting ruin to the health of many, especially of young girls near the age of puberty.

Ethyl Bromide and Ethyl Chloride Respectively as Surgical Anæsthetics.—Dr. S. ORMOND GOLDAN of New York read this paper, and exhibited an apparatus which he had devised for the scientific administration of these agents. The author said that both of these agents had been considered to be safer than chloroform because of their lower boiling point, but as a matter of fact the lower boiling point causes more rapid action, and while it can be more easily exhaled, it can also be more easily inhaled, and in this lies the danger. For very brief operations these agents were probably better than chloroform or ether, but not superior to nitrous oxide. Ethyl bromide is safer than ethyl chloride, because it is not required in the same concentration. A condition of analgesia with consciousness was often observed when ethyl chloride or ethyl bromide is used. The use of these agents prior to chloroform was quite unnecessary, and somewhat dangerous. These agents should always be administered with the patient in the recumbent position.

Dr. JAMES P. TUTTLE of New York said that after experience with ethyl chloride in 230 cases, he could not agree with the author as to the danger of this agent. Ethyl chloride had been used in New York City 2,000 times for anæsthesia without a single death, and, so far as he knew, without serious symptoms. For administering it, there was nothing better than the old chloroform inhaler. For operations lasting from five to ten minutes, it was perfectly safe, but the muscles are not so completely relaxed as with ether. It frequently causes nausea, but this is quite transient and is not associated with headache. This anæsthetic was particularly useful in alcoholic subjects, and for short operations was far more convenient than nitrous oxide.

Perforation of Gastric Ulcer, with Report of a Case Successfully Operated upon Sixty Hours After Perforation.—Dr. LUCIUS W. HOTCHKISS of New York presented the report of this interesting case, and described briefly the symptomatology and treatment.

The Therapeutic Value of Alcohol as Understood at the Beginning of the Twentieth Century.—Dr. FRANK WELLINGTON DENNIS of Unionville read this paper. He pointed out that five and a half times as much money was spent on alcohol as on education. The author gave a rapid review of the action of alcohol, and gave extracts from a mass of carefully collated statistics. Particularly striking were the statistics quoted from the experience of life-insurance companies. Thus, one actuary points out that a total abstainer at the age of twenty has an expectation of life ten years greater than those who use alcohol. Alcohol should, therefore, be prescribed by the physician for disease only when fully alive to the responsibility he assumes.

Pelvic Inflammation in the Female; Its Diagnosis and Management by the General Practitioner.—Dr. ABRAM BROTHERS of New York was the author of this paper. He stated that all exudates in the pelvis lasting for months or years contain a pus nucleus. Traumatism plus infection would usually be found to be the starting point of pelvic inflammation. The presence of pus constitutes a sharp line between the medical and surgical treatment. Owing to lack of time, the full paper was not read.

Skin Diseases of Special Interest.—Dr. GROVER W. WENDE of Buffalo presented this topic through the medium of lantern slides.

Third Day—Wednesday, October 23.

Arteriosclerosis.—A symposium on arteriosclerosis was presented under the following headings:

Arteriosclerosis: Importance, Definition, Etiology, and Symptomatology.—Dr. Charles E. Nammack, New York, opened the discussion with this paper (see page 649).

Cardiac Manifestations of Arteriosclerosis.—Dr. DE LANCEY ROCHESTER of Buffalo read this paper. The chief cardiac manifestations observed clinically are hypertrophy, with or without dilatation and degeneration of the myocardium, certain valvular lesions, and angina pectoris. The general management of the underlying arteriosclerosis constitutes almost the whole treatment. It was questionable whether digitalis had any place in these disorders, because of its dangerous action on the heart and arterioles. The fluid extract of cactus accomplished all that digitalis would and without its dangers, and when combined with the fluid extract of valerian would be found exceedingly valuable where the nervous symptoms were prominent. The inhalation of amyl nitrite and the hypodermic use of nitroglycerin, sometimes with the addition of morphine and atropine, and the use of a hot foot-bath, constituted the additional measures

likely to be required in the treatment of the attacks of cardiac disorder.

Management and Therapeutics of Arteriosclerosis.—Dr. Egbert Le Fevre of New York discussed this topic. He said that arteriosclerosis does not affect all of the arterial tract uniformly. The work thrown on the heart could be relieved by the use of nitrite of amyl, nitrite of sodium, nitroglycerin, and others of this class. Their action, however, is very transient, varying in duration, according to the one selected, from twenty minutes to two hours. He cautioned against their free use, believing that the giving of large doses at comparatively short intervals is a bad practice and tended to hasten the degeneration. They were, however, very useful in emergencies. Abundant clinical experience had shown that the iodides have the power of lowering the blood pressure without diminishing the force of the cardiac systole. In addition to this, he had learned from experiments that the circulation is not so easily disturbed by reflex action during the administration of the iodides. He believed they control the muscular spasm of the heart and arterioles. As the potash salt was the most depressing, it was not used if cardiac insufficiency existed; but it was of service when there was cardiac hypertrophy. The syrup of hydriodic acid could be given in drachm doses and gradually increased to four drachms, three times a day. The development of symptoms of iodism should be avoided. Cardiac hypertrophy in this disease was not a pathological result, but was dependent upon the effort of nature to relieve the diseased state of the arteries. Occasionally, nature was prodigal in this effort and the hypertrophy would become excessive. It then became the duty of the physician to diminish this by giving aconite in doses of ten minims, every six hours, or by the use of spartein sulphate in doses of one-fourth to one-half grain. The latter acts here as a cardiac sedative and not as a stimulant. Sooner or later the cardiac hypertrophy would fail to keep pace with the progressive obstruction in the arteries, and the nutrition would then suffer. This called for the use of two to four minims of the tincture of digitalis, or half a grain of the English leaves, at bedtime.

Dr. C. E. Burnby of New York said he now looked upon all fibrotic processes as pathetic and not pathic.

Dr. Sturtevant said that the preparations of cactus grandiflora vary so greatly that the dose varied from one or two to fifteen minims.

Dr. James J. Walsh of New York said that many cases of apparent neurasthenia were dependent on arteriosclerosis. Heredity was an important factor in the etiology, and our treatment must be prophylactic. It was just here that the family physician could do so much by wisely advising predisposed persons concerning the most suitable occupations and modes of life.

Dr. Charles G. Stockton of Buffalo said that one of the cases reported by Dr. Rochester, in which there had been intense epigastric pain, reminded him of the fact that gastralgia was often present in these cases, and took precedence, by reason of its prominence over the cardiac condition.

Dr. Frank W. Higgins of Cortland asked for the experience of others in the treatment of arteriosclerosis by the corrosive chloride of mercury and by arsenic and gold.

Dr. Allen A. Jones of Buffalo thought considerable importance should be attached to continued nerve irritation and strain as a causal factor. Those who are hereditarily predisposed to this affection often exhibit a nervous spasm of the arterioles. In this connection it should be remembered that coffee irritates the arterioles, causes their contraction, lessens the cardiac force, and throws the blood back into the larger arteries.

Dr. C. E. Nammack of New York said that in the terminal stage, in which there was cardiac dilatation, associated perhaps with general dropsy, digitalis would be found of signal benefit. He usually gave it in the form of the first infusion of the leaves, or else in combination with calomel and squill, and followed this with sulphate of magnesia. The "strenuous life" of the present day was certainly responsible for a good deal of arteriosclerosis. The diagnosis of neurasthenia should not be applied to those cases in which there is accentuation of the second sound of the heart and an increase in the cardiac impulse. He had used the bichloride of mercury, but did not consider it equal to calomel.

Dr. Rochester said that he would still maintain that there was very little use for digitalis in cases of arteriosclerosis with accompanying disease of the heart, because it threw a greater strain on the heart. While digitalis might be useful as a very temporary measure, where the heart had become dilated, it was, in general, contraindicated. It was, in his opinion, a pernicious practice to give continuously small doses at night; far better than giving the patient this false sense of strength was the practice of keeping the patient at rest in bed. He had found only one useful preparation of the fluid extract of cactus. It does not produce the harmful effects of digitalis, but nevertheless should not be used continuously. When the heart had become dilated, strychnine should be given. He had obtained entirely negative results from the gold preparations.

Dr. Le Fevre, in closing, said that he had found bichloride of mercury only useful as a means of relieving the heart by increasing the activity of the kidneys. The gold preparations had not given him good results. He did not believe strychnine had any direct effect on the heart muscle, or on any other; it was only through its action on the nervous system that the muscles are stimulated.

Blood Examination from the Standpoint of the General Practitioner.—Dr. Frank W. W. Higgins of Cortland contributed this very practical paper. After considering some of the minor details that should be observed in general practice, in order to make such work possible, the author took up several special topics. He said that it was a useful thing to determine the specific gravity of the blood. A convenient and accurate method of doing this consisted in mixing chloroform and benzine in such proportions that the drop of blood neither rises nor sinks, and then using a urinometer or suitably graduated hydrometer. He had found the specific gravity of the blood vary from 1037 to 1067, and in cases of dropsy and leukæmia to correspond quite closely with the percentage of hæmoglobin. The estimation of the blood corpuscles is made quickly and with fair accuracy by the aid of the centrifuge. A margin of error of at least 5 per cent. must be allowed in the determination of the hæmoglobin, because of individual differences in using the color scales. A good general rule in practice was not to undertake a surgical operation if the hæmoglobin percentage is as low as thirty. A great increase in the number of leucocytes means leukæmia. A leucocyte count of 12,000 to 50,000 means an infection, most often with the formation of pus. Leucocytosis, while often of the highest diagnostic value, should never be considered pathognomonic. It was especially useful in distinguishing appendicitis from typhoid, and in detecting pneumonia when the physical signs are masked. A diminished leucocytosis might be as valuable as the Widal reaction in the differential diagnosis of typhoid fever. The leucocytosis caused by anæsthesia was so transient that it was not apt to cause confusion. The leucocyte count *falls* in suppurative cases when the abscess *is walled off*. A diminution of the red corpuscles constitutes the only rational basis for the use of iron and arsenic. The study of the stained specimen of blood was the most interesting of all the steps in the examination of the blood, and yet it was just here that the novice found that the textbooks failed him. Cabot strongly recommends the use of the tri-acid stain, but in order to insure success it was essential that the specimen be thoroughly heated until it assumes a

golden-yellow color. The existence of an eosinophilia might enable the physician to detect a trichinosis which had been mistaken for rheumatism.

Dr. Richard C. Cabot of Boston, Mass., said that he was a general practitioner, and as all his blood studies had been carried on while acting in this capacity, it was perfectly feasible for others to do the same. It was now possible by the use of the hæmoglobinometer, devised by Tallqvist, a Finn, to determine within a few seconds the hæmoglobin, and with an error of only 10 per cent. This devise consists of a pad of filter paper and a color scale. On this paper the drop of blood is placed, and then its color is compared with those found on the scale of colors. The ease with which this instrument could be used, and its slight cost, $1.25, make it peculiarly suitable to the needs of the general practitioner. He did not attach much value to the specific gravity determination, because it practically gives no information not obtained by determining the percentage of hæmoglobin. While leucocytosis might mean the presence of pus, it might only be indicative of toxæmia, and the tetter might be the result of purulent inflammation, of uræmia, and various other conditions.

Conservative Surgery for Tuberculosis of the Lymphatic Glands of the Neck.—Dr. Parker Syms of New York said that tuberculous glands might undergo: (1) Cheesy degeneration; (2) Fibroid degeneration; (3) Atrophy and absorption; (4) Abscess formation; (5) Calcification. Some surgeons recommend complete removal of the chain of glands involved, together with the fascia and fat; but his objections to this radical operation were: (1) It is not necessary in the vast majority of cases; (2) It does not avoid deforming scars; (3) It is not a sure and permanent cure; (4) It increases rather than diminishes the danger of systemic infection, and (5) It is a severe tax on the patient's endurance. It was, however, an operation which was applicable to neglected cases in which many or most of the glands are in an advanced state of degeneration, and to those cases in which the progress of the disease is persistent and more conservative methods fail. In addition to the use of well-recognized hygienic measures, the author recommended certain local treatment. Thus, if the enlarged glands were apparently not broken down, the skin over them should be anointed with a 10-per-cent. ichthyol ointment. If one or two glands remained persistently larger than the rest, it might be well to remove such glands through a small incision. Broken-down glands should be opened before rupture, and a drain of gauze or rubber tissue used for a few days. They should then be treated with a 10-per-cent. emulsion of iodoform and glycerin. Progress would be slow, but the final result would ordinarily be very satisfactory.

President's Address.—Comments on Some New Surgical Methods.—Dr. John Allan Wyeth of New York delivered an address on the above theme. He first took up medullary narcosis, or intraspinal cocainization, and held that it was manifestly unfair not to give full credit for the discovery of this method to Dr. August Bier. The published observations of our countryman, Dr. J. Leonard Corning, had not really covered the same field. The speaker said that he would not hesitate to employ it in persons who had a strong prejudice against the usual general anæsthetics. The technique recommended was that already described by Dr. W. R. Stone of New York. Cocainization and a small incision should precede the introduction of the needle, and it was well to allow a quantity of cerebrospinal fluid to escape equal to that to be injected.

Obliteration of Bloodvessels by Injection.—The speaker said that Dr. R. H. M. Dawbarn's method of starving inoperable neoplasms by ligation of the main artery supplying them had suggested to him that something might be accomplished by injecting some fluid which would cause an obliterating endarteritis. In January, 1901, he had undertaken experiments of this kind on dogs. Boiling water had been injected into the external carotid, and it had been found that it was possible in this way to obliterate an artery down to its terminal branches. An encouraging result by this method of treatment on the human subject was reported.

Prostatectomy.—The various methods of performing prostatectomy were detailed, and the statement made that the mortality of this operation had fallen steadily, keeping pace with improvements in technique. Dr. Wyeth said he looked upon this operation as one of the most valuable contributions to surgery made in the last decade.

Removal of the Ovaries in Cases of Cancer of the Breast.—This interesting topic was briefly touched upon, and the statement made that the results had been sufficiently encouraging to justify the continuance of these experiments.

Value of Bacteriological and Pathological Research in Diagnosis, Prognosis, and Treatment in Practical Surgery.—This was the special subject for discussion considered in the three following papers:

Iodophilia.—Dr. Richard C. Cabot of Boston, Mass., discussed this topic. He said that iodophilia was simply the reaction of the polynuclear leucocytes to iodine. The solution employed is composed of iodine, one part; iodide of potassium, three parts; water, one hundred parts, with sufficient gum arabic to make a thick syrup. This solution will keep for several months. The red cells of normal blood are stained by this solution a bright yellow, and the leucocytes are also stained yellow. If the reaction is positive, there will be a brownish color. The reaction is of two kinds, *i.e.* intracellular and extracellular, but the former is chiefly significant. The reaction is never observed in the nuclei, and is only found in the polynuclear leucocytes. The reaction is now known not to be due to glycogen, but we are still ignorant of the substance causing it. A person whose blood gives the iodophilia reaction was certainly sick, but the causes were various. This reaction had helped him greatly in a number of cases of appendicitis. In several cases in which the symptoms had been quite marked, but iodophilia had been absent, operation had shown only a comparatively mild inflammatory process. On the other hand, in a number of cases of appendicitis in which iodophilia had been present the operation had revealed abscess or gangrene. Cases of typhoid show iodophilia, due probably to a general toxæmia. It was present in bad respiratory disorders, such as asthma, in inflammations of any kind, such as pneumonia, abscess, and gangrene; in bad anæmias, whether primary or secondary, and in toxæmia.

Laboratory Differential Diagnosis in Surgery.—Dr. Simon Flexner of Philadelphia, Pa., took up this subject. He pointed out the value of laboratory work in both medicine and surgery, and touched upon the Widal reaction, blood examinations for malarial parasites, leucocytosis, the coagulation-time of the blood, and urine examinations.

Modifications in the Methods of Operative Surgery Resulting from Laboratory Research.—Dr. Joseph D. Bryant of New York cited illustrative cases from the records of Bellevue Hospital thirty years ago, and contrasted them with those of to-day in similar cases. He said that in an experience of thirty years he had not seen as many cases of pyæmia as he had observed during the six months that he had served as house surgeon of Bellevue Hospital.

The Use of the Pneumatic Cabinet.—Dr. Charles E. Quimby of New York presented an exhaustive paper on this subject, based upon an experience of nine years with this mode of treating essentially all forms of cardiovascular disease. He described the pneumatic cabinet as one large

enough to contain one person, and having a bellows by means of which the air within the cabinet could be rarified or compressed as desired. Pneumatic differentiation is a term which implies a difference of atmospheric pressure upon the lung and the thoracic cavity and upon the cutaneous surface. The speaker contended, and seemed to prove by many clinical reports, that pneumatic differentiation lowers vascular tension, and increases blood-flow, thereby improving nutrition.

Gunshot Wounds of the Hip-Joint by Reduced-Caliber Projectiles.—Major Louis A. La Garde of Washington, D. C., read this paper, dealing with wounds in general made by modern bullets. He exhibited specimens and skiagrams, and stated that the destructive effects of gunshot wounds depend upon the sectional area, the velocity of the projectile, and the resistance encountered on impact. At the present time he would rather treat a man shot with a reduced-caliber bullet in the hip or knee than one shot in the tibia or femur. In modern times the mortality from gunshot wounds of the knee had been reduced over 78 per cent. The essayist predicted that, in the future, gunshot wounds of the hip-joint would prove to have as humane an outcome as in cases in which other joints were so injured.

Asthma of Blood Origin, and Not Nerve or Reflex.—Dr. G. N. Jack of Depew, in this paper, unfolded his theory of the origin of asthma, and pointed out as the cardinal feature the inability of the blood to absorb or carry a sufficient quantity of oxygen.

Dr. George F. Cott of Buffalo, in discussing the paper, said that while medicines, directed to improving the condition of the blood, often temporarily relieve asthma, they do not permanently cure it. The reader of the paper had very properly ignored the theory of the spasmodic origin of asthma, for no one had ever demonstrated spasm of the bronchi, though its existence had often been asserted.

Acne.—Dr. Edmund L. Cocks of New York said that only two cases of acne in children had been reported. About 75 per cent. of the cases occur before the age of eighteen. It frequently follows chlorosis, and, in general, may be said to be a disease occurring in persons of low vitality having impaired digestion and circulation. Acne rosacea is a disease of middle life, occurring at the time of life when acne vulgaris usually disappears. The prognosis in acne vulgaris was usually good if the instructions of the physician were carefully followed. Treatment should not be neglected because of the resulting disfigurement. The blood and urine should be examined, and the diet and habits of life carefully inquired into. Massage, cold sponging, and outdoor exercise were beneficial. The face should be protected from cold winds, especially when riding in an automobile. Pastry, candy, hot bread, fried meats, potatoes, and alcoholic drinks should be avoided. Rice may be eaten in lieu of potatoes. Arsenic should never be used in any stage of acute cutaneous disease. Rhubarb, cascara, and similar remedies were usually indicated. Locally, the comedones should be removed, the lesions curetted, and a soothing lotion applied. The parts should be sponged with hot water at bed time. The application of pure carbolic acid would often prevent suppuration. Massage should be used after each local treatment.

Dr. Frank D. Reese, Cortland, said he thought acne could be easily cured by attention to the habits of life and the local use of the nail-brush with the tincture of green soap.

A New High-Tension Electrical Machine and Ozone Generator.—Dr. G. Lenox Curtis of New York exhibited this instrument and demonstrated its action. One great advantage of the instrument was its portability. The treatment, conducted with the aid of this instrument, was most applicable to rheumatism, gout, spinal troubles, and dyspeptic and neurasthenic conditions. He had succeeded also in curing within six weeks several cases of lupus of great severity and long standing.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A Manual of Medicine. By W. H. Allchin. Vol. III. 8vo. 417 pages. Illustrated. The Macmillan Co., New York. Price $2.00.

Transactions of the Medical Association of the State of Alabama. 8vo, 508 pages for 1901. The Brown Printing Co., Montgomery, Ala.

Dose-Book and Manual of Prescription-Writing. By E. Q. Thorton, M.D. 8vo, 362 pages, illustrated, 2d edition W. B. Saunders & Co., Philadelphia, Pa. Price, $2.00.

The Principles of Hygiene. By D. H. Bergey. 8vo, 495 pages, illustrated. W. B. Saunders & Co., Philadelphia, Pa. Price $3.00.

A Textbook of the Diseases of Women. By C. B. Penrose. 8vo, 539 pages, illustrated, 4th edition. W. B. Saunders & Co., Philadelphia, Pa. Price $3.75 net.

A Textbook of Obstetrics. By B. C. Hirst, M.D. 8vo, 873 pages, illustrated. W. B. Saunders & Co., Philadelphia, Pa. Price, $5.00 net.

Modern Obstetrics, General and Operative. By W. A. Newman Dorland. 8vo, 797 pages, illustrated W. B. Saunders & Co., Philadelphia, Pa. Price, $4.00 net.

A Textbook of Embryology. By J. C. Heisler, M.D. 8vo, 405 pages, illustrated, 2d edition. W. B. Saunders & Co., Philadelphia, Pa. Price, $2.50 net.

Pathological Technique. By F. B. Mallory, M.D., 8vo, 432 pages, illustrated, 2d edition. W. B. Saunders & Co., Philadelphia, Pa. Price $3.00 net.

A Laboratory Course in Bacteriology. By F. P. Gorham. 8vo, 192 pages, illustrated. W. B. Saunders & Co., Philadelphia, Pa. Price, cloth, $1.25 net.

Human Physiology. By Joseph H. Raymond, M.D. 8vo, 668 pages, illustrated, 2d edition. W. B. Saunders & Co., Philadelphia, Pa. Price, cloth, $3.50 net.

Atlas and Epitome of Special Pathologic Histology. By Hermann Durck, M.D. 12mo, 192 pages. W. B. Saunders & Co., Philadelphia, Pa. Price, cloth, $3.00 net.

A Manual of the Practice of Medicine. By G. R. Lockwood, M.D. 8vo, 847 pages, illustrated, 2d edition. W. B. Saunders & Co., Philadelphia, Pa. Price, cloth, $4.00 net.

Suggestion and Osteopathy. By W. I. Gordon. 12mo., 314 pages, illustrated. The Progressive Osteopathic and Suggestive Therapeutic Publishing Co., Cleveland, Ohio.

An International System of Electro-Therapeutics. By H. R. Bigelow. 8vo, 231 pages, illustrated. F. A. Davis Co., Philadelphia, Pa.

Transactions of the American Electro-Therapeutic Association. Ninth annual meeting and tenth annual meeting. F. A Davis Co., Philadelphia, Pa.

A Treatise on the Acute Infectious Exanthemata. By Wm. T. Corlett, M.D. 8vo., 392 pages, illustrated. F. A. Davis Co., Philadelphia, Pa.

Warwick of the Knobs. By John Uri Lloyd. 8vo, 395 pages, illustrated. Dodd, Mead & Company, New York. Price, $1.50.

A Manual of Bacteriology. By H. U. Williams, M.D. 8vo, 290 pages, illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $1.50 net.

Golden Rules for Diseases of Children. By George Carpenter, M.D. 16mo, 101 pages. John Wright & Co., Bristol, England. Price, 1s.

Taschenbuch für Dermatologie und Urologen. By Albrecht Freiherr von Notthafft. 12mo, 245 pages. Setiz & Schauer, München, Bavaria.

Aerztlicher Notizkalender, 1901 Supplement to Notthafft's Taschenbuch für Dermatologie und Urologen. In 12 numbers.

Materia Medica, Pharmacy, Pharmacology and Therapeutics. By W. Hale White, M.D. 8vo, 744 pages, 5th edition. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $3.00 net.

Circumstance. By S. Weir Mitchell, M.D. 8vo, 495 pages. The Century Co., New York. Price $1.50

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 19, 1901:

	Cases.	Deaths.
Measles	56	6
Diphtheria and croup	210	25
Scarlet fever	101	6
Smallpox	4	1
Chickenpox	19	..
Tuberculosis	231	130
Typhoid fever	100	23
Cerebrospinal meningitis	..	2

On the Care and Treatment in Convalescence from Functional Nervous Disease.—F. Savary Pearce says that first of all such patients must be schooled or educated in self-control. Great care should be taken in the gradual restoration to former physical activity. Patients often feel so much better that they overdo themselves, and so nature has no opportunity to accumulate strength. The most desirable forms of exercise during the late, ultimate convalescence from neural maladies are in a general way those different from the exercise gotten by the patient in his usual routine of life; and here again the psychologic element must enter prominently as the reason for this betterment. Exercises, therefore, that keep the patient away from his usual line of thought, or prevent him from thinking about self, are to be enjoined. And if the patient can be kept off his limbs, it will be more advantageous for rest of the central nervous system, and thus recreate that reserve force which has become wanting in them. So that rowing, canoeing, horseback riding, will be much more valuable than golfing, tennis playing, or bowling. Frequently, peptonization of the large quantities of milk taken will be of great value in aiding hypernutrition. The skilled use of massage is also a measure which will help metabolism in the muscle itself, as well as by mechanically forcing on waste products and giving vigor to the circulation; for frequently, in these cases, the cardiovascular system is not doing the physiologic duty required.—*International Medical Magazine.*

Treatment of Abortion.—Peter Horrocks (*Medical Press*, August 21, 1901), divides the treatment into: (*a*) Avoidable; (*b*) unavoidable; (*c*) incomplete.

Rest in bed and some form of opiate are the best treatment. If in doubt, operate and clear out the uterus.

When there is serious hemorrhage, or when os uteri is so large, or expulsive pains so great and frequent that miscarriage is inevitable, allow it to take place, and, if need be, assist it either by puncturing the membrane or clearing out the uterus digitally under an anæsthetic.

When incomplete, it is best to clear out the remainder. In some cases it is useful to pack the vagina with gauze. The bleeding is stopped or lessened, and uterine contractions are promoted, and later on it is much easier to deliver.

Vaginal injections of hot lotions are recommended by some, but they are not very trustworthy.

Dilators may have to be employed and ovum forceps and a curette; but it is better to mutilate the fœtus than to damage the mother.

Everything must be done aseptically, and, if need be, the uterine cavity must be swabbed out with tincture iodi or some other antiseptic.

Diagnosis of Renal Infarcts and Renal Colic.—Rudolph Schmidt (*Wiener klin. Wochensch*, May 9 and 16, 1901) concludes: (1) In all cases of renal colic, it should be determined whether the origin is intrarenal, *i. e.* due to the kidney itself, or extrarenal, that is, dependent upon ureteral obstruction; (2) pain of intrarenal origin is usually localized to the region of the kidney. The pain of renal infarct is continuous, the kidney is sensitive to pressure, and there is a marked sediment and a high percentage of albumin in the urine; (3) extrarenal pain is more intermittent in character and extends along the course of the ureters, which are sensitive to pressure. Acute hydronephrosis may supervene; (4) renal colic of intrarenal origin may be caused by (*a*) portion of the blood vessel of the kidney (ren mobilis); (*b*) sudden congestion of malignant or vascular tumors; (*c*) acute exacerbation of chronic nephritis; (*d*) renal infarcts; (5) in cases of renal infarcts, lying on the sound side increases the pain; (6) the renal artery may be entirely occluded and yet no symptoms exist; (7) oliguria occurs particularly with bacterial infarction.

The Average American.—Henry Gannet in *Everybody's Magazine*, September, 1901, treats of the above subject and says: "The average American is a statistical octoroon. If the blood in the veins of all our people, white and black, were pooled, and redistributed, each person would have about seven parts white and one part negro blood. The white strain in him, moreover, is by no means purely American. White strains of foreign origin derived from Germany, Ireland, Scandinavia, Canada, Great Britain, and the countries of Southern Europe are collectively more powerful in his composition than is the native strain. Thus going back only one generation, we find him to be a composite, the creation of widely differing bloods and nationalities. The peoples of the earth, from the Congo, under the Equator, to the Cape of Europe, have contributed, either immediately or remotely, to his composition. But with it all we find the Anglo-Saxon strain the dominant one."

German Measles.—Kraatsch says that the swelling of the cervical lymphatic glands, especially those at the back of the neck and over the mastoid, is pathognomonic of German measles and distinguishes this disease from measles.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended October 19, 1901:

		Cases.	Deaths.
Smallpox—United States.			
Iowa, Ottumwa	Sept. 7-28	24	
Massachusetts, Boston	Oct. 5-12	5	
Michigan, Detroit	Oct 5-12	1	
New Jersey, Camden	Oct. 5-12	1	
Newark	Oct. 5-12	4	3
New York, New York	Oct. 5-12	7	2
Ohio, Youngstown	Oct 5-12	1	
Pennsylvania Erie	Oct. 5-12	2	
Norristown	Oct. 5-12	1	
Philadelphia	Oct. 5-12	60	2
Rhode Island, Newport	Oct. 5-12	1	
Vermont, Burlington	Sept. 28-Oct. 12	13	
Wisconsin, Green Bay	Oct. 6-13	1	
Smallpox—Foreign.			
Austria, Prague	Sept. 21-28	4	
Belgium, Antwerp	Sept 21-28	2	
Ghent	Sept. 21-28		1
Brazil, Rio de Janeiro	Aug. 18-Sept. 1		115
Colombia, Colon	Sept. 30-Oct. 6	1	
Panama	Sept. 30-Oct. 7	125	
Ecuador, Guayaquil	Aug. 3-Sept. 21		25
France, Paris	Sept 10-28		9
Great Britain, London	Sept. 21-28	163	6
Italy, Naples	Sept. 21-28	71	4
Palermo	Sept 14-21		1
Mexico, Hunuema	Sept. 21.	Epidemic.	
Vera Cruz	Sept. 28-Oct. 5	7	4
Russia, Moscow	Sept. 14-21	1	
St Petersburg	Sept. 14-28	3	1
Uruguay, Montevideo	July 27-Aug. 24	71	10
Yellow Fever.			
Brazil, Rio de Janeiro	Aug. 18-Sept. 1		3
Costa Rica, Port Limon	Sept. 28-Oct. 5	8	3
Cuba, Havana	Sept. 28-Oct. 5	3	
Mexico, Merida	Sept 14-21	A few deaths.	
Valladolid	Sept 14-21	Epidemic.	
Vera Cruz	Sept 21-28	6	2
Plague.			
Philippines, Manila	Aug. 25-31	5	4
Japan, Formosa	Sept. 7-14	5	4
Cholera.			
Japan, Onsen District	Sept 7-14	1	1
Straits Settlements, Singapore	Aug. 25-31		

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Original Articles.

CARBONATE OF CREOSOTE AS A REMEDY FOR PNEUMONIA, WITH A REPORT OF NINE CASES IN WHICH THE ADMINISTRATION OF IT HAS BEEN FOLLOWED BY REMARKABLY UNIFORM AND GOOD RESULTS.

By LEONARD WEBER, M.D.,

NEW YORK.

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A LITTLE more than a year ago, a very good paper on the treatment of pneumonia was read before the German Medical Congress by Professor Pel of Amsterdam. At the conclusion of it, he said that, inasmuch as his arguments were based on the observation of more than twelve hundred cases of pneumonia, they might be of some clinical value, but for the recommendation of any single method of treatment for pneumonia a successful series of many thousand cases would be required. Admitting the truth of this statement, I should not think of publishing a few cases of pneumonia in which good results had been obtained by giving creosotal, if they were the first which had been so treated; but there are a number of physicians here and abroad who say they have seen good results from it in a comparatively large number of cases, hence I feel no hesitation in giving the report of my own cases, because they are confirmative of those reported by others.

In a paper on the treatment of pneumonia read last winter before the New York Post-Graduate Clinical Society, and published in the *Post-Graduate Medical Journal* for June, 1901, I said that, while waiting for a reliable antipneumonic serum, which it is my belief will come soon, we can do no better than to treat and nurse the pneumonic patient through his illness according to well-established rules. A week after reading that paper, I came across an article by Dr. I. L. Van Zandt, published in the MEDICAL RECORD of March 30, 1901, under the title "A Résumé on Creosote in Pneumonia." There have been other observations on this subject in the medical journals of this country, but Van Zandt's is the only one I have read. The French have been the first, I believe, to employ creosotal in pneumonia and bronchopneumonia. Dr. Carsouté reports a series of successful cases before the Pædiatric Congress held in Marseilles in 1898; Dr. A. H. Smith, in the *New York Medical News*, 1899, mentions it; so does Dr. J. A. Gracy in the *Charlotte Medical Journal*, 1899; Dr. Charles E. Stokes, in the *Brooklyn Medical Journal*, in the same year, I believe, also recommended it in lobar pneumonia. Dr. J. W. Frieser, of Vienna, Dr. Meitner, *Medico-chir. Centralblatt*, June 22, 1900; Dr. M. Everson, *Aerztliche Centralblatt*, July 7, 1900, have also seen invariably good results following the administration of creosotal in pneumonia.

Upon the basis of all these positive reports, I now felt encouraged to try creosotal as a remedy for pneumonia, and I have done so in three private and six hospital cases which were under my care at the Post-Graduate Hospital during my service in April and May. In the care and treatment of the hospital cases, I have been most ably assisted by Dr. Adams of the house staff, who was untiring in the care and treatment of the cases, as well as in the keeping of correct clinical records of the same.

Cases of pneumonia in the wards of the Post-Graduate Hospital during April and May:

I.—Daniel M., aged forty-seven, mechanic, single, American. Had measles and scarlet fever in childhood; gonorrhœa and syphilis between eighteen and twenty-two. He is subject to colds and coughs during the winter months, and three days before his admission he had a severe chill at night, followed by pain in the left side of the chest, and a short, dry cough.

On admission, March 28, lobar pneumonia of the left side was fully developed; temperature 102.5°, pulse 112, respiration 40. Patient was restless and delirious at times, and continued that way until March 31, when treatment with carbonate of creosote was begun. Believing that it would be opportune to give the drug in gelatine capsules which could readily be taken, and would dissolve in passing along the intestinal tract, such capsules were put up after this formula:

℞ Carbonate of creosote ..... ½ oz.
Sapon. medicat..... 1 dr.
M. F. capsulæ No. 60. Two to be taken every three hours, ten to twelve daily.

April 1, patient has had 60 gr. of the carbonate of creosote. His temperature was 98.6°, pulse 96, respiration 22; he is quiet and coughs but little; consolidation of left lower lobe posteriorly and at the side from the fourth rib down; a few crepitant râles can be heard. Medication was continued, also 3 gr. of Dover's powder ordered to be given at 10 P.M., if the patient were restless; his bowels were kept moving by sufficient doses of sulphate of magnesia.

The creosote was continued at this rate until April 10, when he had taken one ounce of it. Temperature, pulse, and respiration had remained normal right along, his appetite and general condition were good; but, though the soft râles increased from day to day, resolution was not complete until April 14, when the patient was convalescent, put on a mild tonic, and discharged as cured April 22.

II.—Emily E., aged forty, widow, housewife, American, has had measles, scarlet fever, and typhoid fever, and rheumatism between her fifth and thirty-fifth year; badly nourished and anæmic-looking person. Three weeks before admission, she had an attack of catarrhal influenza, and two days before, sharp pain in left side, increasing sense of prostration.

Admitted March 27. She had much cough with thin mucous expectoration, some fever, which kept on increasing slightly until March 31, when the temperature reached 101.5°, pulse 90, respiration 28, and a diagnosis of pneumonia of the left lower lobe pos

teriorly, and part of the upper lobe, could be readily made. April 1, creosotal treatment was begun and continued steadily until April 10, when 10 dr. of it had been administered. After the first twenty-four hours, the temperature never rose above 99°; respiration fell to 20; the pulse was weak, however, though regular, and indicated small doses of alcohol, which were ordered. During these ten days the area of consolidation had remained the same.

April 12, of the elixir of ferrum, quinine, and strychnine a teaspoonful was ordered four times a day. She was generously nourished, her bowels kept regular, and under rather free mucopurulent expectoration the pneumonia got well by lysis about the 20th, and the patient was discharged cured April 27.

III.—Jennie G., aged twenty-one, single, American, servant, had measles three years ago, which left a bronchial catarrh, making frequent exacerbations. A year ago, slight hæmoptysis occurred, not followed by fever or cough, and a week before admission she had pleuritic pain in the right side with some fever. When admitted April 17, she was found to have a pleuritic effusion in the right lower half of the thorax, existing probably for some time, but not interfering to any great extent with respiration and circulation; but there were also signs of congestion around a presumably old quiescent lesion in the right upper lobe; patient's temperature ranged from 100° to 102°; general condition fairly good. There being no immediate indication for aspirating the pleuritic fluid, we treated first the acute congestion in the right upper lobe by giving her creosotal at the rate of 50 gr. a day for one week, with the same result of reducing temperature to normal within two days; it remained so until May 1, when about six ounces of clear yellow serum were aspirated and the patient ordered to take solid food, very little fluid of any kind, to practise respiratory gymnastics by slow and forcible expirations through a short, hard rubber tube of $\frac{1}{16}$ of an inch bore, followed by deep and rushing inspirations. These special respiratory movements she was instructed to do a dozen times t. i. d. with the result that the compressed parts of lower lobes re-expanded rapidly, and marked general improvement followed. On May 11, respiration was almost as good and full on the right as on the left side. Right posterior apex showed slightly harsh expiratory murmur, indicating the old lesions mentioned above. Temperature, pulse, and respiration normal. Patient being somewhat anæmic, she was ordered to take Blaud's pills, and discharged cured May 15.

For many years I have been in the habit of ordering the above-described respiratory exercises for re-expanding the lungs after aspiration of pleuritic exudates; also in cases of bronchial catarrh with and without bronchiectasis, in fibrous and indurated processes of the lungs and the like, and have found this simple and handy procedure quite as efficient for the purpose as the use of more or less complicated apparatus.

IV.—Michael D., aged forty-seven, nurse, single, American; patient had gonorrhœa at eighteen, neither syphilis nor rheumatism. He used liquor moderately, worked rather steadily, and considered himself a healthy man up to two weeks before admission; at that time he was exposed for a period to cold and wet weather, and was taken ill rather suddenly with pain in the right side and back and high fever. Does not remember what occurred from that time until he was admitted May 2, with temperature 101°, pulse 128, respiration 22. The second mitral sound was found weak, the second pulmonary accentuated. The right lung consolidated posteriorly up to the crest of the scapula; a few dry crepitant râles here and there. There was slight icterus present, but the lower margin of the liver was not found to extend below the free border of the ribs. There was neither ascites nor anasarca; no vomiting. The patient was unusually quiet, almost apathetic. Temperature rose next day to 101.5°, but after two days' exhibition of carbonate of creosote at the rate of 60 gr. per diem it became normal.

May 4, pulse about 100, but weak. May 5, resolution began to set in, but the patient's general condition did not improve in measure. May 10, pulse much weaker, and strychnine, camphor, and caffeine were administered hypodermically; stimulants were also given. May 11, he had rallied somewhat and felt better, but on May 12 the heart failed to respond any further, pulse became imperceptible, and death ensued. The patient was certainly getting better of his pneumonia, but he succumbed to degenerative myocarditis, which we believed to be present after the very first examination of the patient. We were not allowed to make an autopsy.

V.—Camille M., aged thirty-four, actress, married, English; has never been pregnant, menstruation regular, but always painful and followed by a variety of neurasthenic symptoms; three months before admission oöphorectomy was performed upon her. On April 4 she had a chill, followed by fever and pain in the right half of thorax, and on admission April 6 we found pleuropneumonia of moderate extent on the right side with a temperature of 101° and pulse 89, respiration 24. Carbonate of creosote, as in the other cases, was administered, 50 to 60 gr. a day. Temperature fell to 99 after the first day of administration and never rose again. For the distressing cough heroin gr. $\frac{1}{12}$ had to be given two or three times a day, and cold compresses were applied on the right side to soothe the pleuritic pain.

April 10, all symptoms of pulmonary congestion had disappeared. April 12, she was put on mixtura ferri et ammon. acet. 2 dr. t. i. d. for tonic purposes and discharged in good condition April 15.

VI.—Arthur H. H., aged twenty-eight, single, English, salesman; was admitted March 16, when he either had or soon afterward developed pneumonia, concerning lower lobe of left side; he was treated symptomatically and remained in *statu quo*. April 1, hepatization was still well marked, fever present. The creosote treatment was begun April 2, and all general and local symptoms had changed for the better on April 3, and remained so until resolution was accomplished April 12; patient made a good and complete recovery and was discharged cured April 20.

Private Cases.—I.—Fred. W., aged twenty-four, clerk, single, American; a typical case of acute pneumonia with pain, fever, quick respiration twelve hours after initial chill; there were also rust-colored sputa toward the end of the first day, when I saw him; this case reacted as some of those described by Dr. Van Zandt, that is to say, the pneumonic process immediately yielded to creosote after twenty-four hours, and the patient was practically convalescent on the fourth day.

II.—Charlotte M., aged twelve years. Patient has lobular pneumonia caused by influenza; had been sick with it for two weeks, no change for the better. The reaction to creosote in this case was just as favorable with regard to fever and other symptoms as I have seen it in cases of lobar pneumonia. She took 10 gr. four times daily for eight days, and the temperature rising no more after that, she was put on small doses of strychnine and an expectorant mixture, given nourishing food, and her lungs cleared up gradually under free mucopurulent expectoration.

III.—Sarah S., aged thirty-two, married, childless, housewife; sick with lobar pneumonia concerning

entire right upper lobe for three days, when I saw her; consolidation well marked; she was immediately put on carbonate of creosote 60 gr. per diem with the same good general result as in all other cases: resolution began in the second week and was complete about the tenth day of illness.

Epicrisis: by the title of this paper is indicated that I mean to show that the carbonate of creosote exercises a remarkably beneficial and uniform influence upon the pneumonic patient. Is the action of this drug such as would justify us in pronouncing it curative? Is it really a remedy for pneumonia? In attending a case of pneumonia our present working theory is about this: the illness of the patient is caused by specific toxins formed through the action of certain pathogenic germs, and that his recovery is dependent upon the speedy production of serum antitoxins, which must be sufficient in quantity and quality to overcome the deleterious action of the toxic substances circulating in the blood. In the majority of cases the system is adequate to the demand, but in a considerable number, at least 25 per cent., it is not, and the patient succumbs. When a typical case of pneumonia ends by crisis, what is generally disclosed by the physical examination made the day after? The patient rests quietly, breathes easily, pulse and temperature are normal or subnormal; the affected lung, however, is found to be in the same state of hepatization as the day before, and the work of resolution begins and proceeds with more or less celerity. Very much the same thing occurs after the administration of creosotal, as we have seen in all the cases cited, and in many more reported by other observers: about 1 dr. of the drug having been taken, the temperature goes down to normal, and the patient feels much better generally. If the drug is now discontinued, the temperature, etc., will go up again; we resume it and continue at the rate of 50 to 60 gr. per day for three, four, five, or six days, and then the temperature will go down and stay down, and the affected lung will begin to clear up.

It must be conceded, I believe, that neither to the antipyretic nor bactericidal qualities of creosote is to be accorded this remarkable and beneficial influence upon pneumonia, a fact which, so far as my experience goes, is never accompanied by any symptoms of depression or disturbance of the gastrointestinal tract. It is reasonable to say that its action must be antidotal to the pneumonic toxins. None of my cases received any other remedy while the illness lasted, except a small dose of Dover's powder for controlling restlessness. All of the hospital cases were more or less advanced when admitted, except one. None were promising so far as the patient's constitution and general antecedents were concerned. Indeed, both Dr. Adams and myself thought that, as cases go, their chances of recovery were by no means good. Yet they all recovered, with the exception of Case IV, who, after being well from the pneumonia as such, succumbed to the deleterious influences of cardiac and probably also hepatic disease, which, I believe, antedated the pulmonary affection. No sooner were the patients under the influence of creosotal than all further anxiety about them appeared to be unnecessary. We visited and examined them twice daily, saw to it that our directions as to nursing and feeding and the exact dosing of creosotal were properly carried out, and had the satisfaction of seeing the patients through the illness without resorting to the usual array of hypodermatic remedies.

It may be urged that, pneumonia being a self-limited disease, even bad cases will recover; so they do, as we all know; but then good and uncomplicated cases die in spite of the best care and the so-called symptomatic treatment because the system does not furnish a sufficiency of serum antitoxins to end the pneumonic process. Unfortunately, we are not in a position to tell in any case of pneumonia whether Nature will be able to do the one thing needful and cure the patient; we must go on, therefore, trying to find a remedy on which we can rely in helping Nature's efforts. These cases and many others have shown, I believe, that creosotal is such a remedy, working in a very similar way to the antitoxins furnished by the system. I should, of course, be delighted to furnish many more positive observations than I have done here, but my term of service began late in the winter, and in private practice we are not apt to see much of pneumonia after April; others, however, have seen and recorded equally good results before me, and being quite in accord with them, I am anxious to bring these clinical records to the knowledge of the profession, hoping that the remedy may be given a fair trial by many during the coming winter, and that the results obtained may be as favorable as my own.

25 West Forty-sixth Street.

ON THE USE OF A. C. E. MIXTURE AND ETHYL BROMIDE IN OPERATIONS FOR ADENOID VEGETATIONS.*

By J. W. Gleitsmann, M.D.,
New York.

When I was requested in January by our honored president, to state my experience as to ethyl-bromide anæsthesia before this association, I was under the impression that I was expected to make some short remarks on the subject in conjunction with a presentation by Dr. French. Communicating with the doctor, I learned that, in addition to his demonstration, he was also to speak on other narcotizing agents for the same operation, and that a general discussion would follow our essays. He kindly suggested that I mention also the administration of the A. C. E. mixture, with which he was less familiar, and although I have almost completely discarded it now, I accepted his suggestion.

Before entering upon the subject proper, permit me to state that I took to both anæsthetics in an entirely empirical way—I may almost say, adopted them for the sake of expediency, and made no more scientific observations than those which practice required for their safe application. This was also the reason why I hesitated so long, and was more or less reluctant to yield to our president's invitation. Besides, I was so fully under the impression that everybody was thoroughly familiar with the advantages of ethyl bromide, that I was somewhat surprised to be led to believe that I could present in this subject something of interest and value.

When I said that I adopted both agents originally more for the sake of expediency than for scientific reasons, I may remark that I had to appear twice within a very short period, in 1886, at a coroner's jury, when two colleagues of high standing were accused of having caused death by administration of chloroform at operations. The annoyance of such proceedings, and especially the difficulty of clearing our colleague and the hospital in one case, made it apparent to me that it was useless to expose myself to such vexations and undergo such trials. I cannot state any further reasons why I turned to the A. C. E. mixture instead of to ether pure and simple at that time, but believe it was the lessened

*Paper read to open the discussion on general anæsthesia in operations upon the nose and throat, at the meeting of the American Laryngological Association, May 28, 1900.

liability of employing chloroform in the small quantity contained in the compound, and its somewhat more rapid action than that of ether alone. Whatever may be the opinion and experience of others, I was fortunate enough not to have a single serious accident with it, and have employed it after 1894, although less frequently, with the same result. After the year mentioned, I commenced with ethyl bromide, and was induced to do so by the statements of Moritz Schmidt in the first edition of his textbook. Since 1894 I have used ethyl bromide almost to the exclusion of anything else, and have tried to extend its usefulness also to cases in which I had until quite recently used the A. C. E. mixture.

About the latter, in my belief, nothing new or interesting can be said, as you are all familiar with its effects, the length of time required for bringing on, and for the patient to awaken from, the narcosis. It has been my habit, to which I adhere up to the present time, in the few isolated cases in which I give it, to administer the mixture by one of my assistants to the child lying on a couch, until it is thoroughly under its influence, then, by carefully raising it, it is handed to the other assistant, seated in a solid chair and operated upon in the upright position. I never knew, until quite recently, that Dr. French advocated this same position for operations for adenoid vegetations, and it gave me great pleasure to learn that we both agree so well on this point. The only accident I had with the A. C. E. mixture was an attack of suspended respiration when the child was brought to the chair to be operated upon, from which it was quickly revived by the usual methods of resuscitation, and the operation performed. The cause of the collapse was the tight band of a skirt which had not been removed, as the child being claimed by the parents to be extremely nervous, was undressed and narcotized in another room, to save it the excitement of seeing the operator. Since that time I have rigorously insisted that the undressing of the child be supervised by one of my assistants in my presence, and I have had no more accidents of this kind.

In this connection it may be in place to say a few words about assistance—at least the manner in which I proceed in operating. Although I take it for granted that the subject of our discussion is not if an anæsthetic shall be employed at all, but which one we find safest and most useful, I must say here that I use an anæsthetic almost invariably for several reasons, and the exceptions are insignificantly few, only once in a while in grown-up, courageous children with a small mass of the growth in the middle of the nasopharynx, and amount to not more than two in a hundred cases. I give anæsthesia, especially since employing ethyl bromide, in my dispensary and clinical, as well as in my private practice, the small loss of time being more than outweighed by the possibility of making the operation thorough, by saving the little patient pain and shock, and thereby not losing his confidence, which may become an important factor if in the future other manipulations are necessary. The assistants I employ in private practice have been the same for many years past, and they, by their repeated experience, have acquired such a technique and dexterity in undressing the child, in narcotizing, holding the child in the proper position, and making the necessary movements of the head which I deem expedient and advisable, that I have to exert very little or no supervision at all, and can give my whole attention to the operation. I am free to confess that it is due as much to their faithfulness and efficiency as to my own doings that I never had a fatal or even alarming accident in the large number of cases I have operated upon. I have in late years even dispensed with the services of the family physician, who, for courtesy's sake, had to be invited to be present, and whom I then requested to attend to minor details. I feel the difference very keenly when I have to operate at one of the hospitals with which I am connected, where the assistants shift every three months, and where in consequence the operation is more laborious and not as quickly and smoothly performed. As also the manner and method of operating is no topic of our discussion, I shall mention only briefly that I have, without a single exception, made all my operations in the upright position; that I never hesitated to operate the severest case in the manner indicated in my office; that I have never sent a child with adenoids to the hospital for the purpose of operating alone, and that I operate children at their parents' house only at their request, or for extrinsic reasons.

As said before, I adopted ethyl bromide in 1894, and, becoming more satisfied with it the longer I use it, have employed it lately also in cases where I gave A. C. E. mixture formerly, viz., when I operate at the parents' house. It was probably merely from force of habit that I adhered to the A. C. E. mixture on such occasions, and I was very glad to notice the delight of the parents when the child woke up from the narcosis so quickly after ethyl bromide. It was primarily the desire to have an agent which did not compel the child to remain so long at my office to get over the narcosis that made me change from A. C. E. to ethyl bromide for office practice, and as much as I encouraged the parents formerly for the above reason, to have the operation done at their house, I now rather advise them to bring the child to my office, thereby saving a great deal of time. My highest record is seven operations in one day—two at my private office and five at my clinic, which latter could not have been accomplished with any other anæsthetic in the time at my disposal.

I confined my researches of the literature to the publications quoted in the sixteen volumes of Semon's *Centralblatt* from 1884 to 1890, but shall not weary you with their enumeration. I further saw no mention of the subject in the transactions of our association, but found that three of our members, Drs. Roaldes,[1] Hardie,[2] and myself,[3] had spoken or written about ethyl bromide, and that a fourth member, Dr. Hinkel,[4] had reported to this association a death from chloroform in adenoid operation. On April 11, 1894, a meeting of the London Laryngological Society was held to discuss the choice of an anæsthetic in operations for adenoids, called on account of the unpleasant number of deaths from chloroform having occurred of late in England. Although about one dozen publications on ethyl bromide had appeared up to that time, I did not see it once mentioned in the original report contained in the *British Medical Journal* of the same year,[5] and the same holds good in a much later series of American essays on Selection of Anæsthetics in Surgery (*Journal of Am. Med Assoc., March* 24, 1900). Shortly before the English meeting, Dr. E. Meyer gave at length his views and experiences in 250 cases before the Berlin Laryngological Society,[6] followed by a similar discussion by several gentlemen. On the basis of 250 cases, Meyer claims that the agent in doses from 10 to 15 grms. is harmless, that anæsthesia takes place within twenty-five to sixty seconds and lasts a minute and a half to two and a half minutes with unpleasant after-effects. Grabower warns against its use in anæmic children, while Rosenberg, the last speaker, saw no danger even in delicate and very young children. Hardie also considers it contraindicated in nervous, timid children. Hardie, in his excellent essay, quoting from Morgenthau, writes

further on the physiological effect of the drug, saying that the cardiac alterations are much less than in chloroform narcosis, and that the bromide has only a slightly depressant action on the heart. He gives the death rate from bromide to be two in 7,541 cases, one, however, occurring in Billroth's clinic in a patient with heart disease, which could, without unfairness, be excluded. Roaldes' paper is very thorough, goes back to the year of its discovery, 1829, by Serullas, and he states its advantages and disadvantages very concisely. As to the latter, its action on the glandular system, exciting hypersecretion, and its tendency to produce muscular contractions, never interfered in any of my cases. That it is unsuited for prolonged operations, and that an absolute purity of the drug is required, is a matter of course.

About the degree of the anæsthesia to be reached, and consequently the quantity of the drug used to produce it, the authors differ somewhat; Texier,[7] for instance, being afraid of unpleasant effects, advises against a complete narcosis and operates in the stage of analgesia preceding it. He never gives more than 5 to 10 gms. to children of eight to fifteen years of age, and leaves the mask *in situ* fifteen to thirty-five seconds—never longer than forty seconds. But I believe the majority of operators follow the example of Moritz Schmidt,[8] who prefers complete anæsthesia, and begins with pouring 10 gms. into an impermeable mask. When bromide is gradually added, narcosis takes place within two minutes; but although generally less than 30 gms. are required, he had the same experience in exceptional cases, like myself, that 40 gms. were necessary to produce complete anæsthesia. Schmidt, in his second edition, enumerates five deaths from ethyl bromide, but believes them due to cardiac complications. As far as my individual experience goes, I never had a serious or alarming accident at the many operations I performed. I regret not to be able to give you accurate statistical data, but inquiries at the three institutions with which I am connected, and questioning my private assistants, I can safely say that the number of five hundred operations under ethyl-bromide narcosis is rather under than over estimating the aggregate. Among these I had only two cases where the narcosis had to be interrupted for a short time, on account of irregularity of respiration; in one case, a secondary hemorrhage occurred several hours later at the child's home, controlled by the family physician; and once I had a case of sepsis, manifesting itself in an inflammation of the knee and ankle joint, which kept the child ill for four weeks and was wrongly attributed by the father to an undue pressure against the knee by one of my assistants while holding the child in the proper position.

I conclude by giving you in as condensed a form as possible my method of operating, from which the experience of years has taught me not to deviate, if the result is not to be jeopardized or unnecessary annoyance caused to the operator:

As stated before, I use an anæsthetic, and now ethyl bromide in such a preponderance of cases that the exceptions can be disregarded. Further, I always employ two assistants, and in my private cases one holds the child in position, the other giving the bromide, and later holding and steadying the child's head. Formerly, when operating in the hospitals to which I am attached and in the parents' house, I did so with diffused daylight, seating the child opposite and near the window of a well-lighted room, but found lately that in a dark room, with the reflected light from a head mirror, I could overlook the field of the operation better, and I now make my arrangements accordingly. After the child has been brought to the room, all the constricting garments removed under the supervision of one of the assistants, the heart examined, and a loose gown thrown over the child, it is handed to the other assistant, seated on a solid chair, and the narcosis begun. The mask I use is intended to and does exclude the air almost completely, and is tightly pressed over the child's nose and mouth. Merck's one-ounce glass tubes serve the purpose admirably, giving very little waste; and the administration is continued under control of the pulse until the muscular tonus is abolished. The introduction of Denhard's mouth-gag at this period generally rouses the child somewhat from its stupor, into which it soon relapses after a few more whiffs of the bromide. The narcosis is now deep enough and will last sufficiently long to allow, with a moderate amount of dexterity, the removal of both tonsils, and of the adenoid vegetations, if such be necessary. I have no ironclad rule laid down for myself, which of the two I remove first, if both be present; but I am guided by the condition of the individual case. The vegetations I removed in years gone by alone with the post-nasal forceps which bears my name, then with the curette (Gottstein's model) exclusively; but finding that I had by the latter method a few recurrences of the growth, I now use first the forceps, removing the larger part of the masses, and then with the curette the remaining ridges. So far I am satisfied with the result obtained in this manner. As a rule, I do not make all these manipulations without an interruption. After tonsillotomy, I assure myself if there is no undue bleeding, and if such, arrest it by manual pressure with a napkin dipped in weak carbolic solution sufficiently, before commencing with the adenoids. For the latter, I enter the nasopharynx four or five times with the forceps without changing the child's position; but then my assistants are trained at the moment of request to lower the child's head rapidly to such an extent that the pelvis is a little higher than the head, which allows a free outflow of the blood from nose and mouth into a suitable vessel without entering the larynx. Here it may be remarked that, when entering the nasopharynx with the forceps or curette, the child being under complete narcosis and manifesting no signs of pain, not all reflex is abolished, the pharyngeal muscles contract slightly and respiration is momentarily suspended the same as when we examine the larynx of a refractionary patient who is not yet trained. While the child is in this lowered position, I make a digital examination to see if anything and what has still to be removed; the child is raised again, and forceps or curette once more applied. Seldom more than two or three introductions of the instrument are necessary, interrupted by lowering the child for the outflow of blood; and when convinced that the nasopharynx is clear, the mouth-gag is removed, the child laid on a couch and left there until sufficiently recovered to be taken home. In the majority of cases it cannot be prevented that some blood runs down into the lower pharynx and reaches the stomach, which is proven by the vomiting of blood when children recover from the narcosis and change their recumbent position. But I never witnessed the inflow of blood into the larynx or trache, acough, or any subsequent pulmonary symptoms having never occurred in my practice. I cannot give a positive explanation for the fortunate absence of this complication; it may be the slight recumbent position of the child leaning against the chest of the assistant during the operation, which makes the blood flow along the posterior pharyngeal wall, but in my opinion the quick lowering of the child's head plays the more important part.

I was perfectly aware that I could not relate any thing new or of importance to you, but I shall be per

fectly content if some of my remarks will assist you to make the operation with greater comfort to yourselves and with satisfactory results to your patients.

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2. Hardie, T. Melville: "Adenoid Vegetations; the Anæsthetics, etc." *Annals of Ophthalmology and Otology*, July, 1896, p. 619.

3. Bosworth, Newcomb, Gleitsmann, B. Delavan: "Recent Progress of Treatment in Affections of the Upper Respiratory Tract." MEDICAL RECORD, February 29, 1896.

4. Hinkel, F. W.: "Report of a Death Following Immediately an Operation for Adenoids under Chloroform." Transactions American Laryngological Association, 1898, p. 80.

5. *British Medical Journal*, 1894. Vol. I., p. 861.

6. *Berliner klinische Wochenschrift*, No. 1, 1894.

7. Texier, Victor: "Nouveau mode d'administration de Bromure d'Ethyle en Oto-Rhinologie." *Annales des maladies de l'oreille*, etc., Mars, 1896, p. 270.

8. Schmidt, Moritz: "Die Krankheiten der oberen Luftwege." Berlin, Springer, 1897, p. 175.

NOTES ON VIENNA HOSPITALS.*

By JOHN E. SOMERS M.D.,
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THE question is very frequently asked by medical men, Where is the best city in which to do post-graduate work? To discuss this subject intelligently, one must needs have some personal knowledge and experience in the various medical centers, in order that his advice may be of value and benefit to those seeking such information. While I cannot lay claim to any extended knowledge in this direction, still I have had some experience in a number of different cities. On this side of the water we have New York, which is admittedly the leading medical center for post-graduate work.

One can do excellent work in New York in the dispensary connected with Bellevue Hospital, in the Knapp Clinic, in the Carnegie Laboratory, and in the various other dispensaries, by taking private courses, or by joining either of the post-graduate schools. There is an abundance of clinical material in New York. Of this there can be no question. New York leads the procession of cities in the United States as a post-graduate teacher.

The number of men in the courses of the post-graduate medical schools, however, precludes the possibility of a sufficiently close contact with the patient, or rather the opportunity to examine personally a sufficient number of cases each day. The private courses are expensive, when given by the best men. We must not forget, however, that it costs something to cross the Atlantic and return, and this we must add to the cost of our study abroad.

Boston offers most excellent opportunities for post-graduate study. The serious objection is that they are not suited to the requirements of the practitioner in Boston or suburbs, being too near the seat of his professional labors. London has the largest amount of clinical material at the disposal of the medical man of any city in the world. It has, however, many serious disadvantages, chief among which are the largeness of the city and the lack of organization for such work. Paris stands in the front rank so far as the brilliancy and eminence of her medical teachers are concerned. The work here is fairly well systematized in many lines. One will always find the men with whom one comes in contact in hospital, in clinic, or in the regular private courses, extremely courteous.

Berlin offers many advantages to the seeker after post-graduate knowledge. She has some very able medical men within her confines, who do grand work as teachers, both in medicine and surgery. My impression is that it costs slightly less to live in Berlin than in the other continental cities.

Of course, in many of the smaller cities, in some special line, one can often find excellent opportunities, as, for instance, in Prague, Halle, or Dresden. But for universal and complete organization in all lines, for teaching purposes, no city can equal Vienna.

This seems to be the consensus of opinion among the most experienced post-graduate workers whom one meets from time to time. In every line of original research, in chemistry, in medicine, and in surgery, one can here find better opportunities, and apply himself more advantageously, than in any other medical center.

Competition in the practice of medicine is very keen in Vienna, and so the men connected with the University have found it to their financial advantage to organize courses in every department of medicine and surgery, to promote the work in every way feasible, and to encourage the advent of as many students to their city as possible.

Many of the professors, assistant professors, and instructors in the University devote a large portion of their time to the giving of private courses. The courses vary in price from eight to twenty-five dollars, making an average of ten or possibly twelve dollars. Some rules can be laid down, which will do the beginner, or new man, no harm to follow. First, always avoid overcrowded courses. By that I mean those having too large a number in them for the amount of clinical material to be handled. Second, when feasible, always enter a course as an observer, for one or two sessions, to ascertain the amount of work at the disposal of the men already in the class, its character, the number of men in the course, the methods of teaching employed, etc. Third, find out something of the medical man giving the course, as to his teaching capacity, etc. For we all know that the ability to impart knowledge in the best manner is not a gift inborn in all men.

The best of the regular or standard classes are always rather difficult to enter. It is well to form, as speedily as possible, a large acquaintanceship in and around the hospital. By so doing, one will find that an opportunity very frequently presents itself to fill a vacancy caused by a man, for some reason, dropping out of a class. This is constantly occurring. New courses are from time to time advertised on the bulletin-boards, from which the student can, as a rule, select what he wants. Four, five, or more men can come together, start a class, and secure the services of a suitable instructor. It is better not to take too many courses at one time. A smaller number properly handled, and assimilated, is better than a larger number indifferently done. The "boss" has arrived in Vienna, I regret to say. Usually a man or a combination of two or three men have ingratiated themselves into the good graces of some of the teachers and practically control many of the best standard or regular courses. They dictate as to who shall or shall not enter these classes. They are essentially the counterpart of the mercantile boss who forms a financial trust, or the political bosses who corral a few thousand votes in one of our municipalities. These little intellectual, self-constituted leaders, fresh from their mothers' knee in some obscure New England town, or some other part of our glorious country, have suddenly acquired greatness. They form a classic trust, and dominate the situation. These medical prodigies had better return to their native hamlets and learn the first principles of brotherhood, justice, and fair

*Read before the Cambridge Medical Improvement Society.

play. I believe attention has never been called to this serious injustice before. The doing so now will probably not remedy the matter. This being my second trip to Vienna, I am quite well acquainted with the people and the happenings in the hospital world there from day to day. I was not a personal sufferer. It is an abuse which has, owing to existing conditions, crept in and fastened itself securely upon the shoulders of the medical man doing post-graduate work there. It cannot easily be dislodged.

A number of special courses are given in just one subject. For instance, a most excellent one is given by Dr. Hammerschlag, first assistant to Professor Politzer in his clinic, and one of the instructors in the University on operations on the mastoid. He teaches on the cadaver, the methods of opening the antrum and the attic, the removal of the ossicles, the exposure, hypodermic puncture, and incision of the lateral sinus.

Of course, Professor Schwartze of Halle is the recognized authority and teacher on this subject in Europe. I am informed that his courses are very expensive and that engagements to come under his instruction must be made many months in advance.

Professor Zuckerkandl gives a very practical and instructive course on the bladder, teaching the use of the electric cystoscope, local applications, operations on that viscus, etc. This is a good one for those interested in that line of research.

Professor Latzko also gives a grand course on diseases of the bladder, in electric cystoscopy, etc., from which much may be learned. A fine course is also one by Dr. Latzko on diseases of women to which only three men are admitted. This includes a touch course with a superabundance of clinical material, local applications, and treatment, massage, minor and major operations. This is by all means one of the best courses in Vienna. It is not my purpose to deal largely with descriptions of the various courses, as that would occupy too much time and space. Professor Mikulicz has temporarily succeeded to the chair of clinical surgery occupied by the late Professor Albert. He has in him the happy combination, rather rare I think, of fine talent and originality with wonderful teaching ability. Let one look in and hear him, if one has a spare moment during the day, and I am sure there will always be carried away some valuable point. Professor Albert died two days after my arrival in Vienna—mourned by the city of his adoption, the whole profession, and the great University which he adorned for so many years. He was regarded as being one of the ablest men in the whole institution. At a memorial meeting of the Vienna Medical Society I listened to a brilliantly prepared eulogistic tribute read by Professor Gussenbauer, on the life and work of Albert. The meeting was called to order by the President; the paper was read, and the meeting adjourned. No business was transacted. This fact made the tribute all the more touching and delicate.

The general hospital was erected in 1770 by Joseph II. The building is now old and unsuited to the requirements of modern medicine and surgery. Many of the clinic and operating rooms have been, as far as possible, modernized by the introduction of mosaic floors and other improvements. The operating amphitheater, made memorable by the illustrious Billroth, has been recently enlarged and much improved, but is still too small. It is in contemplation to raze the present hospital and convert the grounds into a public park, the idea being to erect a new and larger hospital on the grounds at present occupied by the insane asylum not far away. These grounds cover a much greater area and would consequently permit of the erection of a larger building with more ample grounds about and surrounding. The insane asylum would in turn be removed to the outskirts of the city. The lack of money is the only thing that now delays the project.

The Rudolph Hospital, erected in 1865, with a capacity of 1,000 beds, is located in the fourth district of the city. It contains one of the most extensive, well-equipped, and complete laboratories for original research to be found in Europe. Antitoxin is here manufactured on a large scale. Original investigation is carried on most extensively in chemistry, bacteriology, and pathology. Experimentation with the newer antitoxins has also a large place in this work. In connection with these laboratories is kept in outbuildings a very large collection of animals, such as horses, cows, calves, dogs, goats, sheep, guinea-pigs, and poultry of many varieties. The institution is supported by the State, and one studying in Vienna or passing through that city should visit this plant, feeling assured of the most courteous treatment. To see it to the very best advantage, however, an introduction to the superintendent of the hospital would be a *sine qua non.* One can easily make arrangements, if so desired, to become attached to any of these laboratories as a student or assistant. The Kaiserin Elizabeth Hospital, situated in the fourteenth district of the city, has also a capacity of 1,000 beds. The newer part, or Bottini pavilion, is modern, well arranged, and supplied with all conveniences necessary to do first-class aseptic surgery. The basins for cleansing purposes in the operating rooms here (as well as those all over Vienna) are fitted with pedal-faucets. They are usually four in number, one each for hot, cold, and lukewarm water, and for escape. A portable electric-light stand in the operating room in the Bottini pavilion, about four feet high, struck me as a very useful adjunct to the work. The lower two feet were solid, the upper two flexible, constructed of block tin, and covered with a spiral copper wire. The result is a light which can be moved about the room at will, and which can be twisted around to the right or left shoulder, in front or behind. It can be utilized, of course, only in cases in which the operator sits down, as in operations done per vaginam. There are, on the four sides of the room, electric fixtures to which the wire can instantly be attached, so that the wire supplying the current can, at a moment's notice, be shifted from one part of the room to another.

The "Schleich" solution for local anæsthesia, which is much used in Vienna, consists, as is now well known, of morphine sulphate gr. ½, cocaine hydrochlorate gr. 1, sodium chloride gr. 2, and water ℥ 2. It is without question an excellent preparation. I saw an abdominal section done with it very satisfactorily indeed. The solution is first injected into the cellular tissue, and later, when pain exhibits itself, a small piece of sterilized absorbent cotton wound around the end of a wooden handle, about six inches long, is dipped into the solution and rubbed into the wound. Since my return, I have tried it in three minor cases with very pleasing results. Of course, one can use this solution in much greater strength than that mentioned, if so desired. The "Schleich" solution for general anæsthesia, which is also quite extensively used in Vienna, has, I believe, no advantage over ether or chloroform. I had the opportunity to watch the process of anæsthetizing patients with it in a large number of cases. The proportions are the following: Sulphuric ether gm. 500, petrolic ether and chloroform each gm. 250.

Experimental work in the treatment of lupus with the Röntgen rays has been and is still carried out on an

extensive scale. It is a curious feature that of the two principal investigators in this field, one reported brilliant successes, while the other reported almost complete failures. As a result, a hot controversy was being waged between the two men when I was in Vienna. We must all hope that the former may yet be able to sustain his position.

Osteomalacia, which is much more common in Europe than in this country, has, as a result, been more carefully studied there than on this continent. Dr. W. Latzko of Vienna has, perhaps, done more original work on this subject than any other man in Europe. With us this field, no doubt, presents not much more than a scientific interest, but it is certainly a very fascinating subject from that point of view. It occurs, as a rule, among married women. The symptoms most frequently encountered are narrowing of the angle of the pubic bones, curving in of the wings of the ilium, antero-posterior narrowing of the pelvis, curvature of the femur and other bones, spontaneous fractures, and inability to abduct the thighs. On moving an object downward in front of the eyes, and having the patient follow it, it will be found that the lids drop not gradually, but by jerks. The lifting power of the muscles of the thigh is much diminished, as noticed when a patient attempts to ascend a flight of stairs. This she cannot do without grasping the banister for assistance. Slight shortening of the body is a not unusual symptom. I saw one case in which there was a shortening of four inches. So great an amount is exceptional. It was my good fortune to see a large number of these cases in a clinic for diseases of women. I am inclined to think that an occasional case passes us in this country unrecognized. Phosphorus is the most successful drug for use in these cases. Great success has been attained by this plan of treatment.

I made some records of the temperature of the operating room at the Kaiserin Elizabeth Hospital at the time of operation. I found that the average temperature at which operations were performed was 18° Celsius, equal to $64\frac{2}{5}$° F. It seems to be, in this country, a universally accepted belief that higher temperatures than those mentioned are necessary in the operating room.

Gloves are not used in operating. Retractors are not employed in abdominal work. In abdominal operations, silk is the almost universally accepted ligature. Quantities are buried in the abdominal cavity without the slightest hesitation, and without any untoward effect. It is done with confidence—a confidence born of a long experience. The whole secret of success lies in the complete asepsis of the silk used. I asked Professor Wertheim why he did not use kangaroo, as advocated by Dr. H. O. Marcy, in America. His answer was that he was afraid to do so on account of the difficulty, as he believed, of asepticizing it.

Conservatism is a great virtue, and the Germans possess it in marked measure. There is practically only one method of closing an abdomen in Vienna, and that is by sewing each layer separately with interrupted sutures of silk, cut very close to the knot. The first or peritoneal layer is done with a very fine silk. The majority of the operators do not seal the wound, although exceptionally this is done. On further observation, I am convinced that the aseptic and antiseptic work in Vienna is most thorough and in many ways most excellent. There are, however, some serious objections to the methods employed for the production of aseptic conditions in the patient. A newcomer, I think, would be struck by their excessive care in washing the hands and arms—a very laudable excess, sometimes not practised to the extent it might be in our own country. The only antiseptic for the hands employed is corrosive sublimate 1 to 1,000. Permanganate of potassium and oxalic acid are not used. To produce an aseptic vagina, sterilized soap and sterilized water, alcohol, ether, and corrosive sublimate are each in turn employed. The strength of the sublimate solution for this purpose is usually 1 to 1,000. The abdominal wall just prior to operation is treated in the same manner, and the patient is allowed to lie in this wet condition during the operation. The abdominal cavity is almost never washed out with normal salt or any other solution. A 50-per-cent. solution of chloride of zinc is one of the applications commonly used in cases of endocervicitis. Two, 3, and 4 per cent. solutions of silver nitrate are employed in gonorrhœal urethritis in the female, beginning with the 2-per-cent. solution. In cases of curettage, the uterus is packed with a strip of iodoform gauze about half an inch wide, and woven on both edges. The treatment of retrodisplacement of the uterus with moderate adhesions, when there is no contraindication, is by putting the patient under an anæsthetic, tearing up the adhesions, bringing the uterus forward, and inserting a pessary. This is followed by massage, and when the latter is systematically carried out, the treatment many times results in a cure. When this fails, or, for any reason, when fixation is indicated, a vaginal operation is more often done than a ventrofixation. The vaginal fixation is preferred on the ground that this method does not interfere with pregnancy. Of course, in many cases only a ventrofixation is possible.

By the courtesy of one of the members, I attended a number of medical society meetings. At one of these, I listened to a discussion in which Professors Wertheim, Latzko, and Schauta participated. The subject for discussion was recurrence of the disease after hysterectomy for cancer of the cervix. Wertheim stated that he had had 32 per cent. of recurrences; Latzko, 14 per cent.; Schauta had no exact statistics to offer. These are three of the leading gynecological operators of the city. They all have extensive clinics. Wertheim has charge of seventy gynecological beds at the Kaiserin Elizabeth Hospital. He operates mostly by the abdominal route, and in all cases, as far as possible, extirpates the glands and surrounding tissue. He gives the cervix no preparation outside of its asepsis. Latzko operates chiefly by the vaginal route. He prepares the cervix by thoroughly cauterizing it with the thermocautery, and, when the necessity demands it, he also curettes the cervix prior to cauterization. He also makes his primary anterior and posterior incisions by means of the cautery. I believe this to be a wise procedure. It is quite noticeable in Vienna that there is a marked tendency to readopt the abdominal route. Indeed, this is true of all the countries of Europe. Especially is it true of France, the former home, the strong advocate, and, I was almost going to say, the originator of the vaginal method of hysterectomy. On the other hand, there is a tendency upon the part of the Vienna surgeon to do more and more of the adnexal work per vaginam. I am convinced that this is well, for a large percentage of the extrauterine pregnancies, large ovarian tumors, resections of the tubes, salpingotomies, ignipunctures, resection of cystic ovaries, etc., can be as well, and perhaps better, done through the vaginal than by the abdominal route. It is a curious phase of the subject that, only a very few short years ago, the Continental surgeon looked upon the American with an eye of pity and something bordering upon a sneer, because the American surgeon, in his assumed ignorance, had dared to practise and teach the advisability of the abdominal in preference to the

vaginal method of hysterectomy. And some of their operators, in their pity and sympathy for the benighted American surgeon, even graciously consented to and did come over to teach us the vaginal method, and to lift us from our condition of deplorable ignorance. What the American surgeon then taught is now being gradually recognized all over Europe as the preferable operation in the majority of cases. I have no hesitation in expressing the belief that there is as good surgery done in America as in any part of the world.

THE PATHOLOGY OF BRIGHT'S DISEASE.*

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PATHOLOGY is the doctrine of disease, and signifies a morbid change, either in exercise of functions or in texture of organs. By Bright's disease, pathologically speaking, we usually understand a morbid change in the texture of the kidneys so material as to modify or suspend their function, whose office in the animal economy is, eminently, elimination. Our discussion, on account of limited time, shall be nearly confined to this narrow field. However, we should not be deluded, for the pathological domain of Bright's disease is so broad that it involves lesions of texture and derangements of function, more or less, of the whole organism. In fact, the toxins, which the kidneys fail to separate from the blood, not only primarily poison the blood, but make it a vehicle to reach all the other tissues and do them injury.

An accurate knowledge of the pathology of Bright's disease is absolutely essential to an interpretation of the symptoms and correct treatment. But it is necessary to acquire a knowledge of the physiology and histology of the kidney to gain a clear conception of the pathology. Briefly, the physiology of the kidney is to eliminate from the blood various toxic substances which result from normal metabolism, as well as foreign toxins that may have gained entrance. The study of the histology of the kidney is a study of the mechanism by which said elimination is accomplished. The kidney may be likened to a double filter, or to a filter with double or two funnels. A filter or *filtrum* is any porous material through which liquid is passed to separate it from matters suspended in it. To filter, then, is to purify liquor by passing it through an apparatus which separates any extraneous, impure, or feculent matter. The filtrate is the filtered or purified liquid. In the present application it is the *blood* in the renal vein and not the *urine*, as indicated by some authors. No less an authority than Brunton[1] misapplies the term "filtrate" in this connection. The blood which is to be purified is conveyed to the kidney through the renal artery, and returns from it through the renal vein, filtered and purified. The impure products of tissue waste and extraneous matter pass out through the uriniferous tubules. Therefore, the structure of the kidney, whose function is to purify and purge the blood, represents a filtering apparatus. The arterial capillaries or glomeruli, the capillary plexus of veins, the uriniferous tubules, and the lymphatics constitute the porous material; the fibrous capsule, inclosing the kidney, is the container of the porous material; the renal vein represents one funnel, returning the filtrate or purified blood; the ureter represents another funnel, conveying, from the kidney to the bladder, in watery solution as urine, the extraneous, feculent, defecated impurities separated from the blood. The arterial capillaries are derived from an afferent branch of the interlobular artery, which is a branch of the renal artery, and are disposed in coils, forming glomeruli or tufts, surrounded by a capsule (Bowman's), which begins the uriniferous tubule. This arrangement of capillaries in glomeruli is for the double purpose of gaining greater surface and securing increased blood-pressure to facilitate the mechanism of filtration. Bowman's capsule is the beginning of a long convoluted tube, lined with epithelium, whose function is the final transformation of the tissue waste-products of metabolism, or the secretion of the solid constituents of the urine.

This epithelium serves another and equally important, though negative, function, viz., under physiological conditions it prevents the escape of serum-albumin and other normal constituents of the blood. The filtering and secreting capacity of the uriniferous tubules is not only increased by their length and convolutions, but their caliber, having several alternating dilatations and constrictions, retards the flow of the fluid to be filtered, and permits more time for completion of function—no small favor to a crippled or overworked kidney.

The uriniferous tubules are surrounded by lymphatics and a capillary plexus of veins, the latter emanating from the efferent arterioles of the glomeruli. The purpose of this structural relation is to provide further opportunity for the action of the renal epithelial cells. These cells absorb any excess of water or superfluous salts that may have filtered into the tubule through the glomeruli, and give them back to the lymphatics and veins, to be returned to the organism to serve other vital processes in the economy. These cells also absorb from the lymph spaces and the venous plexus the products of disassimilation or tissue-waste, most of these having been already transformed into urea by the liver,[1] and complete the transformation or secretion, which is excreted as the solid constituents of the urine.

This brief review of the physiology and histology of the kidney is given, not with the view of drawing fine theoretical distinctions of the different forms of Bright's disease, but simply as a practical aid in studying the pathological changes in the structure, and in interpreting the characteristic clinical phenomena occasioned by those morbid changes, in their usual sequence of occurrence, to wit, albuminuria, dropsy, and uræmia.

Albuminuria.—Before we get true albuminuria, a morbid change in the vascular walls of the capillaries and the epithelium of the tubules is absolutely essential. Experiments have proven that increased pressure-effects alone are not sufficient cause. Ligation of the aorta below the renal arteries, notwithstanding it greatly increases blood-pressure in the glomeruli, does not produce albuminuria. Why? Because nourishment is amply provided by the increased blood-supply, and while the increased blood-pressure increases the positive function of the kidney—that of secretion—it does not impair its negative function—that of preventing the escape of serum-albumin so long as nourishment is supplied and the renal tissue remains normal. Moreover, the increased pressure in the glomeruli is compensated by the collateral circulation in the kidney. There are three channels by which the blood may reach the renal vein without passing through the glomeruli. First, the terminal branches of the renal artery anastomose with the stellate veins beneath the capsule on the surface of the cortex; second, branches direct from the interlobular arteries, together with branches given off from the

*Read at the annual meeting of the Kentucky State Medical Society, held at Louisville, May 22-24, 1901.

[1]Brunton, "Disorders of Digestion," 1893, p. 316.

[1]Davis, MEDICAL RECORD, September 15, 1900. p. 415.

afferent arteries before they reach the glomeruli, anastomose with the venous plexus surrounding the tubules; and third, the arteriæ rectæ anastomose with the vasa recta. Through these three channels the blood-pressure in the glomeruli is relieved. However, when the renal vein is ligated, we do get albuminuria. The explanation is that the blood-supply being stagnated, nutrition is deficient, and the texture of the renal structure is changed. Increased blood-pressure under these conditions will cause albuminuria. The pressure is first felt in the venous plexus and then in the glomeruli, and being little or not at all compensated by collateral circulation—the blood having no avenue of return to the system—the albumin that is poured out into the lymph spaces surrounding the tubules cannot be absorbed by the venous plexus on account of increased internal pressure, nor can it re-enter the glomeruli for like reason; therefore, it is forced into the tubules to escape with the urine. Venous congestion, then, does cause albuminuria; but there must first be a lesion in texture before it is operative. I wish to note here that the venous congestion of Bright's disease is due to a weak circulation. The soft, feeble pulse is what we have to fear, and not the wiry, high-tension pulse of arteriosclerosis. The latter often is a complication, being produced probably by the same agent that caused the Bright's disease. The cardiovascular change produced by Bright's disease is one of degeneration, and results in a weak heart and a soft, compressible pulse, which must not be confounded with the rigid, wiry pulse of arteriosclerosis, that not infrequently complicates the incipient stages of chronic Bright's disease. I wish to emphasize this differentiation.

Dropsy.—The presence of fluid in the cellular tissues, *i. e.* œdema or dropsy, is influenced by three conditions, (1) alteration in the composition of the blood; (2) alteration in the structure of the capillaries; (3) alteration in the vasomotor nerves which control the capillary circulation. Normally, there is a constant exudation of fluid from the capillaries into the lymph spaces to supply nutriment to the cells of the various tissues of the body; and after it has served this function it is reabsorbed by the veins and lymphatics. Under physiological conditions the exudation and absorption are equal, but when from any cause the exudation is increased and the absorption is decreased, an accumulation ensues. If it occurs in the cellular tissue it is termed œdema, but if in a serous cavity it is called dropsy.

1. Alteration of the blood, or anæmia of Bright's disease, is caused by albuminuria. Serum-albumin, which is one of the most important ingredients of the blood, escapes with the urine, instead of remaining to minister to the nutrition of the blood and body. The red blood cells suffer, too; for hæmoglobin contains not only hæmatin, but also an albuminous substance—globulin—and the latter not being supplied, the blood is further impoverished. Albuminuria, then, by causing anæmic or watery blood, proves a pathogenic factor in dropsy, but hydræmia alone is not sufficient to produce dropsy if there is not an alteration in the capillaries first.

2. Alteration in the texture of the capillaries, however, renders exudation through them more easy, and, after all, the main factor in the pathogenesis of dropsy resolves itself into the condition of the capillary vessels. Experiments of rendering the blood watery, by intravenous injection of large quantities of decinormal salt solution, have proven that exudation is not increased so long as the capillaries are in a healthy condition. Capillaries altered by inflammation or lack of nutrition are rendered more permeable, and then any alteration of the density of the blood, by dilution, is quickly manifested by increased effusion. Diluted or hydræmic blood does not pass through healthy capillaries more readily than does normal blood, yet it effuses much more easily through altered capillaries. Therefore, albuminuria not only alters the blood, but through the blood-change alters the capillaries, and when the structure of the vessels is altered, hydræmia greatly increases the œdema.

3. Alteration in the vasomotor nerves influences the pathogenesis of dropsy. Exudation takes place slowly and absorption rapidly when the vasomotor nerves are acting powerfully, and, on the other hand, exudation takes place rapidly and absorption takes place slowly when the vasomotor nerves are acting feebly. Vasomotor weakness, then, favors dropsy in a double manner, by both increasing exudation and retarding absorption. Albuminuria causes the vasomotor weakness by withdrawing nutrition.

To summarize the pathogenesis of dropsy, we may state briefly that albuminuria, by withholding nourishment, produces (*a*) an alteration in the composition of the blood, or anæmia and hydræmia; (*b*) an alteration in the texture of the capillaries; (*c*) an alteration in the condition of the vasomotor nerves which control the circulation, the exudation, and the absorption by the capillaries.

Uræmia.—A full discussion of the pathogenesis of the complex morbid phenomena of Bright's disease, hidden under the term uræmia, especially implicating the nervous system—both sensory and motor—and complicating the muscular, respiratory, circulatory, and gastrointestinal systems, also involving special organs as the eye, skin, liver, etc., cannot be embraced in so short a paper. The organism in its normal, as well as in its pathological, state receives and forms poisons, and the renal function affords the chief means of getting rid of them, as the kidney can eliminate all toxic products except gas.

Uræmia is a mixed form of poisoning, due to many causes, and we cannot offer one explanation alone for all the accidents of bad repute which may appear in the course of Bright's disease. Several pathogenic theories have been invented, seeking to identify these accidents with certain anatomico-physiological conditions, appealing to clinical observations to justify themselves. One investigator has incriminated urea as a cause of uræmia; another has invoked cerebral œdema as an explanation; some accuse ammonia; others, again, claim that potassium, coloring matters, and extractive substances, such as uric acid, creatin, leucin, xanthin, etc., precipitate all the accidents of uræmia. All these theories may possess an element of truth, for the most rational explanation of uræmic phenomena, and the one most in harmony with clinical and experimental observations, is that they are produced not by any single element of the retained waste products, but by the entire mass. An analysis of normal urine reveals the presence of several poisons, which render it difficult, if not impossible, to differentiate and estimate the pathological potentiality of any particular one, two, or more of these poisons that the kidneys may fail to eliminate. What is of more import to the clinician is to remember that to invoke uræmia, it is not sufficient that the kidneys should be diseased. It is essential that there should be so great a lesion of texture that its functioning power is decreased to such a degree that it cannot eliminate in twenty-four hours the amount of poison which the organism forms in that time. When we consider that the utmost capacity of the normal kidney for twenty-four hours compared to what it ordinarily secretes in that time is in the ratio of about ten to one, we can appreciate the degree that it may be pathological in structure and yet, clinically speaking, be physiological in function. This observation em-

phasizes the unreliability of urinary tests alone in the diagnosis of Bright's disease, for a kidney may be markedly diseased, and the urine remain normal in quality and quantity. However, under these conditions, complications of other diseases may precipitate intoxication, therefore frequent urinary tests and a close vigil for other clinical manifestations are necessary, if we would not reproach ourselves for serious and fatal accidents, the outcome of intoxication arising from the suppression of the renal function to which we apply the term uræmia.

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A REPORT OF SOME CASES PRESENTING GROSS LESIONS OF THE BASAL GANGLIA.

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DURING the past year a number of cases presenting gross lesions of the basal ganglia have come under my observation. The three following cases show lesions of such importance, involving three much studied, but as yet poorly understood, parts of the brain, that I believe a report of them will be of interest and value in furthering our knowledge of the anatomy and physiology of these organs.

CASE I.—Acute Mania.—J. W., a colored man, aged forty-eight years, was received into the Georgia State Sanitarium August 2, 1900, with a history of having been violently insane for two weeks. He was a farm laborer by occupation. He had a history of having used alcohol to excess, but no other cause of disease was known. Nothing was known of his family history. His appetite was poor, and sleep irregular. On admission, the patient was in very good physical condition. The temperature was normal, the pulse was slightly accelerated. He remained in a state of very active mania until the time of his death, ten days later. He was constantly incoherent and noisy. Very little nourishment could be given, and that was poorly assimilated. He failed progressively physically, but could not be kept in bed until the day before his death, when he appeared to be quite weak and feeble. There was at no time any febrile action, nor were there any paralyses or localized symptoms pointing to a lesion of the nervous system.

The record of the autopsy made one and one-fourth hours after death shows that upon the right side there was an area of softening, involving the posterior two-thirds of the lenticular nucleus, and the posterior one-half of the caudate nucleus. This condition was present, also, in a number of the projections of the caudate nucleus, extending down between the fibers of the internal capsule. The fibers of the capsule appeared to be normal. The thalami and the remainder of the basal ganglia upon both sides were normal in arrangement and appearance. The blood supply and the consistence of the brain, except in this localized area, were normal. The vessels at the base presented the normal arrangement, but contained a considerable amount of atheromatous changes. Judging from the gross appearance and from a microscopical examination of the softened area, the lesion appeared to be not less than thirty-six to forty-eight hours old.

CASE II.—A Case of Terminal Dementia of Four Years' Duration.—E. F., a colored man, aged sixty-two years, had been an inmate of the Sanitarium for two years. During this time his general health had been excellent, requiring no treatment whatever except the ordinary care to be found in an asylum. He was quiet and harmless, his case being a typical one of secondary dementia. On the day of his death he was sitting quietly in the ward, when he suddenly fell from his chair in an attack presenting the following symptoms: The muscles of the entire left side were in a state of chronic contraction. There was marked jerking of both the upper and lower extremities on this side, the muscles of the right side meanwhile remaining quite flaccid. There was complete loss of consciousness. The patient chewed and frothed at the mouth quite like one in an epileptic seizure. This condition continued with remissions and exacerbations for about twenty-five minutes, when the man died.

At the autopsy, one hour after death, the only lesions found which could account for his death were two small hemorrhages in the optic thalamus on the right side, the one being about the size of a pea (5 cm. in diameter), the other about one-fourth as large.

The larger hemorrhage was situated 1.2 cm. from the posterior border, 1 cm. from the superior border of the thalamus, and 0.5 cm. above and internal to the extreme posterior end of the internal capsule. The lesser hemorrhage was on the same level with and about 0.4 cm. anterior to the other. The fibers of the internal capsule did not appear to be pressed upon at all. On microscopical examination the seat of the lesion was found to be in a group of large pigmented cells in the posterior portion of the lateral nucleus of the thalamus.

CASE III.—Chronic Mania.—L. M., a colored man, aged thirty-five years, was an epileptic who had been suffering with chronic mania for three years. He had been an inmate of the Sanitarium for one year, in which time he had been under careful observation. During this time he was in a state of constant mania of a rather pronounced type. His general health was good for the greater part of his stay in the institution, and at no time did he present any symptom of localized brain disease. About one month before the date of his death he developed an obstinate enteritis. After this attack he failed rapidly physically, and died apparently from exhaustion.

At the autopsy, four and one-half hours after death, the only gross evidence of brain disease of consequence was a cystic tumor of the pineal gland. The cyst was about four times the size of the normal gland. It had evidently developed within that body, as its attachment to the brain was by means of the peduncles. All trace of the gland had disappeared, except what might be represented by the thin walls of the cyst. The medulla and basal ganglia were preserved in block and hardened in Müller's fluid. From this a series of sections were made at various levels between the lower end of the medulla and the middle commissure, and stained after Pal's modification of the Weigert hæmatoxylin method. A large number of sections from the immediate level of the posterior commissure and pineal glands were studied so that the fiber tracts in this area could be accurately followed.

In this vicinity there are three well-marked tracts of nerve fibers, each of which has by various writers been described as having some connection with the conarium. These are: 1. A bundle of fibers running antero-posteriorly in the angle formed by the superior and internal surfaces of the optic thalamus, and called by various authors peduncles of the pineal gland, pineal stria, tænia thalami, stria medullaris thalami. 2. A small bundle by which the pineal body is attached to the neighboring brain structure, the so-called peduncle of the conarium. 3. A well-marked tract extending downward from the glandula habenulæ, the fasciculus retroflexus (Meynert's bundle).

In this case, none of these tracts presented any evidence of degeneration whatever. In the first of the above-described bundles, namely, the tænia thalami,

there was certainly none to be expected, as it is now a well-established fact that these fibers have their origin in the glanula habenulæ, and have nothing to do with the pineal gland. Gray, however, continues to refer to them as the peduncles of that body. And even so accurate a treatise on anatomy as Quain's says, in describing the peduncles of the conarium, "the upper portion extends on either side along the ridge-like junction of the upper and mesial surfaces of the thalamus as the pineal stria or tænia fornicis."

The second fiber bundle, the so-called peduncle, is described by many authors as springing directly from the pineal body and forming a nerve connection between it and the adjacent parts of the brain. This is plainly an error, for if that were true, the fibers would certainly have degenerated after destruction of the organ from which they originated. Edinger in his "Anatomy of the General Nervous System" in describing the tænia thalami says, "a part of the tænia receiving other fibers on its way passes further backward posterior to the ganglion habenulæ, and then runs to the other side directly in front of the pineal body. The portion between the ganglion and the pineal body is called the pedunculus conarii, because the body appears to rest on it."

Darkschewitsch has described a small bundle of fibers which enters the peduncles of the conarium and crosses to the other side, forming a crossed connection between the optic tract and the nucleus of the oculo-motorius. Thus, according to Edinger, the peduncles of the pineal gland are nothing more than a commissure, and have no real nerve connection with that body. The case in hand would certainly support that view.

Obersteiner in his work on the central nervous system asserts that a part of the peduncles of the pineal body becomes attached to the outer side of the fasciculus retroflexus, and passes downward with it. These we may also take to be commissural fibers, probably either the bundle described by Darkschewitsch or those referred to by Edinger, since there was in this case absolutely no degeneration in the fasciculus retroflexus.

From a study of the above cases the following conclusions may be drawn:

1. The corpus striatum (caudate and lenticular nuclei) has no intimate relation with either the motor or the psychical spheres.

2. There may be a very extensive lesion involving both the caudate and the lenticular nuclei without giving any symptoms.

3. There is in the posterior portion of the lateral nucleus of the optic thalamus an area, irritation of which will produce immediate loss of consciousness with convulsive movements upon the opposite side, and destruction of which will produce immediate death.

4. There may be a tumor of considerable size involving the pineal gland without giving any pressure symptoms.

5. The pineal gland may be entirely destroyed by disease without producing symptoms.

6. There is no tract of nerve fibers originating in the pineal gland and connecting it with the remainder of the brain.

Tropical Ulcer and Its Treatment by Hot Water.—Roux speaks of an ulcer common to the natives of the west coast of Madagascar, and its treatment by hot water It does not often attack Europeans, since their conditions of life are so different from those of the natives. It is found chiefly in the laborers those subject to wounds and infections. It frequently has its origin in an injury caused by small thorns which are produced by certain kinds of native herbs. These penetrate the skin, and an abscess eventually forms and becomes the seat of various infections. This ulcer is very frequent in its occurrence and shows great resistance to the ordinary remedies. Excellent success has attended the use of hot water of 55° to 60° C. (131° to 140° F.). The water is boiled for fully fifteen minutes, and is then cooled down to about 55° C. The water is applied first by squeezing it out of a pad onto the ulcer, care being taken to protect the neighboring parts. A pad soaked in the water is next applied and allowed to remain some minutes on the ulcer. Next a compress of gauze wet in the hot water is laid on the ulcer previously covered with vaseline; over this a pad of absorbent cotton is fixed by a bandage. The dressing is renewed every day and the limb is kept at rest. The cure is speedy; the suppuration ceases, and cicatrization is rapid. When the cure proceeds more slowly, and the presence of syphilis is suspected, iodide of potassium is administered. Ulcers 7 cm. in diameter have been healed in three or four weeks. The writer states that he has now employed this treatment for two years and has discarded all other methods. It is probable that the hot water acts directly on the microorganisms in the wound, attenuating their virulence, and on the general organism, increasing its resistance to the action of the microbes. As soon as the application is made, the base of the ulcer reddens, showing a reflex vasodilator action very favorable to phagocytosis. The cells themselves are reflexly excited, their vitality is increased, and they multiply.—*Le Caducée.*

Significance of Apex Pneumonia.—Acute lobar pneumonia affecting the apex, says E. F. Cordell, is about one-third as frequent as that affecting the base, and of the two apices, the right is affected about three times as often as the left. Involvement of one apex and the opposite base is very rare, and that of the two apices still rarer. Apex pneumonia is not rare in early life, and the relative involvement of the upper and lower lobe corresponds with that in the adult. The general mortality of the apex and basal forms is about the same. Involvement of one apex and the other base does not appear to be a fatal form of double pneumonia, apart from complications. The mortality of uncomplicated apical disease in the child is almost *nil.* Delirium is not an unfavorable prognostic symptom at any age. Intemperance and hyperpyrexia do not increase the relative mortality at the apex. Pericarditis is a fatal complication and Bright's disease and bronchitis render the prognosis much graver. Delirium is not a more frequent or marked symptom in apex cases in the adult, and seems to occur more often in cases with complications than in the basal form. Intemperance, which is the chief cause of this symptom, does not seem to increase its relative frequency at the apex. There is no positive evidence that delirium is more frequent or prominent in the young with apical pneumonia. Pericarditis is relatively more frequent in apex cases. The same appears to be the case with otitis media. It is evident in the case of icterus, hyperpyrexia, endocarditis, meningitis, pleurisy, diabetes, or empyema. Gangrene is doubtful. There is no reason (other than site) why apex pneumonia in the adult should be more readily overlooked. Phthisis is rare in connection with acute lobar pneumonia, and the apex form involves no tendency to eventuate in it. Cases of apex pneumonia, even in the adult, sometimes assume the mildest symptomatology.—*Maryland Medical Journal.*

Insects as a Living Culture Medium for Infectious Diseases.—C. v. Holub has found that insects of all species afford admirable culture media for the study of infectious organisms. Over one thousand inoculations of the virus of soft chancre were made in insects of different varieties without finding a single insusceptible species. The typical streptobacillus was reproduced in pure culture in all instances, even though the material used generally contained many different species of organisms The in-

sects usually survived the operation twenty-one days if fed, and if allowed no food died in about two weeks. The inoculation is done with a very sharp sterile needle in the heart or tracheal openings between two thoracic segments as far as possible from the digestive and genital organs. Infected insects copulating with healthy ones transmitted the disease to them, showing that it was carried over the whole body by the blood stream. Experiments with syphilitic virus also gave positive results, and the employment of insects to supplement the very limited number of laboratory animals at our disposal will doubtless lead to the acquisition of much additional information concerning the life history of various organisms and their means of entry into the human system.—*Centralblatt für Bact., Parasit-, und Infektionskrankheiten.*

Visceral Hysteria and Hysterical Hyperpyrexia.—Galletta Vircenzo describes the case of a woman who at the age of fifteen years suffered from the vomiting of blood, at twenty-five years had nephrorrhagia, which subsequently recurred at intervals, and was accompanied by spontaneous ecchymoses, increased flow of blood-tinged saliva, and dysmenorrhœa. No organic condition could be found to account for these symptoms, but as the patient was markedly hysterical, and had the various hysterical stigmata, the author ascribes the condition to hysteria. The patient's father and uncle died of cerebral hemorrhage, an aunt of cerebral thrombosis, and a sister and two nieces suffered from cutaneous hemorrhages. The writer believes that the vascular system of the family was defective, and that the neurosis chose it for its manifestations, as the seat of least resistance. Hyperpyrexia was also present, which the writer believes to have been of hysterical origin. Without the closest attention and the constant recollection of the symptoms that may be due to hysteria, physicians are liable to make a diagnosis of gastric ulcer, pulmonary phthisis, acute peritonitis, hepatic colic, and even appendicitis, to the injury of the patient and of the reputation of the practitioner.—*Giornale Internazionale delle Scienze Mediche.*

Ogata's New Method of Resuscitation.—M. Ogata and J. Futagawa recommend what they call the stroke resuscitation for asphyxia, and the shaking resuscitation for anæsthesia. The former consists of a light stroke over the antero-inferior margin of the chest with the palmar side of the extended fingers, repeated ten to fifteen times a minute. The respiration is stimulated, the heart's action excited, and the circulation accelerated. Shaking resuscitation is performed as follows. The feet of the child are grasped by one hand and the shoulders held by the other; the trunk is gradually raised, and the head brought near the feet, the body being strongly flexed at the hip-joint, while the chest is pressed with the hand. The head is then raised, the trunk gradually extended, and the child returned to its former extended position. Thus expiration and inspiration are secured. Should a repetition of this procedure be fruitless, after a moment's pause in the second posture, the hand on the back is suddenly removed, the upper part of the child's body being thus thrown down and shaken. This should be done eight to ten times a minute, and a warm bath given after each eight or ten shakings. The authors claim that this method of resuscitation surpasses all others.—*The Sei-I-Kwai Medical Journal.*

Chronic Intestinal Obstruction with Report of a Case.—D. S. Hanson says that this affection may be congenital or acquired. The latter form may be due to several causes, mainly inflammatory in character, the most common being adhesive bands; the result of inflammatory exudates not wholly absorbed, and producing obstruction by contraction. Local tuberculous or syphilitic processes may cause obstruction. After reduction of strangulated hernia or of intussusception, there may be obstruction. Rectal obstruction may be due to polypi, hypertrophied valves, and foreign bodies of various kinds. Symptoms present are constipation, eructations, tympanites due to gas in the intestine above the obstruction, diarrhœa, sometimes alternating with constipation, and colicky pains. As obstruction becomes nearly or quite complete, vomiting supervenes, and symptoms develop resembling those due to acute obstruction. It is surprising to note how well a child will do when the caliber of the intestine is reduced to even as low as one-sixth to one-eighth in diameter. In marked cases of long standing, the fluid portion of intestinal contents may be absorbed, causing headache, nervousness, moroseness, foul breath, coated tongue, dry skin, etc., while the child is poorly nourished and easily fatigued. The author reports a fatal case occurring in a boy of seven years.—*Pediatrics.*

Two Cases of Chronic Hydrocephalus in Infants Treated by Tapping and by the Introduction of Aseptic Air in the Place of the Fluid.—William Ewart and W. Lee Dickinson conclude provisionally, from their satisfactory cases, that with due precaution the fluid of chronic hydrocephalus may be completely evacuated from the yet inclosed skull of infants, and aseptic air may be allowed to take its place. This operation may be repeated without detriment, and with scarcely more risk than belongs to the usual method of paracentesis. In favorable cases of moderate effusion, a single operation may suffice. Continued oozing from the puncture for a few days after the removal of the tubes is not unfavorable. In cases of considerable effusion, an obvious indication is to relieve the brain from the weight and from the pressure of the fluid. The evacuation is facilitated by the introduction of aseptic air. By a timely repetition of the operation, a hydrocephalic infant might be enabled to carry the weight of the head, and if the treatment were begun sufficiently early, permanent damage to the brain tissue might be averted, and a normal development might perhaps ensue. Any abrupt movement of the head, eliciting a splashing sound, should be avoided.—*Pediatrics.*

Contribution to the Diagnosis and Treatment of Cholecystalgia from Adhesive Pericholecystitis.—Ferdinando Gangitano describes a case in which operation caused complete relief by breaking down adhesions between the gall-bladder and neighboring organs. The diagnosis between this condition and calculus is difficult, but there is one symptom which the author considers of importance, namely, a sense of continued weight and pulling in the right hypocardium, which is increased after meals. If a patient has attacks of hepatic colic without fever or jaundice, with no increase in size of liver or gall-bladder, and without the presence of calculi in the fæces, and who has previously suffered from diseases which might have produced inflammatory processes in the internal organs, it is reasonable to suspect that the hepatic colic is not due to calculi of the gall-bladder, but to adhesions or structural lesions of its walls. Surgical measures only will afford relief.—*La Riforma Medica.*

Treatment of Gastralgia.—Robert Saundby advises a Weir Mitchell course, change of scene, a sea voyage, or stay in the mountains, with abundant food at regular intervals. Pain can be relieved by heroin. If this is insufficient, the stomach should have complete rest and the patient be fed by enemata—an egg beaten up in four ounces of milk and given every four hours. Pain is often caused by gastroptosis, the palliative treatment for which is to make the patient recline for one hour after meals, to wear a light abdominal belt, and to take immediately after eating a mixture of dilute hydrochloric acid, 15 minims; tincture of nux vomica, 10 minims; liquid extract of cascara, 10 minims; infusion of gentian, enough to make 1 ounce. The amount of cascara may be increased or diminished as required, but these patients are generally constipated.—*Treatment.*

Medical Record:

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GEORGE F. SHRADY, A.M., M.D., Editor.

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INDUSTRIAL INSURANCE AND THE PREVENTION OF TUBERCULOSIS.

Mr. Frederick L. Hoffman, statistician of the Prudential Insurance Company of America, read at the recent British Congress on Tuberculosis a paper bearing the above title. How closely insurance companies are connected with preventive medicine and sanitary questions need not be discussed, as it is plain to every one that such matters must affect them most intimately. The paper read by Mr. Hoffman exhibits the subject in all its ramifications, and is worthy of a careful study by physicians and others who take interest in the health of the masses. The mortality from consumption is treated from every point of view, age and sex, race, and occupation. The financial importance of the problem is dealt with. The question of diagnosis in all its phases is ably treated, and the very important point as to whether it would be in the interest of industrial insurance companies to contribute toward the erection and maintenance of sanatoria for the treatment of policy-holders suffering from tuberculosis in its early stages is argued at some length. The Government branches of the German insurance system are at the present time trying such an innovation, but Mr. Hoffman asserts that the plan is impossible—that is, with a fair chance of success to private companies. He speaks on the question as follows:

"The Industrial Companies insure millions of policies for small sums, on the average about $150. On the deaths from this cause one company received but $24 in premiums to every $134 paid out in losses. This sum of $24 represents the equity of the policy-holder, but only a portion of this represents the reserve or possible cash surrender value, and hence the amounts actually paid by industrial policy-holders do not possess the necessary intrinsic value to provide for sanatoria treatment at even the most reasonable institution and for the most reasonable period."

Mr. Hoffman reviews the cost and duration of sanatorium treatment, showing that the lowest amount which would provide for such treatment is $65, and holds that, as the average industrial policy-holder will have paid but $24 to the company, it would be absurd to expect companies to undergo such financial loss as these figures imply by supporting sanatoria. He concludes as follows:

"The error which underlies most of the reasoning on this subject by the advocates of insurance assistance is that the amounts of insurance to be paid at death are assumed to have been saved to the company if death from tuberculosis has been avoided by proper treatment. Manifestly, it requires but a moment's thought to make it clear that the financial interest of the companies is limited to the increased duration of policy-life, or the increased premium income in consequence of prolonged existence. I have tried to obtain data on this point, but the fragmentary character of the German experiments has not made it clear to me that the increased longevity is on the average very considerable, from an insurance point of view. Let us assume it to be five years, which I am told is perhaps too high. The company receives five more years of premiums at, say, $7.80 per annum, about $40 in all, or not half enough to meet the average expenses incurred by proper treatment at a sanatorium. The policy-holder must die from some cause and the amount of the policy must be paid some time, hence if increased duration of life is not sufficient to provide, by increased premiums, the cost of treatment, the companies cannot engage in this undertaking."

Mr. Hoffman undoubtedly puts the case for the insurance companies most lucidly, but before passing an opinion on the matter it would perhaps be wise to hear the views of other insurance experts.

DECIDUOMA MALIGNUM.

Before 1888, deciduoma malignum was not recognized as a definite pathological entity, though it was a known fact and had been commented upon by several observers that, after normal delivery, abortion, and particularly vesicular mole, a few patients died of a rapidly fatal disease which showed at autopsy sarcoma-like masses in the uterus, and often extensive metastatic deposits in various parts of the body. In the year just mentioned, Sänger described several cases, recognized the disease as being different from ordinary sarcoma, and named it deciduoma malignum, by which term it is most often known at present. In 1893, he published a further contribution to the subject, and changed his designation to sarcoma deciduo-cellulare, thinking that this more accurately described the histological structure of the growth.

Since Sänger's contributions there have been others; but beyond giving us an accurate clinical picture of the disease and settling some facts as to its frequency and occurrence, not much has been done. The exact nature of the growth is still a subject of controversy.

However, certain facts in this connection have been brought to light, and though not accepted by all, they probably rest on a sound basis. It is practically certain that the neoplasm is of fœtal origin, and that the maternal tissues are only involved by contiguity. That peculiar mass of tissue called the syncytium is apparently the starting point of the disease, and on this account the growth has sometimes been called syncytioma malignum. When this syncytium begins to grow in an atypical manner, it shows a decided tendency to open blood-vessels and to disseminate itself by these channels, in this regard resembling strongly certain characteristic forms of sarcoma, though we are not therefore necessarily justified in classifying the growth as sarcoma. The syncytium has another peculiarity, consisting in the fact that ordinarily it is not divided into cells, though large nuclei can be seen in it. In some instances, however, distinct division into cells can be made out.

It may be said that up to the present the most

accurate classification calls deciduoma malignum an epithelial neoplasm of epiblastic origin, and that it is apparently closely related, certainly in its clinical behavior, to the angiosarcomata or endotheliomata. A fair general idea of the character of this growth may be got by remembering that deciduoma malignum bears the same relation to normal placenta as is borne by carcinoma of the breast to normal mammary gland—that is each of the pathological forms represents the atypical development of a tissue which should pursue a normal course of growth.

To make a diagnosis of this fortunately rare disease is not difficult. The symptoms usually appear within a few weeks of the delivery, abortion, or vesicular mole, and an antecedent history of the last is so frequent in these cases that every instance of it should be observed until danger is past. The chief symptom is persistent hemorrhage, and when it appears no time should be lost in having some scrapings from the interior of the uterus examined by the pathologist, so that if necessary prompt treatment may be undertaken. The course of the disease when not interfered with is one of extreme malignancy and usually lasts only two or three months, when the patient dies from exhaustion and metastases. Up to the present, no treatment holds out the least prospect of permanent benefit; but immediate hysterectomy, done by whatever method, insures the most complete removal of the local disease. After the disease has once extended beyond the uterine cavity, no treatment is of the least avail. That even in the presence of this very malignant condition we are not helpless if we act promptly may be gathered from some statistics collected by R. Williams. Out of fourteen cases operated on by hysterectomy, twelve survived the immediate operation, and of these, five were known to have died within a year. Of the remainder, six were known to be living at periods of from three to ten months, and also to be free from recurrence. This showing is not so bad when the extreme malignancy of the disease is remembered, and future improvement may be looked for in the direction of early diagnosis, and consequent promptness of treatment. The disease is happily rare; but cases appear from time to time, and when they do, they should be studied carefully, especially in their pathology and histology.

THE ARMY MEDICAL SCHOOL.

The session of the Army Medical School for 1901–2 will commence on November 1 in the lecture rooms and laboratories of the school at the Army Medical Museum, Washington, D. C., continuing for five months. The operation of this School, established in 1893 by Surgeon-General Sternberg, has been suspended since 1897, owing to the pressing necessity for the services of medical officers in the field during the war with Spain and, subsequently, during the active hostilities in the Philippines. The course of instruction is planned so to supplement the ordinary medical school curriculum as specially to fit young army surgeons for the specialized duties of medical officers, and to enable them to acquire in a few months, by systematized instruction, a competent knowledge of medico-military matters which would otherwise only be obtained by long, actual experience with military conditions—in the latter case probably to the detriment of the service, and the occasional mortification of the young medical officer, as a result of mistakes depending on inexperience. The faculty of the school is composed of older medical officers of the army stationed in Washington, and assigned to duty in the various departments of instruction by reason of their particular fitness for such duties, special courses of lectures also being given by various experts of the Department of Agriculture and other branches of the general Government at Washington. The curriculum includes instruction in military medicine and surgery; general and military hygiene; the relations, duties, and status of the army medical officer; bacteriology, pathology, and sanitary chemistry; hospital-corps drill; preparation of army papers; international law; animal parasites, etc. The large number of untrained medical men who have lately entered the army has made it necessary to increase the capacity of the school and the size of the classes, and considerable enlargement of the laboratory facilities has been rendered necessary. There has been some delay in the accomplishment of the latter, owing to the question as to the proper appropriation from which the necessary funds could be drawn for this purpose; but the matter has been finally settled, and the course at the school will be begun promptly at the usual time. Nineteen young medical officers have already been ordered to Washington for instruction, besides which a number of medical officers stationed at posts near or at that city will be expected to secure such benefit from the courses at the school as their official duties will permit. With the mistakes made by untrained medical officers from civil life, who hastily donned an army uniform during the war with Spain, fresh in the recollection, the immense value to the country, military service, and individual, of such instruction as will be given at the Army Medical School, will be fully appreciated. To the foresight, energy, and ability of Surgeon-General Sternberg, the establishment and maintenance of this most valuable educational medico-military institution will remain a lasting monument long after he shall have relinquished the responsibilities of his present position for a well-earned rest upon the retired list.

Treatment of Certain Purulent Conditions of the Antrum of Highmore Through the Natural Openings.—Norval H. Pierce maintains that there is strong evidence to warrant the belief that in diseased antra accessory openings are more frequently found than in healthy antra; that in a certain number of cases the ostium may be used to irrigate the antrum; that we should in all cases, whether for diagnosis or treatment, try for the ostium or accessory openings before resorting to surgical puncture, whether through the inferior or middle meatus, the canine fossa, or alveolar process; that it is of no importance whether the opening through which we irrigate be the ostium or an accessory opening.—*The Laryngoscope.*

Hysteria in a Girl of Twelve Years.—René Cruchet reports a case in which there was complete left hemianæsthesia, nine crises of double amaurosis, and perversion of binocular vision, all shown to have been of hysterical origin. The patient was not consciously or willingly hysterical, but the attacks of blindness, etc. appeared to come on after slight mental disturbance or disappointment, and sometimes with no apparent cause. The onset of the hysteria coincided with the first menstrual period; the second menstrual period occurred nine months later, just before the eighth attack of blindness. Whether there was any relation of cause and effect here, the author was unable to say.—*Archives de Neurologie.*

News of the Week.

The Pan-American Emergency Hospital will be formally closed on Saturday, November 2, after having treated more than 6,000 patients, thus ending the usefulness of the most beneficent and admirably managed institution connected with the administration and operation of the Exposition. Under the management of Dr. Roswell Park, the medical director; his assistant, Dr. Veitner Kenerson, and Dr. Nelson Wilson, the sanitary officer, together with the staff of resident physicians and nurses, the institution has made a splendid professional and humanitarian record. The crowds that frequented the Exposition, as well as the employees, found it a Samaritan retreat where relief was always forthcoming for the sick or injured. Its reception of President McKinley, together with the admirable facilities which it afforded for the necessary operation after his shooting by the assassin, Czolgosz, alone was ample repayment for the expense of maintenance.

To meet the needs of such emergency cases as may arise in the future during the breaking up of the Exposition and the demolition of its buildings, a small hospital will be established and maintained in the Service Building for the period of three months, in charge of Dr. Zittel, a member of the present house staff. For the admirable operation and results of the Emergency Hospital, too much praise cannot be given to Dr. Park, whose unremitting labors, to make this institution the success it has proved to be, have been a severe tax upon his energies during a most trying period.

The Exhibit of the Medical Department of the Navy at the Pan-American Exposition will be transferred in its entirety to the coming Exposition at Charleston, S. C., as will also the exhibit of the Marine Hospital Service. The very popular field-hospital exhibit of the Medical Department of the Army has been applied for by the Charleston Exposition authorities, but as yet no definite action has been taken on their request. It is possible that the exhibit relating to public health will be included in the exhibit relating to liberal arts now being made up for shipment to Charleston.

The Hackensack Hospital, N. J.—On Saturday, October 26, the new building of the Hackensack Hospital was opened to the inspection of the public. The present structure, complete in all its details of arrangement of wards, operating room, private apartments, and sanitary equipment, was made possible by the indefatigable exertions of Dr. David St. John and the many influential friends of his town. The capacity of the institution is seventy-five beds. Besides a large consulting staff of New York physicians and surgeons, it has a flourishing training school for nurses.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the Navy, week ending October 26, 1901: October 21.—Surgeon J. M. Edgar, ordered to the *Wabash*, October 23, as relief of Surgeon H. G. Beyer. Surgeon H. G. Beyer, detached from the *Wabash*, upon reporting of relief, and ordered to the *Prairie* when put into commission. Asst. Surgeon R. T. Atkinson, detached from the *Wabash*, October 30, and ordered to the *Prairie* when put into commission. Asst. Surgeon D. B. Kerr, ordered to the *Wabash*, October 28. Asst. Surgeon E. Thompson, ordered to the Naval Hospital, Boston, Mass., October 26. October 22.—Surgeon G. Pickrell, detached from the *Columbia*, upon reporting of relief, and ordered to the Naval Dispensary, Washington, D. C. Surgeon P. Leach, ordered to the *Columbia*, as relief of Surgeon G. Pickrell. Passed Asst. Surgeon R. M. Kennedy, ordered to the *Franklin*. Assist. Surgeon A. G. Grunwell, ordered to the Naval Hospital, Norfolk, Va., November 1. Asst. Surgeon L. W. Bishop, ordered to the *Independence*. October 24.—Pharmacist H. Henry, detached from the *Independence* and ordered to the Bureau of Medicine and Surgery, Navy Department.

Dinner to Professor Waldeyer.—The German Medical Society of the City of New York celebrated the presence of Professor Waldeyer in the United States by a dinner at Delmonico's on Saturday, October 26. Dr. Geo. W. Jacoby, the President of the society, welcomed the guest in a masterly address in German, and presented to the distinguished foreigner a diploma of honorary membership to the society. Addresses were also made by Drs. A. Jacobi, Wm. H. Welch of Baltimore, and Carl Beck. To these Professor Waldeyer feelingly responded, paying many graceful compliments to American medicine. One of the reasons for Professor Waldeyer's visit to this country was to accept the distinguished honor of a degree of LL.D. from Yale University on the occasion of the bi-centennial of that institution.

A Story by Telegraph.—From the Washington *News Letter Leaflet*, a Christian Science publication apparently devoted to the exploitation of the remarkable healing abilities of its editor, we clip the following:

EARLHAM, N. Mex., August 11, 1901.

O. C. SABIN,
1800 Belmont ave., Washington, D. C.
Treat son Earnest for fever.
(Signed) ——— ———

EARLHAM, N. Mex., August 13, 1901.

O. C. SABIN,
1800 Wyoming ave., Washington, D. C.
Fever yet; some better; treat parents for fear.
(Signed) ——— ———

EARLHAM, N. Mex., August 15, 1901.

O. C. SABIN,
1800 Belmont ave., Washington, D. C.
Earnest well; stop treatment.
(Signed) ——— ———

The use of identical methods for the alleviation of both fever and fear—and presumably fractures would receive the same "treatment"—illustrates the therapeutic possibilities of Christian Science as accepted by the deluded minds of the followers of that cult.

Yale University Bi-Centennial Celebration.—At the recent bi-centennial celebration of Yale University, the oration in the department of medicine was delivered by Prof. Wm. H. Welch of Johns Hopkins University. Subsequently, the degree of LL.D. was conferred upon Dr. Welch and also upon Dr. J. S. Billings, U. S. Army, now librarian of the New York consolidated libraries.

Meeting of Health Officials.—The first annual convocation of health officials of the various cities, towns, and villages of New York State was held last week in Albany, on the invitation of Dr. Daniel Lewis of this city, the State Commissioner of Health.

The Rockefeller Institute for Medical Research.—The officers of this institute have adopted a tentative working plan. They will expend $20,000 a year, divided so as to provide for forty annual scholarships. Candidates for these scholarships must be recommended by the heads of various laboratories to the board of directors, and must agree to pursue investigations in some important subject of pathology, bacteriology, or hygiene.

A Gift from Philadelphia to New York—Wung Ta Sung, a Chinese laundry worker, at 6001 West-

minster Avenue, has what is pronounced to be a true case of leprosy. He presents a number of large skin lesions on his shoulders and back. The fact that the patient has been occupied daily in washing other people's clothing makes the discovery of the dread disease somewhat sensational, though there is little or no danger that any spread of the disease could be started in this way. (He left for New York before the Municipal Hospital physician had located him.)—*Philadelphia Medical Journal.*

The Health of King Edward.—Various rumors are again current regarding the health of the King of England. A London weekly publication, on Saturday last, asserted that since his Majesty's accession three operations have been performed for the removal of papilloma on the left vocal chord, and that one was removed from the right vocal chord last week. "Assistance was hastily summoned," says this journal, "as his Majesty was breathing with difficulty, and an immediate operation was performed. But it was regarded as a only temporary relief, the injured epithelium now having become a cancerous growth, and serious developments are expected." We can only hope that this rumor is as unfounded as most of the reports started from time to time regarding the various rulers of European states, but the persistence and the circumstantiality of these reports concerning the King are at least disquieting.

Havana's Excellent Health Conditions.—The reports issued monthly by Major W. C. Gorgas, Chief Sanitary Officer, on the health conditions in Havana, are growing to be very monotonous with their unvarying statements of lessening mortality. In the report of vital statistics for September we find that there were but 339 deaths, a death rate of 15.64 per thousand. This is the best showing ever made for any month in Havana, and when we compare it with the death rate of any northern city of the same size (260,000 inhabitants), remembering that Havana is unsewered and the streets are paved with Belgian blocks and cobblestones, and not with asphalt, it is little short of marvelous. There were only two deaths from yellow fever in the city during the month. In September, 1896, there were 166 deaths from this cause. From April 1 to October 1 of this year, yellow fever caused only five deaths in Havana, as compared with 659 in the corresponding period of 1897, and an average of 296 deaths for the past eleven years. As accounting for the great improvement in the condition of the public health, Major Gorgas says: "This year, since the 1st of March, we have had one hundred men daily engaged in killing mosquitos in every way we know how. The result is that, instead of having fifty-two deaths from yellow fever and thirty-two from malarial fever, we have had two deaths from yellow fever and eleven from malarial fever—a difference of seventy-one deaths, under those two heads, in favor of this year. Again, last year, during September, there were seventy-two deaths from tuberculosis; this year, fifty-eight. This, it is thought, is in great part due to the special efforts made in this direction, the system in vogue in New York having been put into effect here. A record is kept of all tuberculosis in the city, and disinfectants and literature on the subject of tuberculosis are freely supplied to those suffering from this disease, through their physicians. In comparing September, 1900, with September, 1901, we find that these three diseases—yellow fever, malarial fever, and tuberculosis—have been most marked in their decrease. But, not considering these three diseases, there has been a general decrease in the death rate. This, it is thought, is due to an improvement in the general sanitation, but more particularly to improvement in the interior hygiene of the houses. The constant house-to-house inspection has enabled this department to force the people to keep the interior of the houses in good condition. They have made great improvements in this respect since last September." Of other infectious diseases there were scarcely any cases. There were but seven deaths from typhoid fever and three from diphtheria during the month. No scarlet fever exists in the city, and there has been no smallpox there for over a year. If we were not in the midst of a political campaign, and so in danger of having our remarks misconstrued, we might make some comment on the relation of clean streets to the health of a city, so we will simply quote what Major Gorgas says: "The streets have been kept in excellent condition by the engineer department. I know of no city where they are cleaner, nor where the garbage is better collected. It is exceedingly rare in Havana to see an unemptied garbage can on the street after daylight." The evidence of the complicity of the mosquito in the spread of yellow fever, presented by these reports, becomes stronger each month. "As to yellow fever," Major Gorgas writes, "there has never been an approximation to this condition at any time in the last one hundred and fifty years. This is the first year, during that period, in which we have known that yellow fever was conveyed by the mosquito; and during February the Military Governor directed that our disinfection be carried out on these lines. I attribute our very surprising results to this fact. As each month passes, we feel more and more confident that the problem of the control of yellow fever has been solved by the discovery that the mosquito is its conveyor; and little anxiety is now felt when a focus develops in the city. From repeated successes in the last six months, we believe that, with present disinfection methods, any infection from yellow fever that may be introduced into the city can be stamped out."

The Virchow Celebration. — The issue of the *Berliner klinische Wochenschrift* for October 14 is devoted to the celebration of Professor Rudolf Virchow's eightieth birthday, appreciative articles being written by many men of many lands. Baccelli opens with a greeting in Latin, Cornil writes in French, and Pye-Smith in English; the other articles are in German. Stokirs writes on the influence of Virchow on Dutch medicine, Scharvinsky on Russian, Sundberg on Swedish, Salomonsen on Danish, Karamitzas on Greek, Jacobi on American, and Weichsenbaum and Zuckerkandl on Austrian. Israel contributes a descriptive article on the Pathological Museum at the Friedrich Wilhelms University in Berlin.

A Nurses' Home for St. Vincent's Hospital.—An appeal has been made by the Sisters of Charity and Ladies' Auxiliary of this hospital for donations to enable them to build a home for the nurses in the hospital training school. At present the quarters for the students in the training school are very inadequate.

The Southern Homœopathic Medical Association in session last week at Atlanta, Ga., elected Dr. Susan M. Hicks of Atlanta as President. Dr. Hicks has been Second Vice-President of the association during the past year, and was chairman of the local reception committee.

Dr. Rixey's Report on the President's Case.—Dr. Presley M. Rixey, Medical Inspector, U. S. N., has filed with the Surgeon-General of the Navy his official report upon the wounding, illness, and death of the late President McKinley. He gives the cause

of death as follows: "Gangrene of both walls of stomach and pancreas following gunshot wound." Dr. Rixey's report goes into the minutest details of the patient's illness. It shows what the President's condition was from hour to hour—sometimes almost from moment to moment—beginning with the operation in the Exposition Emergency Hospital an hour after the shooting, and ending with the last unavailing efforts to keep the heart beating. The report throws no new light on the medical aspects of the case other than that contained in the official account published two weeks ago, but it shows at times a curious discrepancy between the optimism of the official bulletins and the actual condition of the President at the time.

The Craig Colony Prize.—Under this name a prize of $200 has been offered by Dr. Frederick Peterson of this city for the best original essay on the pathology and treatment of epilepsy. The prize is open to universal competition, but the essay must be written in English. The work must be original, and must not have been published. Each essay must be accompanied by a sealed envelope containing the name and address of the author, and bearing upon the outside a motto or device, which is to be inscribed also upon the essay. All papers received will be submitted to a committee consisting of three members of the New York Neurological Society, and the award will be made upon its recommendation at the annual meeting of the board of managers of the Craig Colony, October 14, 1902. Manuscripts should be sent to Dr. Frederick Peterson, 4 West Fiftieth Street, New York City, on or before September 30, 1902. The successful essay becomes the property of the Craig Colony, and will be published in its medical reports.

The Nicholas Senn Prize.—A gold medal is offered annually by Dr. N. Senn of Chicago for the best essay on some surgical subject written by a member of the American Medical Association. The award will be made under the following conditions: (*a*) The name of the author of each competing essay shall be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device is to be read at the meeting at which the award is made, and the corresponding envelope to be then and there opened and the name of the successful author announced. (*b*) All successful essays become the property of the association. (*c*) The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction at a general meeting of the association. (*d*) The competition is to be confined to those who, at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the American Medical Association. (*e*) The competition for the medal will be closed three months before the next annual meeting of the American Medical Association, and no essays will be received after March 1, 1902. Communications may be addressed to any member of the committee, consisting of the following: Dr. Herbert L. Burrell, 22 Newbury Street, Boston, Mass.; Dr. Edward Martin, 415 South Fifteenth Street, Philadelphia, Pa.; Dr. Charles H. Mayo, Rochester, Minn.

The New York City Consumption Hospital.—The buildings on Blackwell's Island now used in connection with the Manhattan State Hospital, in which are quartered 850 insane patients, will soon be turned over to New York City by the State Commission in Lunacy. It is reported that these buildings will be used for the proposed New York City Hospital for Consumptives.

Anti-Preservative Law Upheld.—The anti-preservative law passed by the last legislature has been declared constitutional by the Supreme Court of this State. The case came up in Rochester, where adulterated cream was sold, a preservative having been used. Some weeks ago, in the case of a New York City violation, a court declared the law to be unconstitutional.

Smallpox in Alaska.—Captain Tuttle of the revenue cutter *Bear*, recently returned from Behring Sea, reports that at all stations in Alaska visited by him he found the natives had suffered fearful loss from the effect of last year's epidemic of smallpox. Not more than half survived.

The State Colony for the Insane at Islip.—The State Commission in Lunacy has begun the work of transferring the insane patients to the colony connected with the Manhattan State Hospital at Central Islip, L. I. Accommodations are to be provided within the next few months for 2,500 patients, the first to be transferred will be the patients on Blackwell's Island, in order that this property may be returned to the city under the terms of the original act transferring the insane of New York City to the State. Relief will also be granted to the other New York City asylums, and in addition the commission will transfer New York patients now in the Poughkeepsie and Buffalo State hospitals to the new colony buildings.

The American Academy of Medicine.—At the meeting of the American Academy of Medicine in Atlantic City, in 1900, Dr. E. F. Wilson of Columbus, Ohio, made the suggestion that the Fellows of the Academy hold informal meetings in various parts of the country. Many of the members do not find it convenient to attend the general meetings of the academy, and it was thought that these local meetings would be enjoyable to those participating, and helpful to the objects for which the academy exists. Acting upon this suggestion, a meeting was held in Philadelphia last winter, which was both enjoyable and profitable. At the meeting of the academy in St. Paul, last June, the plan was commended, and arrangements were perfected by which these local meetings could be special meetings of the academy with power to elect members and transact other business subject to the approval of the annual session. A project is now on foot for holding a special meeting in New York City some time during the coming winter.

The Plague.—It is officially reported that the plague is at an end in Naples. There were but fifteen cases in all, and the time from the discovery of the first case to the discharge of the last from the hospital was but three weeks. In Egypt there were one hundred and sixty cases during a period of six months, only one of these being in the person of a European. In Rio de Janeiro and Campos, Brazil, the epidemic continues, two or three new cases being reported daily. The representative of the United States Marine Hospital Service at Constantinople has made a report on the plague in that city, which he says has been prevalent since last April. He reports that twenty cases have occurred, although the local authorities, following the example of the Sultan, have shown much willingness in taking necessary preventive steps. The disease has been of a mild type as compared with the epidemic in China and India.

General Miles on the Army Canteen.—In the annual report of Lieutenant-General Miles, made public this week, occurs the following paragraph regarding the canteen system, the re-establishment of which he opposes: "Much has been said con-

cerning the army canteen, which, when first established, was called the 'amusement room,' and afterward the 'post exchange.' It was a place of amusement and recreation for the enlisted men, where they could enjoy reading books and papers, playing games, etc., and could purchase such refreshments, except liquors, as they desired. It was then an eminently successful institution, and promoted the contentment and general welfare of the troops. Later, when what was known as the post traders' establishments were abolished, light wines and beers were authorized to be sold in the canteen. The Government has now, by act of Congress, prohibited the sale of intoxicating beverages in the canteen, and it is believed that no injury has resulted thereby, and that the law has, in the main, been beneficial."

Obituary Notes.—Dr. Melville D. Peck, for many years chief clerk of the Patent Office, and afterward a practising patent attorney in Washington, died at his home in that city yesterday, in his sixtieth year. He was born in Solon, N. Y., served in the Tenth New York Cavalry during the Civil War, and at its close studied medicine, obtaining his degree from the medical department of Columbia University, Washington, in 1869. He practised medicine at Cortland, N. Y., for a time, and later was appointed to the Pension Bureau, and in 1875 was transferred to the Patent Office as an examiner, and soon promoted to the chief clerkship.

Dr. Leonard Latter of Monument Beach, Mass., one of the most widely known physicians of the Cape Cod district, died at his home, last week, at the age of fifty years. He was born in England, but was graduated in medicine from the Detroit Medical College in the class of 1875.

Dr. Moritz C. Herrmann died at his home in this city on October 24, at the age of eighty-eight years.

Correspondence.

OUR LONDON LETTER.

(From Our Own Correspondent.)

COMMITTEES ON MEDICAL AND NURSING SERVICES—SMALLPOX — SOCIETIES — TUBERCULOSIS — TROPICAL EXPEDITIONS—BIRMINGHAM INSTITUTE—DR. YELLOWLEES—NATIONAL HOSPITAL.

London, Oct ber 11, 1901.

The report of the committee on the reorganization of the army medical service does not impress one more favorably on further consideration. There was quite a chorus of praise in the general newspapers on its issue, and at first sight there is an appearance of an attempt to render the service more attractive. From a recruiting point of view, this is right enough, but it will be useless to bring young men into the service unless the conditions are made such that they will be likely to remain a reasonable time. There is an effort to attract some of the best men by a concession to those who pass the entrance examination while holding a resident hospital appointment. But it is not sufficient to attract such men. They must be retained—not driven to leave the service at the first opportunity. To this end the combatant branches must be given to understand that their supercilious insolence must cease. Incompetence among military officers has been so conspicuous in the present war that they should take home the lesson afforded by the example of the doctors that it is necessary to learn their profession. We might then cease to hear of infantry impeded with furniture trying to catch well-mounted flying men.

The report recommends a great change in the entrance examination, so that candidates need not go back to grind up elementary subjects, but will only be called upon to display adequate knowledge of medicine and surgery. But afterward, at each step, he will have to pass an examination to be eligible for promotion, until he reaches the rank of lieutenant-colonel. It is true that study-leave is proposed, but even with this it is not every candidate who will relish the possibility that a slip in an examination will arrest his promotion. Moreover, the most successful men at the examining board do not necessarily prove superior in practice. Every teacher can give you examples of this.

The report does not provide for an increase in the medical staff. It recommends that a scheme should be prepared to provide for an expansion of the service in the time of war or of epidemics. But first of all it should have insisted on the service being raised to a proper standard on its peace footing. The service is undermanned now, as I have told you several times. The committee ignores this, and yet it is the most important fact. If the civilian members allowed themselves to be hoodwinked on this point, they have lost a great opportunity of rendering good service to their country. I fear this may be so, and I am inclined to think the civilian element was too largely represented on the committee. This misgiving is intensified by a glance at the constitution of the "Advisory Board," which is to be set up, and which is, in fact, the basis of the whole scheme. This advisory board is to consist of the director-general and his deputy, two officers of the R. A. M. C., one with special knowledge of sanitation and the other of tropical diseases; two civilian surgeons and two civilian physicians; a representative of the war office and another of the India office, and the matron-in-chief (!) of the Queen's Imperial Military Nursing Service.

Thus, there is to be set up a board dominated by civilians, and the R. A. M. C. is to be under "the supervision" of that board, whatever that may mean. One would have supposed that army surgeons, with their splendid record of scientific work and active service, might have managed to form an advisory board, without the help of civilian physicians and surgeons and a matron. Male nurses might more appropriately be trusted to advise on army nursing, but the women whose delicacy makes them cry out for female doctors are first to push women forward as nurses for men.

After all, the report of the committee is only a recommendation to set up another board with powers about as limited as its own. For the advisory board's "supervision" will be itself supervised by the war office. Its advice may be accepted or rejected by the war minister. To have any authority, it will have to be embodied in a royal warrant, and history tells of even royal warrants being set at naught by war office intrigues and our "military advisers."

The committee on the reorganization of army nursing was composed of the same persons as that on the medical service, and their report naturally follows on somewhat similar lines. They recommend that there shall be one nursing service for "the army in the United Kingdom, India, and the Colonies, to be designated Queen Alexandra's Imperial Military Nursing Service (Q. A. I. M. N. S.)." What a clumsy designation, either in full or the initials kindly supplied! The director-general is to be chairman of the nursing board, on which two members of the advisory board of the army medical service are to sit, one of whom must be a civilian. Two members are to be appointed by the Queen (as president), and one by the India office. The matron-in-chief of the Q. A. I. M. N. S. and three matrons of civil hospitals complete the proposed board. This looks as if everything is to be handed over to women and civilians, thus pushing the notion that nurses are independent of doctors instead of being their servants, and that only women are the proper persons to nurse soldiers whatever may be the matter with them. This is what comes of appointing a committee in which the civilian element is in the ascendant to inquire into military matters. Even the civil surgeons who served for a few weeks in the South-African war cannot bring to a committee the experience of army surgeons of high rank and long service. It might have been thought, too, that, having experienced "the plague of women," they would not have proposed to hand over to them all nursing authority. The army possesses a body of male nurses with a better training for their work than any civilian matrons or civil hospital nurses, and as soldiers are men, it is easy to see how often men should be their nurses.

Smallpox has continued its invasion at about the same pace during the week, and the London School Board has continued its obstruction at the instigation of faddists.

The obstetrical and the West London societies have held meetings, and next week several others will begin their work.

The local government board for Ireland has circularized the various bodies under its control on the subject of tuberculosis, pointing out the influence of overcrowding, want of ventilation, and general sanitary defects in predisposing to the disease, the agency of the operations in conveying contagion, and the value of sanatoria. The board has also issued a leaflet giving "information for consumptive people and those who live with them." This states that consumption is curable and preventable, and

gives advice as to the precautions that should be taken. These are such as many medical officers of health have enjoined. Perhaps their official recommendation may give them more authority with the public.

The Prisons Commissioners have just issued their report for the year ending March 31 last. It shows a steady decrease in crime throughout the country. The commissioners reiterate their opinion that the repression of crime can best be accomplished by concentrating attention and care on the young, as they are by far the most amenable to good influences. The statistics in this report support their view.

The health of prisoners is carefully considered, and the mortality is low—about half what it was twenty years ago.

Sir F. Lovell, late surgeon-general of Trinidad, has undertaken a mission on behalf of the London School of Tropical Medicine.

Another expedition is going to Christmas Island to investigate beriberi. Mr. H. E. Durham is the leader, and a son of Dr. P. Manson will join him.

Exit the Birmingham Consultative Institution. For once the profession has prevailed against a determined attempt to injure it. The plate has now been removed from the door of its habitat, and it will soon be forgotten.

Dr. Yellowlees has resigned the physiciancy to Gartnavel asylum for the Insane—the important institution in the west of Scotland, which he has superintended so well for twenty-seven years. He has been made honorary consulting physician in recognition of his valuable services.

The demonstrations at the National Hospital for the paralyzed and epileptic have now been resumed.

THE "NORDISKT MEDICINSKT ARKIV."

To the Editor of the Medical Record:

Sir: In your issue of the 12th inst., page 579, there is a statement which reads as follows: "The *Nordiskt Medicinskt Arkiv*, a Norwegian medical quarterly, has abandoned the use of Norwegian, the original contributions being now published in English, French, or German," etc. Now, the fact is that the above-mentioned periodical is and always has been a *Swedish* medical journal, published at Stockholm, under the editorial management of Dr. Axel Key, professor in the Royal Carolean Medical Institute. This journal is, however, the central organ for medical science in the four countries of the North of Europe—Sweden, Norway, Denmark, and Finland—and as such has received contributions in both Swedish and Danish-Norwegian, generally with a brief résumé in French. According to the changed programme, original contributions in English, French, or German are now preferred. Original articles in Swedish or Danish-Norwegian must hereafter be accompanied by a résumé in either of the three languages mentioned. Reviews of Swedish, Norwegian, Danish, and Finnish medical literature will be written in German by the editorial staff translator. From the beginning of this year the journal is issued in two parts quarterly, as you correctly state, one devoted surgical subjects, under the subeditorship of Dr. John rg, the other to medical subjects under the subeditorship of Dr. C. G. Santesson.

In this connection, permit me to call attention to a mistake made some time ago by several of our esteemed medical contemporaries, among them two right here in this city, while mentioning the awarding of the Nobel scientific prizes, which, by the way, according to the rules and regulations of the Nobel Institute, will not be awarded until November next. With the exception of the Medical Record and the *Journal of the Am. Med. Ass'n*, they all represented as a Dane the well-known Swedish inventor and manufacturer of explosives, Alfred Nobel, who donated the bulk of his large fortune, which at the beginning of this year amounted to the considerable sum of 31,225,000 kroner ($8,439,000), for the advancement of science and the peace movement all over the world without distinction of nationality or creed. *Suum cuique.*

P. Hebert, M.D.

New York, N. Y., Oct. 1, 1901.
141 East Thirty second Street

THE ROCKEFELLER INSTITUTE.

To the Editor of the Medical Record

Sir: The Milk Commission of the Medical Society of the County of New York regret that in the report recently published, a wrong impression was inadvertently conveyed which, in justice to workers of the Rockefeller Institute and to themselves, they would like to correct. The Milk Commission has interested the dealers and the medical profession in certified pure milk, and in the furtherance of its aims has been permitted to use certain data gathered by special workers of the Rockefeller Institute in pursuit of an independent investigation of wider scope which the Institute has undertaken. The data gathered for the Institute which the Milk Commission especially made use of in the above-mentioned report were, in part, bacteriological; while the results of farm investigations and the observations indicating the co-relation of improved sanitary conditions of the dairies, with improvement in the character of the milk, were derived almost wholly from an investigation as yet unfinished, which is being carried on by Dr. Belcher, under the auspices of the Rockefeller Institute.

Henry Dwight Chapin, M.D.
Walter Lester Carr, M.D.
Abraham Jacobi, M.D.
Joseph E. Winters, M.D.

Progress of Medical Science.

The Boston Medical and Surgical Journal, October 24, 1901.

A Unique Case of Chlorosis. — William Edgar Darnall reports the case of a woman of twenty-two years suffering from chlorosis and chronic constipation. The peculiarity of the case consisted in the temperature curve. It was at 101.4° when the patient was admitted, fell as soon as the bowels were opened, rose steadily to 103°, and fell again when another evacuation took place. This was followed by a rise to 104°, following a day of inactivity. On the seventh day the normal point was reached after a movement from the bowels, but the temperature jumped to 105.2° again after another day without a movement. The bowels then moving every day, the temperature came down and remained normal. Sir Andrew Clarke, followed by Forchheimer, held that prolonged constipation plays an important part in the etiology of chlorosis, the result of constipation being a copræmia, due to the absorption of poisons—leukomains and ptomains—from the larger bowel. The case reported seems to accord with this view.

Tuberculous Peritonitis.—Henri J Fontaine would give the medical treatment a thorough trial before resorting to laparotomy; the statistics of medical cures being almost as good as those of the surgical, and because, in case of failure, surgery can always be resorted to. Byford would make the supporting treatment subservient to that of the inflammation. He would give salines to produce two or three liquid stools daily; eight or ten grains of salol, guaiacol, or an equivalent, three or four times daily, to aid in disinfecting the alimentary canal, and possibly producing some effect on the bacilli. The diet should be largely liquid, and such as to produce a minimum of gas or solid residuum. As to mercurials, the internal administration of calomel or blue mass is better than inunction, because these preparations stimulate the action of the liver and aid in disinfecting the alimentary canal. The same rest in bed as after abdominal section should be insisted upon. No opium is to be given, except to check diarrhœa, when present. Hot fomentations or the ice bag will relieve pain; acute cases should be treated like cases of ordinary acute peritonitis. The tonic of fresh pure air should never be forgotten in tuberculous cases.

New York Medical Journal, October 26, 1901.

Social Aspects of Dermatology.—The seventh Lane Lecture by Malcolm Morris is devoted to the consideration of syphilis and leprosy. He believes the latter disease to be contagious and says that if leprosy, which has recently become more common, is to be stamped out again, segregation is necessary.

Costume Deformities.—By comparing photographs of the human figure taken by travelers in countries where little or no clothing is worn with the average human figure of to-day, E. H. Bradford draws certain conclusions concerning the modifications produced by the clothing of this later time. The present method of supporting the stockings exerts a strong pull on the waist, borne in the case of women with full hips by the pelvis, but in children mainly on the thorax, and is at times too great a strain on the growing muscles. The injury to the full shape of the neck, which comes from clothing, is seen in the long thin neck with weak muscles and slight subcutaneous adipose tissue, which results from the binding of the neck by collars, stocks, and neck-bands. Among savage women, heavy neck ornaments have a similar effect, weakening and checking the normal development of the trapezii and the sternomastoid muscles, and, by limiting the normal fatty tissue, often making the clavicles unduly prominent. This defect is so frequently reproduced in art that it might be looked upon as a type to be admired, were it not that it is clearly the result of a lack of normal development. The injurious effect of clothing upon the shoulders is seen when the full de-

velopment of the muscles is prevented, and the shoulders are pulled forward, producing the common round-shoulder deformity. Naturally, the effect on the trunk is most noticeable from the effects of corsets. This effect has become so common as to lead to false standards in art as to what is the correct figure. To remove the faults which have gradually introduced themselves, it is necessary to determine normal standards, and to make such standards known. The standard furnished by Greek art might be accepted as a model, but, lest it be discarded as antique, its reliability should be reinforced through examination of figures uninjured by clothing, hard labor, or suffering. From investigation it appears that exaggerated fulness of the hip, disproportional leanness of the legs and lower thighs, the flattened chest, the narrow waist, and the long neck are costume deformities to be avoided in a healthy civilization which seeks to preserve what Nature gives.

Journal of the American Medical Association, Oct. 26, 1901.

A Case of Tetanus; Use of Antitetanus Serum; Death.—The patient of T. G. Scott was a woman of twenty-one years, who had stepped on a nail. Symptoms of tetanus appeared on the fifth day, and were severe twenty-four hours later. An area of tissue about the wound was removed, and antitetanus serum was injected. There was little or no temporary improvement, and death ensued inside of forty-eight hours.

The Psychoses of Cerebral Syphilis.—R. Dewey has analyzed over twelve hundred cases of all forms of nervous and mental diseases, finding forty-five due to well-substantiated cases of constitutional syphilis. They were made up as follows: 17 were diagnosed as paresis; 12 as syphilitic brain disease with symptoms of organic lesion; 7 were cases of psychoses with marked delusional characteristics and without symptoms of brain syphilis, the mental symptoms taking the form of delirium, stupor, extremes of exaltation and depression, aphasic attacks, and mild dementia; 4 having ophthalmoplegia and optic neuritis; 4 were cases of hypochondrical melancholia, and of these 3 temporarily improved, the other was a morphin case; 2 were cases of tabes with emotional weakening as the only mental failure, and there was one case each of slight dementia, melancholia, and dementia paralytica of senile form. The type of mental disorder in the 17 cases of paresis was expansive in all except two; marked confusional condition was present in the two depressed cases, and in nine of the expansive cases, confusion was also a prominent feature.

Removal of Foreign Bodies from the Air Passages.—The conclusions presented by De Forest Willard are as follows: (1) Coughing should be encouraged; forcible inspiration restrained; (2) Inversion in the prone position as a domestic practice is advisable; (3) Laryngoscopy is helpful if the body is lodged at the vocal cords. It may be extracted by forceps or by laryngotomy; (4) If time permits, the *x*-ray may be brought into serviceable use for diagnosis; (5) Careful diagnostic investigation is important to determine the actual presence of an impacted body, and its location; (6) Tracheotomy under local anæsthesia should be the rule, if the object is lodged at the bifurcation or in the bronchi. Tracheoscopy, suction and forceps' manipulation must be cautiously employed. Prolonged instrumentation adds greatly to the danger of pneumonia; (7) If extraction is not secured through the tracheotomy wound, the chest wall should not be invaded unless an artificial respiratory apparatus like the Fell-O'Dwyer is at hand, and oxygen available. With the assistance of these appliances, however, the bronchus may be reached, anteriorly or posteriorly, since, by their use, rhythmical movements can be maintained; (8) Resultant abscess of the lung should be treated by incision and drainage.

Somatic Signs of Brain Syphilis.—H. T. Patrick lays down the following postulates: (1) Brain syphilis is most frequent in the first year after infection, next most frequent in the second year, less frequent in the third year, and so on, about 50 per cent. of all cases occurring within three years after the primary sore. After ten years of quiescence, therefore, the appearance of cerebral syphilis is exceptional; (2) In reaching a diagnosis of a brain case, absence of a history of specific infection should have no weight in the case of women, and in the case of men relatively slight importance; (3) Syphilis of the brain is not synonymous with gumma; (4) Most frequently, brain syphilis means syphilitic arteritis. Next in frequence come syphilitic meningitis and syphilitic infiltration of the cranial nerves, while a gumma comparable to a brain tumor is least frequent; (5) Paralysis from brain syphilis (excluding paralysis of the cranial nerves) is most frequently caused neither by the pressure of a gumma nor by hemorrhage, but by thrombosis due to syphilitic arteritis; (6) Consequently, many cases of syphilitic paralysis are no more amenable to treatment than are those of cerebral thrombosis due to ordinary arteriosclerosis and atheroma (influence of age excepted), which means that the important symptomatology is that which proceeds and presages paralysis, because it is at such time that prompt treatment obtains brilliant, almost miraculous, results; (7) Syphilis is never a "system disease." As the Anglican sage, Sir William Gowers, puts it: "As a general rule, if we find certain structures of common function selected for isolated impairment from among others of different function, we may be sure that we have not to deal with a true specific process." There is no distinctive type of symptoms, but a sequence of signs illogical as regards both time and localization. A bizarre appearance, disappearance, reappearance, amelioration, and aggravation should excite suspicions of lues. Headache is present in about 75 per cent. of cases. Distinct attacks may assume the form of syncope, dizziness, momentary loss of consciousness, localized numbness, or spasms slight or severe, local or general. Cranial nerve paralyses are common. Alterations may be found in the visual field. Cranial nerves below the eighth are attacked less frequently than those above. Spinal-cord symptoms may be added, and there may be an impending or accomplished thrombosis. There is frequently a somnolent, semi-stuporous condition, while fever is regularly absent; vomiting is frequent, insomnia is not unusual, and there is a polydipsia, less often a polyphagia.

Syphilis of the Nervous System; Its General Pathology and Treatment.—F. W. Langdon says that the pathological processes concerned in syphilis of the nervous system comprise: (1) A localized parenchymatous and interstitial neuritis at the site of the initial lesion, due to endarteritis, compression, local and toxic action; (2) A localized root neuritis (cranial or spinal) and a peripheral mononeuritis, both of gummatous type, may occur in the secondary stage. (3) A generalized toxæmia affecting the nerve centers directly or metabolism in general and producing febrile reaction of a specific type, *i. e.* secondary fever; (4) Inflammatory (gummatous) lesions, due to disseminated or localized vascular infections. The arterial walls are the chief seat of these gummatous exudations, and the exudate may begin as a periarteritis, a mesarteritis or an endarteritis, eventually in most cases becoming a panarteritis. (5) Gummatous lesions are, in a measure, self-limited, their growth being checked by: (*a*) Central necrosis, due to deficient vascularity; (*b*) The probable development of an antitoxin which checks the local proliferation of microbes; (*c*) Fatty degeneration and absorption of the fluid portions with caseation or cicatrization of the remainder. (6) Degenerative nervous processes, due directly to syphilitic exudations, are of two types: (*a*) Compression degeneration, due to prolonged pressure by gummatous masses or their cicatricial sequelæ, which separates various neuron processes from the influence of corresponding trophic centers (neuron bodies); (*b*) Secondary degeneration, consequent upon destruction of the same neuron bodies by softening, of thrombotic or hemorrhagic origin; (7) Degenerative diseases of systematized type, such as locomotor ataxia and paresis. These should probably be looked upon as malnutritional affections due in part to arterial degeneration (fibrous or hyaline, or both) which may or may not be of syphilitic origin; and in part to inherent individual predisposition to early dissolution of certain physiological systems; (8) Remedies of value in syphilis may act in three ways: (*a*) The most usual, by promoting necrosis in the embryonic cells of the exudate, thus permitting their removal in large part by the lymph channels; (*b*) By stimulating the excretory organs generally, thus favoring removal of toxins produced by the disease; (*c*) Possibly by the promotion of leucocytosis and other tissue changes, which set free an increase of the natural amount of (hypothetical) antitoxin; (9) Any lesion of the nerve centers, attended or followed by inflammatory exudate, whether syphilitic or non-syphilitic, may be favorably influenced by the judicious administration of mercurials and iodides; and subsequent amount of damage by cicatricial compression or irritation may be materially lessened; (10) The discovery of a means of producing artificially an antitoxin which shall arrest the disease in an early stage must be conceded as a possibility.

American Medicine, October 26, 1901.

Venesection in Puerperal Eclampsia.—F. D. Merritt has had excellent success with this method. His personal experience with puerperal eclampsia is limited to five cases. In four of these venesection was used and the four patients recovered. The treatment before this measure was tried was rapid delivery under chloroform anæsthesia, followed by hot packs, and pilocarpine muriate hypodermically, with chloral hydrate when indicated. The writer believes that watching the con-

dition of the arteries and heart is of more importance than testing the urine for albumin in guarding against puerperal eclampsia.

Sprinkling to Reduce Temperature.—W. L. Powell describes Cohen's method as follows: A large rubber sheet is placed beneath the patient with the lower part so folded as to direct the water into a receptacle on the floor at the foot of the bed. The head of the bed is raised about a foot. The patient is covered by a sheet folded to the proper size. The sprinkling is done by an ordinary watering pot with rose attachment. The temperature of the water used is between 60° and 70° according to the temperature of the patient. When the temperature is above 104°, an ice rub may be given besides the sprinkling. The shock from this method is much less than that from tubbing.

Chorea with Partial Paralysis Secondary to Rhinitis.—C. Fontaine-Maury Leidy reports the case of a Russian Jewess aged nine years. The child suffered from chronic catarrh of the nasal tract. About six weeks before she was brought to the writer, she began to be very restless and exhibit choreic movements of the face, shoulder, and right arm. Later, there was a complete loss of power of the right arm and hand, with dragging of the right toes. The nasal tract was irrigated with a slightly stimulating saline solution, applications were made to the tonsils, and directions were given to douche the nasopharynx twice a day. Internally, sulphate of quinine, one grain, was given three times a day. There was marked improvement. Treatment was stopped by the parents, and the symptoms returned. The same treatment was again instituted, with the addition of three drops of tincture of chloride of iron three times a day. Rigid treatment was insisted upon, and five and one-half months after the first treatment there were no symptoms of a choreic nature. The partial paralysis and choreic movements were probably due to septic infection from the nasal tract, with imperfect oxygenation of the blood dependent upon the obstructed air passages.

Medical News, October 26, 1901.

Biopsy; The Histological Diagnosis of Dermatoses and Tumors of the Skin of Doubtful Character.— Jean Darier defines biopsy as the excision of an eruptive lesion or a fragment of tumor for the purpose of establishing the diagnostic histology of a malady. Its indication is the discovery of a lesion of the skin, or an accessible lesion of the mucous membrane, of which definite diagnosis can be made in no other way. Biopsy is indispensable in the case of tumors and ulcers of doubtful character which tend to invade surrounding tissues. There are other cases not so pressing, such as a persistent eruption of indeterminate character. In special cases the writer has resorted to biopsy for the diagnoses of common dermatoses. One of the most important indications for biopsy is in the diagnosis of epitheliomata. The vague class of "tuberculides" almost always require this method for a definite diagnosis. Finally, by biopsy, the diagnosis of various dermatoses and cutaneous tumors, which is by other means impossible or doubtful, may be definitely established.

Four Cases of Tumors.—James E. Newcomb reports these cases. The first patient was a colored man aged forty-one years. He had a constant and increasing obstruction of the right naris. There had been neither pain nor hemorrhage. There had been an irregular moderate post-nasal discharge. Examination revealed an apparently bony adhesion between the inferior turbinate and the septum, beginning about three-quarters of an inch from the vestibule and running backward for half an inch. The obstruction was removed with great relief to the patient, but in a few weeks the growth returned. Sections were made and examination showed the tumor to be a true osteosarcoma.—The second patient was an American aged fifty-five years. He suffered from severe epistaxis. The nasal septum was strongly bulged to the right, and on its convexity was a large erosion from which the blood came. On the left side of the septum, at its top, just at the junction with the ala, was a small cauliflower-like mass. It had given no symptoms. It proved to be a true papilloma.—The third patient was an American aged sixty-five years. He complained of a "swelling in the throat." A tumor occupied the right side of the throat, extending from opposite the last molar tooth upward and inward to beyond the median line, downward to the floor of the mouth, and backward into the pharynx. It was tense, elastic, and smooth, with one or two harder spots on its surface. It proved to be a telangiectatic sarcoma of the bronchial cleft with hyaline degeneration; the lymph nodes were hyperplastic; there was no tonsillar tissue. It was emoved with success.—The fourth patient was an American of Irish parentage, aged twenty years. He had been troubled by nasal stoppage. There was a mass in the nasopharynx reaching back from the choanæ. The growth proved to be an angiomatous fibroma. This growth apparently originated from the general region of the middle turbinate.

Philadelphia Medical Journal, October 26, 1901.

Some Respiratory Conditions Dependent upon Gout and Obesity.—J. M. Anders states that the abnormal conditions of the lungs in obesity are caused principally by the mechanical effects of the deposits of fat throughout the body. Dyspnœa is more marked in the anæmic than in the plethoric variety of obesity. A hyperæmic bronchitis with troublesome cough and often copious mucoid expectoration is common in obesity. The physical signs are variable. Hepatic enlargement may also arise as a secondary event in obesity. The writer concludes concerning the relation of asthma to polysarcia: (1) That asthma occurs in about 5 per cent. of the cases of obesity; (2) That it only occurs in extreme polysarcia; (3) That there is present a gouty state or history in most cases in which true asthma is secondary to obesity; (4) That about one-half of the cases are curable by overcoming the causative condition. Gout and obesity are closely associated. Asthma may be directly dependent upon the transient irritant action of the uric acid in the circulating medium, and is one of the nervous phenomena of gout. In order to treat these cases, it is necessary to recognize the cause so that the line of conduct may take cognizance of the lithæmic state.

Multiple Primary Neoplasms in One Individual; Treatment with Coley's Mixture.—Aldred Scott Warthin reports this case. The patient was a man aged seventy-three years. He presented himself for the treatment of a tumor on the inner side of the right forearm. The clinical diagnosis of sarcoma was confirmed by the pathological examination of an excised part. It was a large spindle-cell sarcoma. As the case was considered hopeless, injections of Coley's fluid were tried. The reaction to this treatment was decided, and large areas of necrosis were produced. Nevertheless, the growth increased and soon the entire forearm was involved. The patient grew rapidly worse till death occurred. At autopsy the presence of various neoplasms and lesions throughout the body was discovered. The tumor of the arm was a primary spindle-cell sarcoma, which had formed metastases in the right axillary glands. There was primary adenocarcinoma of the pylorus. In the stomach wall were multiple myomata. Atrophy and parenchymatous degeneration of all organs were present. The coincidence of carcinoma and sarcoma must be considered merely as an interesting pathological curiosity. The fatty degeneration of the intima of the blood vessels, heart, voluntary muscles, and the parenchymatous changes were caused by systemic poisoning. This may have come from the absorption of poisons from the necrotic parts of the sarcoma, or from the injections of the toxins. The destruction of a tumor by the injection of toxins is attended by the danger of systemic intoxication and the more rapid development of cachexia. There is also a possibility that large injections favor metastasis by mechanically loosening the cells of the tumor into the lymph current.

The Lancet, October 19, 1901.

On the Protective Substances of Immune Sera.—E. W. Ainley Walker asserts that if the M. L. D. (minimum lethal dose) of a given bacterial culture be determined, and the dose of immune serum necessary to protect against this M. L. D. be called its serum equivalent, it has been observed that if an animal be now given two M. L. D. and two serum equivalents, it is not protected, but dies from the infection. This has been explained as due to a deficiency of addiment in the animal concerned, but in reality it is only due to a deficiency in the amount of immune body given in the immune serum. He concludes by saying that (1) Addiment is not extremely special to the species; (2) Addiment is a leucocytic ferment; (3) Addiment is increased during and by immunization; (4) The immune body is produced exclusively by the leucocytes; (5) Agglutinins assist the phagocytic process.

The Treatment of Hemiplegia.—L. G. Guthrie summarizes the principles of treatment in the following propositions: 1. Neglect and want of treatment aggravate severe, and retard the recovery of mild, cases. 2. The evils to be foreseen and guarded against are articular adhesions, late rigidity, and muscular atrophy. 3. Articular adhesions should be prevented by passive movements of each joint from the very first. 4. Faulty positions of the

limbs should be constantly corrected, or they will become chronic. 5. Contraction of muscles should be treated by endeavors to improve the nutrition of their weaker opponents. 6. Massage, passive movements, and, to a less extent, electricity should be used with this object. These agents not only counteract muscular atrophy from disuse, but probably take the place of normal stimuli and invigorate the neurons. 7. The recovery of mild cases may be often hastened by re-education of movements. Want of re-education frequently prevents recovery. 8. Re-education consists in a combination of passive and active exercises. 9. Movements should be first encouraged in those parts which naturally tend to recover first. 10. Incoördination and general weakness of limbs which have yet regained power of movement should be treated by exercises and mechanical therapeutics. 11. It is important to find out what the patient can do, and to make him do it. In conclusion, this paper deals with the treatment of hemiplegia as a condition without reference to its cause, for whether the cause be hæmorrhage or occlusion of cerebral vessels by embolism or thrombosis is immaterial. The principles of treatment will be the same and need not interfere with other measures taken for the relief of the disease which gave rise to the hemiplegia.

British Medical Journal, October 19, 1901.

Paralysis Following Influenza in Young Children.—Catherine Smith has noted in five cases of influenza in children that paralysis has set in in periods of from ten to twenty-one days after the influenza had run its course. There were muscular wasting and inability to move the limbs. In about two months all the cases recovered. The treatment consisted in the administration of tonics and massage.

An Unusual Form of Keratitis Associated with a General Skin Eruption.—Charles S. Blair describes the case of a young man of eighteen years who shows on the inner and outer side of each cornea a raised, vascular, opaque, and firm swelling, involving the limbus and the adjacent part of the cornea. The swelling is stationary and symmetrical. There has been no ulceration, and the rest of the cornea is free from any signs of former keratitis. There are no signs of any lesion of the palpebral conjunctiva, no iritis, no cyclitis, and the vision in each eye has remained perfect. From time to time there are exacerbations, when the eyes are painful and the swellings are larger and more injected. At these times, the body has become covered with a papular and pustular eruption, causing so much irritation as to prevent sleep. Although these growths on the limbus have some characteristics which resemble "spring catarrh," they differ in other respects from this affection. Whether related to spring catarrh or not, this eye lesion is without doubt a part of the general skin affection, and both are the result of a common cause—some constitutional dyscrasia or trophic disturbance.

A Case of Symmetrical Bullous Keratitis.—J. Tatham Thompson reports this case in a man aged twenty-two years. He had suffered with intense photophobia for about three weeks. The general health was good, and he had never before suffered with any eye trouble. This present condition had begun in both eyes at the same time, with a sensation of dust, burning pain, followed by photophobia and lacrymation on the second day. There was no sticking of the lids. In order to make the examination, cocaine had to be freely used. The conjunctivæ were slightly congested, and on both corneæ was a ring of oval bullæ radiating from about midway between the center of the cornea and its periphery, about twelve or fourteen in number, and oval. They were of a pale pearl color. The center of the cornea was clear V. about 6/12 R. and L., and he read Jaeger No. 1. After pricking one of these bullæ, it seemed but little changed. The writer used warm solution of boric acid and mercury perchloride, boric acid and alum, etc., but there was no improvement. He then used solution of formol $\frac{1}{8000}$, and cocaine and atropine. The photophobia gradually subsided, and four months from the onset the patient was able to resume work. A ring of semiopaque spots was left. At first, there was a great deal of frontal neuralgia, which suggests a possible herpetic origin.

Discussion on the Diagnosis, Prognosis, and Treatment of Pernicious Myopia.—Priestly Smith states that myopia in some cases is an innocent condition not leading to disaster of any kind, while in other cases is it a pernicious condition which leads sooner or later to serious impairment or loss of sight. In the attempt to predict the course of any case, the chief data on which the forecast must be based are as follows: (1) The age; (2) The grade of myopia; (3) The condition of the choroid and retina; (4) The constitutional condition; (5) The evidence relating to heredity: (6) The occupation of the patient. As to the age, all things being equal, the younger the patient, the more likely is the myopia to increase in degree. As to the degree, other things being equal, the higher the myopia, the more likely it is to increase. The average vision of myopes sinks as the grade of the myopia rises. Cases of rapidly progressive myopia associated with malnutrition are not uncommon. Constitutional disease may be a factor in any case of myopia. The tendency to myopia is very frequently hereditary. The future of many myopic eyes depends on the way in which they are used. The duty of the oculist should be to suspect every myopia, especially every youthful myopia, of a tendency to increase, until time has proved it to be stationary: to be doubly suspicious in presence of congestion or atrophy; and to re-examine at intervals of six months, twelve months, or longer, according to the nature of the case.

Berliner klinische Wochenschrift, October 7, 1901.

Are the Lymphocytes Capable of Amœboid Motion?—H. Hirschfeld answers in the affirmative, basing his conclusions on some observations made according to the methods of Deetjen. The drop of blood is caught upon a cover-glass, and is then dropped in a solidified film of agar spread on a slide. The agar is a modified solution prepared by adding to each 100 c.c. 0.6 gr. of sodium chloride, 6 to 8 c.c. of a 10-per-cent. solution of sodium metaphosphate, and 5 c.c. of a 10-per-cent. solution of dicalcium phosphate. Under these conditions, it was found that the lymphocytes in a case of lymphatic leukæmia rapidly lost their circular contour and extruded short processes. These movements gradually became more active, and finally resembled those that have already been described for the polymorphonuclear neutrophiles. The results of a study of the blood of normal individuals are not yet ready for publication.

The Collapse of the Lung in Pneumothorax, with Observations on Double Pneumothorax.—Dr. Hellin says that the following views have prevailed concerning the intrathoracic phenomena attending puncture of the pleura: (1) The lung collapses completely after even the smallest wound of the thorax; (2) The size of the wound is of importance only as the rapidity of pulmonary collapse is concerned; (3) The lung collapses only when there is a good-sized opening into the pleura; according to some authors only when the wound is greater than the cross-section of the trachea; (5) The complete collapse of the lung depends in part on the location of the pleural wound; (6) The lung does not collapse completely, for even in the collapsed lung, fluctuations of pressure take place; (7) The lung does not collapse completely, but continues in motion after the opening of the pleura; but these movements are not sufficient to pump air into the lung. The author thought that the question could be solved by determining whether it was possible to keep alive animals with a double pneumothorax. If this could be done, it would prove that the collapse of the lung was not complete. He, accordingly, experimented on rabbits in various ways, and from his observations draws the conclusion that a complete collapse does not take place when the pleural cavity is opened even by a very large wound.

Münchener medicinische Wochenschrift, October 8, 1901.

The Treatment of Finger Injuries, with Especial Reference to Later Function.—H. Georgii is an advocate of radical treatment in injuries of the fingers, since conservatism too often leads to bad results in the way of tender scars, cicatricial contraction, slow healing, and above all of the development of "glassy skin"—a state of local malnutrition due to the imperfect blood supply. For the workingman especially, it is always preferable to resect projecting bone ends freely, and secure material for abundant well-nourished flaps of healthy tissue, which will heal quickly by first intention, and not give rise to subsequent cicatricial deformities.

The Appearance of Psoriasis Vulgaris Secondary to Tattooing.—Bettmann's patient was a healthy middle-aged man with a past and family history negative for all skin diseases. Two weeks after a large piece of tattooing was done on his forearm, a typical psoriasis started in the area operated on and gradually spread over the entire body. The tattooed surface was outlined with great accuracy and wholly occupied by a dense efflorescence, while the site of a tattooing done three years previously showed only a single small patch. The author holds that the occurrence of the skin lesion so soon after the cutaneous trauma and its originating in the irritated area are more than a coincidence, and he cites the case as evidence of the parasitic nature of the disease.

A Case of Retained Consciousness in an Epileptic Attack.—A. Diehl was consulted by a patient who described to

him a convulsive seizure he had passed through the night before. This attack was similar to numerous others he had had, and like these was brought on by the consumption of a moderate amount of alcohol, of which he had been growing more and more intolerant. The fits were always nocturnal and inaugurated by an aura of several seconds, which time he had learned to utilize by moving away from the edge of the bed and drawing his tongue into the back of his mouth—a precaution he always took, though he usually bit the organ nevertheless. Immediately afterward the seizure began, and he went through the phases of an ordinary epileptic attack. All of the details of the fit, the rolling of the eyes, the position of the hands, and rotation of the head, were clearly appreciated and remembered, and after a heavy sleep for the rest of the night, he would awake the next morning stupid and fatigued. The author considers the diagnosis of nocturnal epilepsy justified, and comments on the rarity of the preservation of consciousness during such attacks.

The Flushing of the Organism in Experimental Tetanus.—C. Tonzig, working on the theory that the toxin of tetanus differs from such poisons as strychnine and similar alkaloids in the slow development of its action, undertook to determine whether it was possible to remove the toxin from the body before it had had time to develop its full power. The poison of tetanus acts by producing definite anatomical changes in the nerve cells, and is able to do this only when it encounters some antagonistic substance with which it can combine and so form the tetanic virus. With the idea of washing out as much of the poison as possible before it had time to enter into such combinations, the author injected large amounts of salt solution into the peritoneal cavities of infected rabbits, and came to the following conclusions: (1) The use of peritoneal injections of salt solutions does not always lead to a favorable termination in tetanus. (2) The experiments showed that the tetanus poison acts, not while circulating, but by entering into the tissue elements. (3) Unless the introduction of the toxin is at once followed by the development of symptoms, the flushing out of the body by such an artificial serum retards their occurrence and may defer death for several days. This measure, therefore, ought always to be considered, especially when it is not immediately possible to employ serum therapy.

Deutsche medicinische Wochenschrift, October 10, 1901.

Neuroglia Growth.—Victor Babes says that it is one of the chief functions of neuroglia to supply the tissue lost in pathological states through cessation of the proliferative resistance of the parenchyma, but the part played by this tissue in neoplastic processes is also important, since the neuroglia may increase independently of any parenchymatous degeneration, and even in spite of proliferation of the parenchyma. Still, it may be true that the first impulse to new growth often arises in an injury or weakening of the parenchyma through trauma or infection, the neuroglia overgrowth going on to obliterate these conditions and advance steadily. The communication closes with a tribute to Virchow's genius, for while later researches have added minor details to his observations, the main facts concerning this tissue still stand as they were first described by him.

The Portals of Entry for the Tubercle Bacillus and its Localization in Man.—P. Grawitz considers the question of the liability to infection through the use of milk from tuberculous cows, and states that the first point to be solved is what proportion of those dying of tuberculosis were infected through the consumption of food containing tubercle bacilli. Among the difficulties complicating the matter is the fact that just as there is an individual predisposition, so there is also a predisposition of organs. For example, the comparative rarity of tuberculous laryngitis shows that the laryngeal and tracheal mucosa is but little adapted to serve as a channel of entrance for the organism, and that these tissues are particularly resistant. When the intestine is found to be actually tuberculous, the question arises whether the lesion is primary and likely to be of alimentary origin, or whether there are also mesenteric or pulmonary lesions which make a lymphatic propagation of the infection probable If the tubercle bacilli shown to be so common in butter and milk were really virulent for the human organism, we should expect to find such cases of primary enteric lesions with great frequency, instead of which they are very rare. The intestinal mucous membrane does not belong to the more susceptible tissues, and is often found intact when the mesenteric glands are involved and tuberculous sputum has been swallowed for years.

French Journals.

Employment of Gelatinized Serum in Hemorrhagic Pleurisies.—Raymond Bernard presents these conclusions: Gelatinized serum extends its hemostatic efficacy to hemorrhagic pleurisies. Its employment seems to modify the amount of fibrin in the pleuritic exudate. The local and general reaction which it excites is temporary and not troublesome. The action of the serum on tuberculosis itself is neither favorable nor unfavorable; it is *nil.—Lyon Médical, October* 13, 1901.

The Influence of the Variations of Temperature in the Evolution of Experimental Tuberculosis.—Lannelongue, Achard, and Gaillard conclude that neither a moderate degree of cold nor slight variations have had any marked influence on the variations of temperature in the animals experimented on. On the contrary, however, sudden and considerable changes, although compatible with the life of healthy animals, have hastened the course of infection in the most striking manner.—*Le Bulletin Médical*, October 16, 1901.

Central Tear of the Perineum Giving Passage to an Arm.—Pujebet and Stérin report this case in which the child's arm protruded through a central tear in the perineum, while the head presented at the vulvar orifice. They enumerate several factors which have been regarded as active in the causation of central tears of the perineum. (1) In the formation of the bony pelvis; abnormal slant of the sacrum and coccyx; undue height of the symphysis pubis; slight inclination of the pelvis; narrowness of the pubic arch. (2) In the formation of the soft parts; extreme length of the perineum; abnormal form of the vulva; rigidity of a persistent hymen. Poor quality of tissues, rapidity of expulsion, and irregularity of uterine contraction and of the expulsive efforts of the patient may also play a part in this curious accident.—*Journal des Sciences Médicales de Lille*, October 12, 1901.

Surgery of the Turbinate Bones.—J. E. Boylan concludes from a study of 111 turbinotomies, that while in exceptional cases there may be involvement of the whole erectile surface of the dependent portion of the turbinate, still the hypertrophy is habitually greater where the tissue is more abundant; for example, at the posterior and anterior extremities; that the amelioration of the obstruction and the reduction of the hypertrophy in these cases are obtained more surely and more scientifically by ablation than by cauterization; that if the venous dilatation is greater at the posterior extremities, the obstruction is rarely due to hyperplasia of this one point. The writer believes that ablation is far preferable to cauterization in these affections. For cauterization, sufficient to materially reduce the hypertrophy, will necessarily destroy the glands so essential to the exercise of the function of the turbinates.—*La Pratique Médicale des Maladies des Oreilles, du Nez et du Larynx*, August 15, 1901.

Histological Examination of a Lymphatic Cyst of the Conjunctiva.—Cabannes first mentions the interesting fact that in the ground substance of this cyst, which consists of coagulated albuminoid material, there is a considerable number of leucocytes and, particularly, lymphocytes. At one point of the section of this cyst, the conjunctival epithelial layer is modified, being composed of several layers of cylindrical cells, those in the depths being ovoid, while the superficial ones are flat. In the subjacent derma are wavy fibers, scattered nuclei, and some turgescent blood-vessels. At one point the derma is thin, its fibers appear distended, and its meshes are complicated. At one point near where the injection has been made, there is a large, distended lymphatic vessel containing a granular substance resembling coagulated albumin. This tumor is more exactly an inflammatory lymphangioma than a lymphatic cyst. The opportunity for a microscopical examination of liquid conjunctival cysts does not very often present itself.—*Journal de Médecine de Bordeaux*, October 13, 1901.

The Action of Fatigue on the Minute Structure of the Nerve Cells of the Spinal Cord.—By his experimental researches, Guido Guerrini has found that the spinal nerve cells of exhausted animals are in their minute structure different from the cells of animals in a normal condition, this difference being in direct relation with the grade of fatigue undergone. The quality of the alterations cannot be considered specific of fatigue, nor are they found in any special location in the spinal cord. They may be found in either anterior or posterior cornua, or in both. The minute changes of structure of new cells in the cord are never so marked as in the cells of the cortex. The author gives further details of his experiments and their results.—*La Riforma Medica*

Book Reviews.

The Principles and Practice of Medicine. For Use of Practitioners and Students of Medicine. By William Osler, M.D., F.R.S., F.R.C.P., London; Professor of Medicine Johns Hopkins University. Fourth Edition. New York: D. Appleton & Co., 1901. 8vo, pp. 1182.

There is no question as to the real worth of this textbook. Professor Osler is so well appreciated as a sound and practical teacher that anything bearing his name carries the weight of the highest authority. The previous editions have fully attested this fact, and the present one is in full line with the others. As it stands, it is an up-to-date book in every essential particular. Very many important changes have been made in keeping with advancing views on many of the leading diseases. The article on typhoid fever has been in great part rewritten. Dysentery, yellow fever, and plague have been similarly treated. Diabetes and gout have been much elaborated in their discussion by the addition of the experience of the author's clinic. The same may be said for diphtheria, which incorporates the model work of McCollum and Councilman in the Boston City Hospital. On smallpox, cerebrospinal fever, rheumatic fever, and many others of the acute infections, new points on diagnosis and treatment are added. Practically new articles are those on "Diseases of the Pancreas," "Splenic Anæmia," "Arsenical Poisoning," "Herpes Zoster," "Fibrinous Bronchitis," "Oxaluria," "Menière's Disease," "Aphasia," "Combined Sclerosis of the Cord," "Myasthenia Gravis," "Congenital Aneurysm," and "Scurvy."

The general plan of the work is well preserved in spite of these additions, giving to the practitioner a terse, well-written, practical, and comprehensive treatise on internal medicine. On the whole, there is an individuality about the work which gives it charm, force, and directness.

Sexual Hygiene. By the Editorial Staff of the Alkaloidal Clinic. Chicago: Clinic Publishing Co., 1901. 12mo, pp. 269.

This little work, intended solely for the profession, necessarily deals with some very plain facts connected with the subject under discussion. On the whole, the treatment of the various topics is dignified and practical, and although no strikingly original views are offered, they are nevertheless presented in a candid and straightforward manner well calculated to impress the reader. Behind all there is a healthy moral tone about the book, which appeals to the good sense of all seekers after truth and fact.

Holden's Anatomy. A Manual of Dissection of the Human Body. Edited by John Langton, Lecturer on Anatomy, St. Bartholomew's Hospital, Seventh Edition, revised by A. Hewson, M.D., Demonstrator of Anatomy, Jefferson Medical College, Philadelphia. P. Blakiston's Son & Co. 2 vols., 12mo, pp. 843.

The last edition of this standard work comes in two volumes instead of one as formerly. A few alterations have been made in the text, but the general character of the book is still maintained throughout, which is saying all of good that can be said of an anatomical classic.

Mt. Sinai Hospital Reports. Vol. II. 1899–1900. Edited for the Medical Board, by Paul F. Mundé, M.D., LL.D., 1901.

This is much more than an ordinary financial and statistical report of hospital work. Rudisch, Manger, Brill, May, and Koller give interesting reports and scientific papers, while Gerster and Lilienthal report on the surgical work at great length.

Die Künstlichen Nährpräparate und Anregungsmittel. Von Dr. Max Heine in Bonn. Berlin: August Hirschwald, 1901.

This unbound work of 230 pages gives an insight into artificial food products, and discusses at some length the therapy by diet, and as an appendix, beginning at page 170, gives the various "cures." The ground is well covered.

La Léprose. Par Le Dr. Dom Santon, Paris. C. Naud, Editeur. 1901.

The author has gone about this rather pretentious work in a systematic manner, first visiting the chief leprous centers of the world before settling down to the task of placing his views on printed page. The work is dedicated to Pasteur, who first and more than any other encouraged him in his long and laborious undertaking. He makes four periods of the typical disease, much after the manner of dividing syphilis: incubation infection or primary accidents, secondary accidents, and tertiary accidents. The anatomical and clinical study of the affection has influenced to this division rather than any desire to draw a parallel with syphilis. The historical portion is of much interest to the student, and the demonstration that lepra has in various ages been confounded with other affections but this does not, we opine, warrant the attempt to do away with the older term, and substitute for it that of *léprose*. In this the author falls into the easy error French writers make in striving to place all medical terms on a French basis. Coming down to the practical portion of the work, prophylaxis has received the important place it deserves, and a rational and scientific mode of treatment has been advocated, based upon a therapy which consists in "knowing what one does and why it is done." The volume is well illustrated with plates and sixty figures (some colored) in the text, besides a map.

Transactions of the American Microscopical Society. Edited by the Secretary. Twenty-third Annual Meeting Held in New York City, June 28, 29, and 30, 1900. Vol. XXII. Lincoln, Neb.: State Journal Co., 1901.

After the address of the president, A. M. Bleile, on "The Detection and Recognition of Blood," there follow a dozen papers, interesting to the naturalist as well as the microscopist, and a few of importance to the physician, especially those on water impurities. The volume is octavo, and contains 228 pages. The society is deserving of congratulations. The necrological notice of Jacob Dobson Cox of Ohio is accompanied by a full-page portrait.

The Microscope and Its Revelations. By the late William B. Carpenter, C.B., M.D., LL.D., F.R.S. Eighth Edition, in which the first seven and the twenty-third chapters have been entirely rewritten, and the text throughout reconstructed, enlarged, and revised by the Rev. W. H. Dollinger, D.Sc., D.C.L., LL.D., F.R.S., etc. With twenty-two plates and nearly nine hundred wood engravings. Philadelphia: P. Blakiston's Son & Co. 8vo, pp. 1,181. 1901.

In this, the eighth edition of "The Microscope and Its Revelations," the editor has added such additional information which recent years have contributed to the subject under treatment, and practically all of which is needed to be known by the ordinary worker. To the medical student or practitioner who desires to know the theory of microscopy, and with a wish to obtain the best results with that instrument, the work will prove invaluable. There is much admirable work in the numerous plates and wood engravings which will stimulate popular interest in the use of the microscope as a pastime and a means of relaxation, and to the beginner the clearness and completeness of the instruction will specially appeal. Mounting specimens, section-making, imbedding, and staining are well explained, and to one who is unable to obtain a personal teacher this volume may be safely recommended as a guide.

The author has obtained great uniformity in his work by overseeing and rewriting the whole text in person, and in some instances having his words and descriptions criticised by the original observer. To do this he has evidently spared no pains, and has called to his help a large number of specialists in the different fields of microscopy, notably Dr. Abbe of Jena, E. M. Nelson, W. J. Pope, F. Jeffrey Bell, and many others. One cannot avoid commending the numerous plates which add so much to the practical value of this edition. To one contemplating the purchase of an instrument a full list of English, Continental, and American microscopes is described in text and drawing with their peculiarities and advantages. The topics in the latter part of the work are in the fields of biology, botany, bacteriology, chemistry, and geology, thus affording a breadth of subjects which appeals to many workers with widely different interests.

The Principles of Hygiene: A Practical Manual for Students, Physicians, and Health Officers. By D. H. Bergey, A.M., M.D., First Assistant, Laboratory of Hygiene, University of Pennsylvania. 8vo, 594 pp., illustrated. Philadelphia and London: W. B. Saunders & Co., 1901.

This book is stated by the author to be intended to meet the needs of students of medicine in the acquirement of a knowledge of those principles upon which modern hygienic practices are based, and to aid physicians and health officers in familiarizing themselves with the advances made in hygiene and sanitation in recent years. To attempt to meet the quite dissimilar needs of medical students and experienced sanitarians between the covers

of a single small volume is necessarily to invite failure—and this, to a certain extent, has befallen the labors of the author of the book in question. Regarded as a work of reference for health officers, Dr. Bergey's book would seem to be in large part of too elementary a nature to be of value for such purposes, and markedly inferior, in this respect, to Harrington's "Practical Hygiene." As an elementary textbook for medical students, the book is more of a success, though it contains much material which is obviously of little interest or value to the medical student. Thus, of the total 463 pages of text, no less than sixty-seven are devoted to the setting forth of quarantine regulations, as quoted from official documents. From this and other facts it would seem that the book, small as it is, can scarcely be considered as free from the charge of padding. As a textbook for students, the book, on the whole, cannot be regarded as superior to Egbert's "Hygiene and Sanitation," second edition, written especially for this single purpose. With the two excellent books by the authors just named already in the field—both fresh from the hands of the printer, and in all respects up to date—Dr. Bergey's statement in his preface that "the rapid strides made in our knowledge of the entire subject of hygiene has rendered such a book [his own], based upon recent discoveries, almost a necessity," would scarcely seem to be substantiated. The literary style of the author is good, and his material is well put together; though he frequently does not give due space and emphasis to subjects whose practical importance should entitle them to more consideration, and conversely renders unduly prominent other subjects having a purely academic interest. The book is printed and bound in an attractive manner. We cannot, however, regard it as an important or very valuable contribution to the literature of sanitary science.

Manual of the Diseases of the Eye, for Students and General Practitioners. With 275 original illustrations, including 36 colored figures. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, Eye Department, College of Physicians and Surgeons, Medical Department, Columbia University, New York. Second edition. Revised. New York: William Wood & Co., 1901.

The short time that has elapsed between the appearance of the first and the second editions of this book attests to the value and popularity of the work. The new edition is much superior to the first, being improved in text and in illustrations. The volume is now one of 408 pages, and is fully and effectively illustrated. The chapters are arranged in logical order, and the descriptions are lucid and brief. The first thirty-four pages are devoted to directions regarding the examination of the eye, and theory and use of the ophthalmoscope. Then follows the description of diseases of the various parts of the eye and their treatment, medical and surgical. The consideration of general optical principles and refraction occupies seventy-three pages. Disturbances of motility are considered; a formulary and directions for bandaging are added. The work is admirably adapted for undergraduates in medicine, and is also of value to the general practitioner.

De L'Echinococcose Secondaire. Par Dr. Félix Dévé, Ancien Interne des Hôpitaux Paris, Société d'Editions Scientifique, 1901.

The subject of echinococcus infection has always been of great interest to the pathologist, though in this country opportunities for its study are not very frequent. The present work is a systematic study of the life-history and pathological manifestations of the organism. The author tells us that he has chosen the name "echinococcose" and has used a case as the basis of his study which has come under his own observation. He has made a number of experiments in peritoneal inoculation in animals and has given us the findings of the autopsies. A short chapter is devoted to the subject of treatment, which is chiefly prophylactic, and there is a useful bibliographical index, compiled mostly from Continental sources.

J. Boas: Diagnostik und Therapie der Magenkrankheiten. Theil II, 4te Auflage. Leipzig: 1901. Verlag von G. Thieme.

The fourth edition of Boas' excellent book on Diseases of the Stomach has just appeared. The present work contains numerous additions to the old text. Thus pylorospasmus, sarcoma, syphilis, and tuberculosis of the stomach, achylia gastrica, erosions of the stomach, and nausea nervosa have been inserted as new portions. The book is eminently practical, and is herewith recommended in the highest terms.

Society Reports.

NEW YORK STATE MEDICAL ASSOCIATION.

Fourth Day—Thursday, October 24.

Surgical Malposition of the Gall-Bladder.—Dr. E. D. Ferguson of Troy reported three cases illustrative of malpositions of the kidney. In the first case, he had found at operation that the gall-bladder was situated behind the posterior border of the liver and was filled with calculi. In the second case, the gall-bladder was located at the posterior edge of the under-surface of the liver, behind the peritoneum, and occupied a transverse direction relative to the body. It was contracted on numerous calculi, and could not be brought at any point toward the anterior abdominal wall. In the third case, the gall-bladder was found extending from the lower surface and posterior border of the liver downward to the right of the spine and behind the colon.

Differential Leucocyte Count in Fractures.—Dr. William G. Le Boutiller of New York presented a paper on this subject. He stated that in a series of fifty consecutive cases of simple fractures, recently observed, he had found a temperature often as much as three degrees above the normal. On the day of the injury, the lowest temperature recorded had been 98.4° F. and the highest, 102.4° F. In thirteen cases, the lowest temperature had been 100° or more; in thirty-five, it had reached or exceeded 100°, and in nine cases it had risen to 101°. On the second day as low a temperature as 99° had been observed in only thirteen cases; in twelve it had not gone below 100°; forty-one had had a maximum temperature of 100° or more; thirteen had had a temperature of 101°, and in two cases the temperature had reached 102°. The temperature had not become normal in any case before the third day, but had been normal on the tenth day in half of the cases. In 25 per cent. of all the cases, the temperature had been still above the normal at the end of two weeks, although no cause other than the fracture could be assigned. However, the temperature could not be depended upon as an index of the occurrence of infection in compound fractures, for it was often no higher in them than in closed fractures on the second or third day. The paper gave the results of sixty-five differential wounds in seventy-three simple fractures, and thirty-nine counts in ten compound fractures. These had been made at intervals after the injury, varying from a few hours to several weeks. In simple fractures, three counts on the first day had given 7,400, 9,400, and 10,200 leucocytes, respectively. Three counts made on the second day had given 6,000, 9,200, and 10,600. The counts on the sixth day had been 8,000, 9,200 and 11,900. In a compound fracture, in which the infection had only been slight, there had been 21,300 leucocytes on the third day. The ordinary leucocyte count, therefore, appeared to be a better test of infection than the temperature, though not quite reliable, as it might be as high in simple as in some infected fractures, and might be high in aseptic compound fractures, especially after the occurrence of hemorrhage. On the first day, the ordinary percentage of polynuclear neutrophiles had been high, averaging for four cases, counted on that day, about 85 per cent., while that of the leucocytes was less than 15 per cent. After the first two days, there had been an increase in the proportion of lymphocytes and a reciprocal decrease in the percentage of polynuclear neutrophiles. The percentage of eosinophiles had been within normal limits, *i. e.* 0.5 to 4 per cent., the highest count having been 6.6 per cent. In forty-one counts in twenty-one cases there had been fewer than 0.5 per cent. Eosinophiles had been absent at all counts in only two cases. Myelocytes had been noted in thirteen of the thirty-three cases, or in twenty five of the one hundred and four counts, and in six cases of the eight fractures of the femur. The appearance of the myelocytes in the blood had been

attributed to hyperplasia of the red marrow, or to mechanical dislodgment of marrow cells resulting from structural changes in the marrow, or from hydræmic states of the blood plasma. In conclusion, the speaker said that the results of the differential blood counts bore no appreciable relation to the temperature. They were practically the same in simple and compound fractures. They appeared to represent the presence and absorption of the blood effused at the time of the injury, and the stimulation of the bone marrow during the process of repair.

Prostatic Obstruction to Urination; Its Remedy by Enucleation of the Diseased Parts.—Dr. J. W. S. Gouely of New York in this paper discussed the histology and pathology of prostatic enlargement, together with the results of enucleation. He also presented an instrument which he had devised to facilitate the performance of this operation.

Dr. Parker Syms of New York said that the high mortality that had attended the operation of enucleation of the prostate seemed to him to be largely dependent upon the fact that the suprapubic method was employed; hence, he had devoted his energy to perfecting a method by which the prostate could be removed entirely by the perineal route. To this end, he had devised a retractor, which, he thought, would make it possible to enucleate the diseased portion of any prostate through the perineal wound. By such an operation there would be a simple straight wound in the perineum, having a level floor, drainage would be assisted by gravitation, and the dressings could be easily made. In his small experience with this operation, the convalescence had proceeded without any untoward incident. Dr. Syms then presented his retractor. It consists of a rubber bulb on the end of a catheter-like tube. After doing a simple perineal section and opening the membranous portion of the urethra, the instrument is introduced into the bladder while collapsed. It is then distended by injecting two ounces of water. The dilated bulb thus acts as a retractor, and is entirely out of the way of the operator. It holds the bladder in place and draws the prostate toward the wound. It had acted very well in nearly a dozen cases in which he had used it. He had never observed that the instrument showed any tendency to tear the neck of the bladder.

Dr. Eugene Fuller of New York said that he sometimes removed the prostate by the perineal route, but in many instances he preferred the suprapubic route because it was possible to do a cleaner operation. If the prostate weighed half a pound or more, the operation of enucleation through the perineal route would be tedious, and long and severe operations should be avoided in these old men. If the bladder were hypertrophied, it was much easier to do the perineal operation than when the bladder was very atonic, over-distended, and without expulsive force. In such a case it was much safer, in his judgment, to have a suprapubic opening for the management of hemorrhage and bloodclot. The surgeon should not be wedded to any one surgical procedure in these cases.

Dr. E. W. Lee of New York said that before attempting to operate upon the prostate, a thorough examination of the interior of the bladder with the cystoscope should be made if possible. In his own experience, castration and vasectomy had positively reduced the size of the prostate, and he thought many of the objections that had been raised against these operations had been very largely founded on foolish sentiment. These old men were seldom in a condition to undergo the serious operation of prostectomy, and they could often be relieved by a simple suprapubic cystotomy with drainage.

Vesical Emergencies; Their Surgical Management.—Dr. Eugene Fuller of New York read this paper. Speaking of urinary retention dependent upon swelling and inflammation, he said that if there were no prostatic obstruction and olivary-pointed catheters failed to pass, the small whalebone bougies should be tried. When a filiform bougie could not be made to pass, it was usually because of the presence of false passages or of secondary inflammatory changes causing disorganization of the parts. In the Gouley tynneled catheter, which slips over the fine guide, one had the means of giving such patients relief. Where prostatic obstruction was present, a large catheter could often be passed. Although the silver prostatic catheter could almost always be passed, it was a dangerous instrument unless very carefully used, and at the present time it should be looked upon solely as an emergency instrument.

Uterine Prolapse.—Dr. Frederick Holme Wiggin of New York presented a paper on this subject. He said that the causation of uterine prolapse was to be found in the separation of the muscles of the pelvic floor where they unite in the median line. The resulting malposition of the bowel was increased by lifting and by straining at stool. The descending uterus must necessarily take the bladder with it, and after a variable period of time, complete prolapse occurs. The treatment must necessarily consist of an operation which would obliterate the hernial sac and restore the damaged perineal structures as nearly as possible to their normal condition. The prolapse should be reduced and the patient kept in bed with the foot of the bed raised, and antiseptic tampons should be used. After local ulcerations had been healed, a laparotomy should be done, and a purse-string suture of kangaroo tendon should be passed through the fibers of the uterus, about at the attachment of the round ligament, and then through the broad ligament. The latter is thus folded up and its excessive length reduced, while the uterus is given a new point of attachment near the insertion of the broad ligament at the pelvic brim. The same procedure should be done on the other side. After this operation the patient is again placed at rest in bed. Four or five weeks later a second operation should be done for suture of the separated tendons of the perineal muscles. The author said that he had done this operation a number of times on aged women, and had found that it had been well borne. This was because it could be quickly done and without any great loss of blood. It was probable that intraspinal cocainization would prove of advantage in these operations on old people.

Typhoid Cholecystitis.—Dr. Charles G. Stockton of Buffalo presented this paper in conjunction with Dr. Albert T. Lytle of Buffalo. They reported four cases of cholecystitis complicating typhoid fever. The first case had apparently begun with cholecystitis; in the second case, it was doubtful whether it had begun in this way; in the third case, the cholecystitis had developed between the tenth and sixteenth days, and in the fourth case, on the nineteenth day. Typhoid bacilli had been frequently found in the gall-bladder, and it was apparent that the infection was often latent, or the cholecystitis was so mild as to escape observation. A marked leucocytosis might lead one to operate. In the first, second, and fourth cases, there had been considerable leucocytosis. In the first case, preparations had even been made for operation, but it had not been done because of sudden improvement. In many non-suppurative cases, there were chills, high fever, intense pain, and alarming prostration.

Dr. De Lancey Rochester of Buffalo said that in the case which Dr. Stockton had seen with him the urine had been regularly examined every third day. Finally, indicanuria had shown itself quite markedly. The next day the patient had had a slight chill, and the leucocyte count had been something over 11,000. The indicanuria had increased in proportion to the increase in the leucocytes. When the leucocytes had reached 22,500, the indicanuria had been exceedingly pronounced. The disappearance of the Ehrlich reaction before the cessation of the cholecystitis was also an interesting feature of the case.

Dr. Allen A. Jones of Buffalo said that cases had been reported in which the pain had been as severe as in biliary colic, yet at operation only a cystitis with a mucoid co!

lection had been found in the gall-bladder. On evacuating this, and draining, there had been complete subsidence of the symptoms.

Dr. E. D. Ferguson of Troy said that it was undoubtedly true that it was the cholecystitis that caused the severe pain, and it did so in connection with the evacuation of the contents of the gall-bladder. The pain occurs in cases of cholecystitis regardless of the presence or absence of gallstones.

Dr. Stockton remarked, in closing, that he had introduced the subject of gallstones merely to emphasize the belief that the cystitis is really the starting point of the gallstones.

What Percentage of Gouty and Rheumatic Patients Develops Fatal Pulmonary Phthisis?—Dr. Thomas F. Reilly of New York endeavored by statistical studies to answer the above question. He said that during the past year he had questioned one hundred patients in St. Joseph's Hospital suffering from phthisis. Of this number there had been only six who had not had at some time in their lives an attack of acute articular rheumatism. In four other cases, there had been a family history of rheumatism. Not one of the whole series had ever suffered from gout or from diseases generally considered to be of gouty origin, nor had they a family history of gout. This inquiry had also shown a history of exposure, of prolonged alcoholic excesses, and of loss of sleep in 2 per cent. of the cases. Loss of sleep had been a prominent etiological factor in 45 per cent., and in most of the remainder phthisis had followed an attack of one of the infectious diseases. The patients were from the lower walks of life, and had been exposed a good deal to inclement weather and to those conditions which are apt to lead to alcoholic excess. Quotations were made from the literature bearing upon this subject in support of the views advanced. It was shown that many writers had commented on the absence in pulmonary tuberculosis of those cutaneous affections which are generally associated with the acid diathesis.

A Durham Tube in the Right Bronchus.—Dr. E. D. Ferguson of Troy reported this case, which occurred in a person of forty-two. The fault in the silver tracheotomy tube swallowed lay in the absence of a collar to prevent the escape of the tube in case the set screw became worn and gave way. A modification was presented which was intended to remedy this defect and prevent the repetition of such accidents as the one reported.

Resection of the Cervical Sympathetic Nerve in the Treatment of Glaucoma; Its Present Status.—Dr. Wilbur B. Marple of New York read this paper. He said that as long ago as 1866 experiments had been made upon the sympathetic nerve of animals. As a result of these, it had been stated that the intraocular tension was diminished and that the eye became smaller. In 1897, Jonnesco had first removed the cervical sympathetic glands for glaucoma. Last year, reports of seventy-four operations, performed for this condition, had been collected in Germany, and Dr. Marple said that he had been able to collect thirteen more. This operation had only been suggested for chronic glaucoma, and the great defect of all the cases that had been reported was that they had been observed for too short a time to admit of drawing just conclusions. There could be no question that in many cases operated upon improvement had followed, but in some of them this improvement had not been permanent. We were not yet in a position to say in just what cases the operation is indicated, or what would be the ultimate result. His own view was that when a case of glaucoma had gone on to excavation of the optic nerve and rather pronounced optic-nerve atrophy, permanent improvement of vision was hardly possible. This operation does not replace iridectomy, but supplements it.

Dr. James J. Walsh of New York said that he had seen the ganglia that had been removed in Jonnesco's first case, and had heard him describe his work in 1897. Since that time, Jonnesco had done about 122 operations. In a series of his cases, done three years ago, there had been improvement in glaucomatous cases, especially in the irritative chronic type, and in one case of the hemorrhagic type. The vision had been doubled in one case, and this improvement had continued now for three years. In cases of exophthalmic goiter in which the exophthalmos was so great as to make the loss of the eye almost inevitable, Jonnesco had found that by the removal of the cervical sympathetic nerve so much improvement could be effected that the eye could be saved.

Dr. Alvin A. Hubbell of Buffalo said that he had never himself undertaken Jonnesco's operation, because it did not seem to him to promise very much, and it was certainly yet in the experimental stage.

Dr. Marple said that among ophthalmologists everywhere it had been a matter of regret that in Jonnesco's published cases the histories had been uniformly so meager and that the cases had not been watched for a longer time.

Report of a Case of Gunshot Wounds of the Intestines.—Dr. H. Van Hoevenberg of Kingston reported the case of a man of thirty-three years who had been shot in an altercation by another man who had been standing only five feet away at the time. The ball had penetrated the skin one inch to the left of the umbilicus, and had passed downward and to the right toward the iliac region, and had entered the abdominal cavity at the median line. He had not seen the patient until over three hours after the shooting, and had then urged operation, but had been unable to obtain the man's consent until six hours had elapsed since the injury. The surroundings were unfavorable for operation, but it had been undertaken nevertheless, the light being furnished by three kerosene lamps held by neighbors. Ten perforations of the intestine had been found, two in the ascending colon, and the others in the small intestine. Some fecal matter had escaped into the abdominal cavity. The operation lasted two hours. After several days, a persistent elevation of temperature had pointed to some complication, and it had been found that the ball was located under the posterior border of the right external oblique muscle. It was removed, and the abscess cavity cleansed with peroxide of hydrogen and packed with sterile gauze. From this time on recovery had been uneventful. No solid food had been given until the twelfth day. The speaker said he thought considerable importance should be attached to the use of morphine in these cases of perforating wound of the intestine in order to quiet the peristalsis. The case was reported to emphasize the fact that, no matter how discouraging the circumstances, it was the duty of the surgeon to give his patient a chance for life.

Dr. R. H. M. Dawbarn of New York said that he had long advocated this special use of morphine under the designation of "the morphine splint." When morphine was given in a case of gunshot wound of the bowel, the injury in the latter remained absolutely still, and no waves of fæces were thrown against the wound until it had a chance to become sealed up by fibrinous exudate. It is now known that the contents of the small intestine are fluid, while the contents of the large bowel are more or less solid. An autopsy on one case of this kind had demonstrated that such wounds might become tightly sealed in so short a time as two hours. At present, he did not recommend or make use of the interrupted suture in the bowel, because the introduction of this suture required from three to five times longer than the insertion of the continuous suture, a matter of no small importance in this field of surgery

Indications for Treatment in Uterine Myomata.—Dr. George Tucker Harrison of New York presented this paper. In spite of the statements of many gynecologists to the contrary, he asserted that it was the rule

for uterine myomata to undergo retrograde degeneration after the menopause, the exceptions to this rule being quite rare. Thrombosis of the larger veins was not infrequently observed in women having uterine myomata, who suffer from hydræmia. As the hemorrhages associated with myomata were dependent upon endometritis, he urged every physician to make use of the curette before attempting more radical measures. Sometimes a complicating peritonitis afforded an indication for an operation. Where myomectomy is done, the vaginal route was to be preferred.

Technique and Method of Inserting the Fixation Sutures for Prolapsed Kidney.—Dr. Augustin H. Goelet of New York presented this subject. The object of the operation, he said, was to fix the kidney in its normal position to the muscles of the back. Non-absorbable sutures, such as silkworm gut, were to be preferred. The operation involved no risk *per se*. The incision is made along the outer border of the erector spinæ muscle, beginning just below the twelfth rib and extending downward parallel to the spine for about three inches. The incision passes through the skin and fat down to the superficial fascia covering the muscles. This fascia is then divided, and the underlying muscles down to the erector spinæ are separated with blunt hooks in the direction of their fibers, broad retractors being used to control the deeper muscles and the deep fascia. He did not think it was necessary to strip back the fibrous capsule of the kidney, in order to secure firm adhesion. Two fixation sutures are used, being inserted upon the lower half of the kidney in such a way that the traction comes at a right angle to the kidney surface. A suture inserted by this method bears at least five times as much strain as the ordinary transverse suture. It was the fibrous capsule, and not the kidney structure itself, which resists the strain. The suture used by him passes through all the structures of the back. At the suggestion of Dr. Howard Lilienthal, he had made use of strips of aseptic adhesive plaster in bringing the muscles of the back together.

Dr. George M. Edebohls said that it had been invariably found that the union obtained by exposing the kidney substance was the stronger. The opening of the capsule was, moreover, an excellent procedure in itself, relieving as it did the tension so often present in a kidney that had been displaced, and allowing of the formation of new vascular connections. He had had several cases of movable kidney complicated by nephritis which had been permanently cured by this operation, and he would explain the good result by the new vascularization produced. A common error in operating for fixation of the kidney was to try to anchor that organ by its lower half only. In his own last series of one hundred cases he had dispensed with drainage. His method was to split the capsule proper from one pole to the other, and reflect the capsule so as to raw about one-half of the kidney surface. He then anchors the kidney by transfixing the capsule proper by four suspension sutures, one over the middle of each pole, front and back, and subsequently passing the sutures through the muscles, tying them in the subcutaneous fat and burying them there. The kidney is anchored to the rawed quadratus lumborum. It should be attached so that the middle of the kidney will be in the middle of the loin.

Dr. Howard Lilienthal of New York said that the method described in the paper was an exceedingly simple one, and certainly brought the kidney into better position than other methods. He thought all suture methods must fail if there were enough room for the kidney to be displaced downward. His aim was to fill up in bulk the place occupied by the displaced kidney, and to this end a large gauze packing should be left in for about ten days, or until it comes out with great ease. He had not seen any evil result from this procedure in a considerable number of cases. By this method granulation over a large surface was produced, and when these surfaces were in contact, the space into which the kidney might descend was obliterated, and, so far as he knew, remained so. He was of the opinion that the nephritis found in connection with displaced kidney was not a true nephritis, but merely the result of passive congestion, and on this theory it was easy to explain the good results observed by Dr. Edebohls by the improvement in the circulation of the part.

Dr. Willy Meyer of New York said that this method of gauze packing had been first employed as long ago as 1893; but to accomplish the desired result, it seemed necessary to keep in the gauze for two weeks or longer. The originator of this method had kept in the gauze for three weeks, and had then removed it under anæsthesia. If, however, the technique of Dr. Edebohls were observed, primary union should occur, and the patient should not have to remain in bed more than three weeks.

Dr. R. H. M. Dawbarn said that he believed with Dr. Senn that, with the exception of Dr. Edebohls, very few surgeons had obtained satisfactory results from nephropaxy. The methods of suture described seemed to him objectionable because they caused leakage of urine; hence, it seemed to him safer to use a Mikulicz drain inserted down to the capsule until all danger of leakage of this fluid had passed. As to the mode of fixation, he preferred the technique ordinarily described as that of Andrews.

Dr. Goelet, in closing, said that by his mode of inserting the sutures it was impossible to fix the kidney by its lower pole; the sutures are inserted into the lower half of the kidney, and not into its lower pole. He could not believe any leakage of urine took place, as described by the last speaker; certainly he had never observed it.

A Case Simulating Glanders.—Dr. J. R. Sturtevant of Theresa reported this case, which was characterized by a peculiar eruption of blebs, as shown in the photographs presented.

ELEVENTH ANNUAL MEETING OF THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

Held in Buffalo, N. Y., September 24, 25, and 26, 1901.

Ernest Wende, M.D., of Buffalo, President.

First Day—Tuesday, September 24.

The meeting was called to order by the President, Dr. Ernest Wende of Buffalo, in the Seventy-fourth Regiment Armory, Buffalo. The address of welcome was made by the Mayor, Dr. Conrad Diehl, and was responded to for the association by Dr. Robert Newman of New York.

Address of the President.—Dr. Ernest Wende, in his address, dwelt upon the progress that had been made in his city in harnessing the power of Niagara. He said that one-fifth of the electrical power now used in Buffalo was furnished by the power of the great cataract. In April, 1894, the first power had been generated from this source, and its potentiality recognized. In November of the same year the Street Railway Company had brought one thousand horse power from Niagara to Buffalo, but it was not until November 22, 1898, that the current so obtained was used for lighting the streets, Main street being the first one illuminated in this way. A few months later it was in general use for lighting purposes. The speaker next considered the possibilities and limitations of electrotherapeutics. He referred to the Bottini operation as one holding out greater prospect of benefit to the prostatic sufferer with less attendant risk than any other. In chronic rheumatism, he said, currents of electricity of high frequency were most effective, and success was the rule if the treatment were persisted in. In conclusion, brief reference was made to

electric light and *x*-ray therapy, to the cataphoric treatment of cancer, and to electrolysis in the treatment of urethral stricture.

Rectal Stricture Treated by Electrolysis.—Dr. W. H. White of Boston, Mass., read a paper on this subject, reporting a case. He said that the treatment was necessarily slow and required a careful cleansing of the parts. The case reported by him had been previously under the treatment of a rectal specialist for over one year, the method of dilatation having been employed. The stricture was three inches and a half from the anus. Owing to the great nervousness of the patient it had been necessary at first to make use of cocaine. The treatment had been given at intervals of about four days for a short time, and then had been suspended for about two months, while the patient had been out of the city. He had first used a copper electrode for the cathode, with a large pad on the back for the anode. It had required fifteen minutes to pass through the stricture. A No. 54 electrode had been used at the next sitting, and only ten minutes had been required to pass the stricture. Subsequently a zinc olivary electrode had been substituted, being used in connection with the anode. The treatment had been interrupted at times for various reasons, but in less than a year the stricture had been completely cured.

Neurasthenic Paralysis.—Dr. Francis B. Bishop of Washington, D. C., was the author of this communication. In it he considered more especially the highly strung nervous individuals who are living up to their full quota of nervous energy. They are usually poor sleepers, and do not fully recover from one day's work before they plunge into that of the next day. The inevitable result was collapse, but before this occurred it was common to observe hysterical spells or periods of despondency. An exceedingly severe case of this kind was then reported in which the only treatment employed had been electricity, together with the free use of water and methods for improving the general nutrition. The treatment had proved successful after about six months.

Dr. Massey thought the case reported was rather one of hysteria. The benefit resulting from the use of faradic and static electricity was worthy of note.

Dr. Robert Reyburn of Washington, D. C., thought it was often difficult to draw the line between hysteria and neurasthenia. Many practitioners of high repute were given to careless routine practice and a slavish use of drugs. Electricity was often useful by affording an efficient substitute for drugs.

Dr. W. B. Snow of New York said that in this class of cases it had been his custom to use static electricity, and he had yet to see the case that would not yield to such treatment. It was the duty of electrotherapeutists to impress upon neurologists and alienists the value of electrical treatment in the early stages of melancholia.

Dr. W. J. Morton said that he would unhesitatingly put down the case reported in the paper as one of hysteria and not of neurasthenia. While static electricity was useful and convenient in the class of cases under discussion, if it became necessary to treat the patient at his home one would be compelled, as Dr. Bishop had been, to use the galvanic current.

Dr. Bishop in closing said that he had never seen a true case of hysteria unassociated with nerve exhaustion or neurasthenia, and, on the other hand, he had never met with neurasthenia without some of the symptoms of hysteria. By the application of negative galvanism to the heart, the pneumogastric nerve was stimulated, and the heart given a chance to rest between the beats, and so to accumulate force. Moreover, the action of the galvanic current on the solar plexus and upon the brain was not to be forgotten.

Value of Electricity in the Gynecological Work of the General Practitioner.—Dr. M. F. Wheatland of Newport was the author of this paper. Attention was chiefly directed to the value of electrotherapy in dysmenorrhœa, endometritis, subinvolution of the uterus, non-suppurative pelvic peritonitis and cellulitis, and in uterine fibromyomata. Three illustrative cases were reported.

A Modified Intrauterine Electrode for Cataphoresis.—Dr. Wheatland also presented and described a modified electrode for intrauterine cataphoresis. The modification consists in the adaptation of a syringe, so that the cotton, after its introduction into the uterus, could be saturated with the selected medicament.

Dr. G. Betton Massey was of the opinion that better results could be obtained from his method of mercuric cataphoresis in the vagina than by intrauterine cataphoresis. The electrode was connected with the positive pole, and the application pushed to the point of causing considerable discomfort by producing an erosion of the vagina.

Dr. O. S. Phelps of Battle Creek, Mich., said that he had found no occasion to resort to cataphoric intrauterine applications because metallic electrolysis had served him so well during the past ten years. Metallic electrolysis seemed to him to give all the possible advantages of cataphoresis with the least possible disadvantage; indeed, after an experience in gynecology of thirty years he felt free to assert that metallic electrolysis is far in advance of all other known methods of treating chronic endometritis. To use electricity successfully in gynecology, the physician must not only be a practical gynecologist, but must thoroughly understand electrophysics and electrotherapy.

Dr. Robert Reyburn spoke of his successful use of electricity in the treatment of fibroid tumors. He believed the use of the knife, especially in cases of cancer, had been a stupendous failure. He made use of a current strength of fifty to seventy-five milliamperes, and succeeded in effecting practical cures.

Dr. R. J. Nunn of Savannah remarked that the practice of injecting fluids into the uterus had been discarded because of the danger of forcing the fluid into the fallopian tubes, and this very reason seemed to him to constitute a serious objection to the use of the instrument just presented. It was a safe general rule in gynecology that if one must introduce a sound into an os so contracted that it would squeeze out the medicament on the cotton applicator, such a procedure was not safe. The remedy consisted in dilating the opening before making the intrauterine application.

Dr. Wheatland said that he had been led to devise this instrument because he had been using Skene's uterine pipette for four years. The electrode presented was intended to be used with the negative pole in stenosed conditions of the uterus. The tip of the instrument is made of block tin.

Second Day—Wednesday, September 25.

The Wave-Current Controversy Settled.—Dr. C. R. Dickson of Toronto, Canada, presented the report of the special committee appointed at the last annual meeting of the association to consider the wave current. The appointment of the committee arose out of a controversy between Dr. A. D Rockwell and Dr. W. J. Morton regarding certain currents obtained from the static machine. The committee consisted of Dr. W. J. Herdman of Ann Arbor, chairman; Mr. A. E. Kennelly, and Mr. W J. Jenks. The report presented was very exhaustive, and hence only a digest was read. The committee carefully avoided the question of priority among contemporary practitioners, but set itself the task of determining whether or not the undulatory current had been long prior to 1880 similarly produced, used and described by experimenters or physicians who are not now living. The report gave copious quotations from Dr. W. J. Morton's communications to various medical journals. Three diagrams, with references, were given to elucidate the subject These diagrams are described in great detail,

and following these is a summary of Dr. Morton's claims for priority of the results attained by him in 1881, of the erroneous statements that had been made, and of the recent recognition of Dr. Morton's work, chiefly from foreign sources. The committee did not consider the precise character of the current material. The conclusions were as follows: (1) That the evidence before the committee indicates that in 1880, or thereabouts, Dr. W. J. Morton devised and used an arrangement of previously existing static electrical apparatus, and in its use practised a method of producing currents which had been widely adopted and recognized as useful in subsequent medical work; (2) That the arrangement and method had not heretofore been known or practised and were not evident to those skilled in the art as a result of their prior knowledge and experience; (3) That the claims of priority detailed by the committee as made by him are entitled to recognition by the association. An appendix to the report shows that no less than forty-six publications had been examined by the committee, and extracts are given in full relating to all the matters concerned, together with some diagrams and blue-prints taken from the books consulted. This report of the committee was accepted by the association, and ordered published.

A New Transformer.—Dr. S. F. Wilson of Montreal, Canada, exhibited an instrument built on the induction-coil plan, and presented with it a description furnished by the makers of the instrument. It was claimed by the makers that it did not heat and that it made very little noise.

Effects of Electro-Static Modalities upon Hyperæmia and Pain.—Dr. William B. Snow of New York read this paper. The author stated that these modalities remove stasis, cause absorption of exudates, thereby lessening pain and swelling, promote the reabsorption of organic and inorganic salts which have become locked up in the tissues as a result of defective metabolism, produce a general equalization of the blood currents to all parts of the body, with decided lessening of the arterial tension, and thus diminish congestion and promote regeneration and restitution of the parts to the normal. In cases of surgical œdema, great satisfaction would be derived from static treatment, and the same general action would be observed in many other varieties of passive hyperæmia. Prolonged administration of the brush discharge or spray produced a marked rubefacient effect. If the applications were made sufficiently often, pain would be permanently relieved. There was no class of inflammatory affections which so tax professional skill as joint inflammations, and many of the most stubborn of these could be promptly cured by electrical treatment. Of 200 cases so treated, at least nine-tenths had proved failures under other modes of treatment. When ankylosis had not taken place and the joint structures had not been affected, the inflammatory process could always be stopped, most of the products of inflammation removed, and the joint made painless and useful. Sciatica, brachial neuritis, and all other uncomplicated cases of neuritis were promptly cured, and this was accomplished in a much more satisfactory way than by any other means. Inflammatory glandular affections yield remarkably good results. He believed there was no local application for eczema so effective as the brush discharge. It was essential to have the best modern static machine, having at least eight revolving plates, thirty inches in diameter, and capable of producing 300 revolutions per minute. The insulated platform should have glass legs, at least eight inches long. The wave current was rarely contraindicated in cases of pain or hyperæmia, and was an important part of almost all treatment of chronic cases. The brush discharge was invaluable in the treatment of skin affections. It was successful in many acute affections in which a rubefacient was indicated. It was also useful in connection with the treatment of muscles which contract painfully. The spray was a substitute for the brush discharge, but was in no way equal to it. The administration must be continued until there was distinct sedation and reduction of hyperæmia. The treatment should be repeated before the pain had returned.

Dr. W. J. Morton emphasized the statement made in the paper that this proposed extension of electrical treatment into the domain of acute inflammatory diseases constituted the triumph of modern electrotherapeutics. A great deal of his own work had been in acute cases, *e. g.* in acute rheumatism or gout, in acute sprain, or, in fact, in any acute inflammatory structural alteration. This extension of electrotherapy would not have been possible with the galvanic or faradic currents.

Dr. O. S. Phelps of Battle Creek, Mich., said that as long ago as 1894 he had reported to this association a case of pelvic inflammation, associated with uterine fibroids, that he had successfully treated by electricity, thus proving that the treatment of acute conditions by electricity was not a new thing.

Dr. Francis B. Bishop of Washington, D. C., said that too much stress should not be laid upon the use of static electricity to the exclusion of the galvanic current, particularly as the latter alone was within the reach of many practitioners in country practice. When properly used, the capabilities of the galvanic current were very great. While the large modern static machines gave certain useful effects, it should be borne in mind that certain results were obtainable with the smaller machines that were not within the range of the larger ones. For example, in extreme cases of neuritis he had found that the fine vibratory current of the small static machine was very soothing, while that from the larger machine could not be tolerated. The current he referred to was not, however, the Morton current, but that obtained from one side only, and yielding very fine vibrations. The static sparks he had not used in acute affections for a number of years, chiefly because the treatment was so painful. In subacute inflammation, as, for example, sciatica, he had found galvanic electricity decidedly preferable to static.

Dr. J. D. Gibson of Birmingham, Ala., said that he had used the galvanic current with marked success in some cases of rheumatism, but it had not been nearly so useful as the Morton wave-current. In certain cases of sciatica and in rather obscure neuralgias of the lumbar region, static electricity had disappointed him.

Dr. G. Betton Massey raised the question as to whether it was wise to attempt to treat acute rheumatism by the use of static electricity, basing his remarks on a personal experience with several cases which had been distinctly aggravated by such treatment.

Dr. C. O. Files of Portland, Me., made the point that there were certain cases in which the spark could not be used and the spray was inefficient which could be successfully treated by the use of the static massage roller. By this means, he had succeeded in treating scores of cases of acute rheumatism, giving prompt and complete relief. It was necessary, however, carefully to graduate the strength of the current when applied with this roller. In warm weather, there was so much moisture in the clothing that it was not possible to convey any sensation to the patient on an insulated platform by the use of this roller. He did not use the insulated platform, but allowed the patient to sit on a chair on the floor, and used the negative pole of the static machine either connected with the gas fixture, or if this were too strong, the chain was allowed to remain upon the pole itself. Then by using some dry woolen material, such as a shawl, and varying the number of folds, the strength of the current could be accurately adapted to the requirements of the most sensitive or the most phlegmatic patient. He felt abso-

lutely sure that Dr. Snow's statement concerning the electrical treatment of acute diseases would stand the test of time.

Dr. Morton remarked that when it was desired to give constitutional treatment with the wave-current, some point must be selected for the application of the electrode. He had formerly chosen the spine for this purpose; but, because of the immense muscle masses in this region, had more recently made use of a plate of block tin, measuring four by five inches, placed at the beginning of the sternum, and had found this site particularly satisfactory

Dr. Snow closed the discussion. He said that there was a marked difference between a spray and a brush discharge. For the latter, he made use of wooden electrodes, and kept them moist, but not wet. When the application was made in this way, there was a singular difference between the currents of negative and positive insulation. The positive was associated with a number of green rays, even when the wooden electrode was used, and its effect was that of an irritant. The sedative action was obtained with the negative current. The machine should always be run at high speed. In his experience, this method of treatment had never failed to relieve cases of acute rheumatism; but it was important that the interval between treatments should not be more than twenty-four hours.

Morton's Wave-Currents of the Static Machine and Werber's Insulator.—Dr. Robert Newman of New York presented a paper with this title. The author said that Morton called his wave-current the "electrostatic current." It was commonly applied by connecting the positive pole with the platform and grounding the negative, at the same time bringing the discharge rods into action. The working current leaked off from the prime conductor, and was applied directly to the skin by means of an electrode held in firm opposition. The remainder of the current was discharged across the spark gap, each spark causing an interruption or wave. In this way, the working current manifested itself in oscillations, and the effect was more or less localized in that the action was exerted more vigorously in the immediate area to which the electrode is applied to the skin. Dr. Snow had increased the number of electrodes, both directly and indirectly, and had made use of a Leyden jar having no direct connection wtih the prime conductor of the machine. The speaker said that Dr Gustavus Werber of Washington, D. C., had called his attention more than a year ago to a further modification of the wave-current. ,Reasoning from analogy that a further compression of the current would give an increased leverage, so to speak, in influencing the tissues, Dr. Werber had devised an insulated terminal for one of the sliding poles of the machine. The device consists in the interposition of a section of vulcanite in the discharge rod to which it is attached. By making this insulation sufficiently long to prevent sparking across under all circumstances, the power of compression of the current was limited only by the capacity of the machine, and the whole output of the current was forced into the patient at the point of contact, and being diffused through the intervening tissues was re-collected by means of a second electrode held in firm opposition with the skin. From here it was reconducted to the distal extremity of the discharge rod or beyond the insulating section, and was discharged thence in sparks through the opposite pole to the ground The length of the spark-gap regulated the compression to which the current was subjected. The inventor made the following claims for his modification of the wave-current: (1) That the entire current of the machine is utilized as a working current instead of a small fractional part of it, as in Morton's use of it; (2) That all the current is caused to pass through that part of the body or other object interposed between the electrodes delivering and re-collecting the current to be dissipated by sparks and before the interruptions are made; (3) That the voltage and electromotive force of the working current are, therefore, much greater, thus increasing the effectiveness of the machine, or, in other words, enabling one to make a satisfactory use of a smaller static machine ; (4) That the tonic and alterative effects are exerted most vigorously at the point of exit from the body under the return electrode instead of at the point of entrance; (5) That this interrupted current is under perfect control, and can be made to pass from the center to the periphery, or in any direction; (6) That, using the whole volume with increased electromotive force, the current will produce better results with a number less of séances and of shorter duration. Dr. Newman added that he had made use of this modification of the wave-current almost daily for many months, and had been able to substantiate some of these claims. He had been able, for example, to accomplish in ten minutes with the same results which had formerly required thirty minutes. The larger the ball the greater the compression, but the fewer the waves or interpolar interruptions. He believed that the smaller balls and the more rapid waves would be found to give the best results, and that the high frequency current with rapid vibrations would more quickly restore health and tone to diseased tissues.

Dr. W. J. Morton, in opening the discussion of this paper, remarked that he believed the entire printed literature on this subject comprised a description of a patent taken out by Dr. Werber. The great beauty of the ordinary method of administering the wave-current was that the patient received the entire discharge, so that a general as well as a local effect was secured. At the last meeting of the association he had described and exhibited a zinc screen, called an insulating capacity, by means of which the current could be concentrated at two points. The insulated ball in the Werber modification was, for all practical purposes, nothing more than such an insulated capacity, though more convenient. The insulated ball was really a ground chain to the circuit gap.

Dr. W. B. Snow said that he had been using a modification of this idea all summer, and had found it very useful for obtaining local effects, particularly when, because of humid weather, a long spark-gap could not be obtained in the usual way. However, there was one drawback to this plan, *i. e.* the external capacity being always the same, one could not vary the vibratory effect on the electrode connected with the ball. The other electrode would always be the stronger, and the special effect produced would be dependent upon the particular machine used. With a plate under the foot and another on the patient s back, and with the chair insulated by means of ordinary telegraph insulators, one could readily obtain Dr. Morton's "external capacity" described a year ago.

Dr. Gustavus Werber of Washington, D. C., said that his modification merely served to increase the electromotive force of the machine, and he had been led to devise it because he was desirous of materially reducing the duration of the long séances made necessary when the ordinary wave-current was used.

Ozone in Tuberculosis.—Dr. J. D. Gibson of Birmingham, Ala., in this paper described his experience with ozone generated by a static machine, and used in connection with medicated nebulæ. Cases were cited to show the good results of this treatment.

Dr. C. O. Files corroborated the statements made in the paper, and expressed the belief that all cases of tuberculosis in the first stage and early part of the second stage could be benefited by the ozone treatment.

Dr. T. F Pease was of the opinion that perhaps one-third of the cases could be cured if taken in time, and treated in the manner described.

Dr. W. J. Ozone said that some years ago he had experimented in this field, but had been troubled with the simultaneous production with the ozone of a very irritating gas—nitrous acid. This he has removed by passing the impure ozone through a solution of caustic potash or soda.

The ozone, when thus purified, was found to be very agreeable to inhale.

Electric Lighting at the Pan-American Exposition.—Mr. HENRY RUSTIN, Chief of the Mechanical and Electrical Bureau of the Exposition, gave an interesting discourse on the electrical features of the Exposition. It was delivered in the amphitheater of the New York State Building. Mr. Rustin described the most popular electrical feature, the nightly build-up of the lights from no candle power to full candle power as follows: A rheostat, consisting of a tank of water, is used for this purpose. A large cast-iron knife, shaped quite similar to a very much-worn butchers' knife, is hung on a hinge, and has near the handle a projection or heel which never leaves the water. This knife is controlled by a rope actuated by a motor. At the time of the nightly build-up, all the lights are shut off for about two minutes, and all of the current from Niagara Falls used in the Exposition for lighting is made to pass through the water of the rheostat. The motor having been set in operation, the knife gradually sinks into the water, producing a greater area and less resistance, and finally the lamps are given the full candle power by the knife coming down into the contact points in the rheostat. Under the conditions found in this part of the country, the distance of Niagara Falls from Buffalo, twenty-four miles, is practically the limit that electric power can be economically transmitted; the distribution depends largely upon what insulation is practicable in a given climate. The present line wire is made of aluminum. The transformer losses are more important than the actual line loss under the prevailing pressure of 22,000 volts. This is the voltage on the line as far as the outskirts of the city. There it is reduced to 11,000, and on the Exposition grounds is dropped to 1,800 before being distributed. At the lamps it is finally dropped to 104 volts.

The Electrical Treatment of Neuritis.—Dr. FREDERIC H. MORSE of Melrose, Mass., read a paper on this subject. The treatment, he said, depended upon the cause and the stage of the disease. Most writers object to the use of electricity in the acute stage, but with care and gentleness and the use of a very mild galvanic current and a very large stationary electrode gratifying results could be obtained. In cases of long standing, when the pathological condition was one of interstitial fibrous change, our object should be to improve the nutrition of the part. The faradic brush and coarse coil with slow interruption and the interrupted galvanic current would benefit many cases when the high-tension current would be of no avail. In old and debilitated subjects, the séance should be repeated at short intervals. In the use of galvanism on an inflamed nerve, great care must be observed to avoid shock.

Dr. W. J. MORTON said that he had had an extensive experience in the electrical treatment of neuritis, and as long ago as 1892 he had published some radical views on this subject. At that time he had advised that, no matter how acute and painful the neuritis, sparks should be directly applied to the painful area for ten to twenty minutes daily. He looked upon this mode of treating neuritis as surely a specific as the use of quinine in malaria. While he had treated many of these cases recently with the new wave-current, his preference was still for the long, clean spark, reserving the wave-current for those persons who would not submit to the severer treatment. He had had a very large percentage of cures, and the average period of treatment had been quite short—from four to six weeks. The method of resting the painful parts in splints or plaster bandages was not free from danger, as 8 or 10 per cent. of these cases had developed ankylosis of important joints.

Dr. G. BETTON MASSEY also spoke against the rest-cure treatment of neuritis. He considered the treatment of acute neuritis of the sciatic still an unsolved problem. For the chronic cases, the static spark or the static breeze was useful, but for the bedridden cases he would recommend the faithful trial of the high-tension faradic current.

Dr. W. B. SNOW spoke enthusiastically of the results he had achieved in the electrical treatment of neuritis. He made use of static electricity, and usually found no difficulty in continuing a course of this treatment if he could have the severe and helpless cases only carried to the office once or twice. For the first few days he often gave the treatment twice a day, and after that once daily. If a relapse took place between two treatments, it was an indication that the interval between the séances had been too long. The treatments with the wave-current were necessarily long, for the treatment should be continued until the patient could leave the office free from pain.

Dr. F. B. BISHOP insisted that the galvanic current was useful in both acute and chronic neuritis, and could be used with just as good effect as static electricity, though perhaps less conveniently. His method was to use electrodes having very large surface, and directed the current through the course of the nerve, putting the positive pole, in a case of sciatica, over the painful area of the hip and the other electrode at the popliteal space. The current strength was very gradually increased to fifty or seventy-five milliamperes, and was kept at this point for half an hour. In nine cases out of ten, the patient would be relieved, and would remain free from suffering longer than where the static machine was used. He had never been able to secure a fine enough vibration from the Morton wave-current for these sensitive patients. The current he used was obtained by taking the ground from the opposite pole, and getting the induction through the air. The treatment advocated by Dr. Morton was certainly very severe, and while not doubting the results attained with it, it was a method that did not appeal to his judgment.

Dr. JOHN GERIN of Auburn, N. Y., bore testimony to the value of treatment with static sparks, and said that his experience with the use of the galvanic current in cases of sciatica had been that it tended to aggravate the trouble.

Dr. T. F. PEASE reported a severe and long-standing case of sciatica that had been promptly cured by static electricity after many other methods of treatment had completely failed.

Dr. J. D. GIBSON said that he knew of nothing equal to static electricity with the use of sparks for the treatment of uncomplicated neuritis. The relief afforded by the galvanic current he had found to be very transient. In both acute and chronic sciatica he preferred the long, heavy spark.

Dr. JOSEPHINE G. DAVIS of New York said that she had been very successful in the use of the high-tension faradic current in the treatment of sciatica.

Dr. MORSE in closing said that he had recommended several modes of treatment, because all patients in private practice would not submit to the treatment advocated by Dr. Morton, even though it were the best. He had never dared to make use of the very strong galvanic currents advised by Dr. F. B. Bishop.

Why I Use Electricity in General Practice.—Dr. S. W. BAYLISS of Buffalo read a paper with this title, and illustrated his remarks with lantern views. The chief topic considered was *x*-ray photography.

The Cause and Prevention of Common Errors in Radiography.—Dr. L. A. WEIGEL of Rochester read this paper. He said that the more common errors were the following: (1) General distortion from improper relation between the object photographed and the source of illumination; (2) Improper exposure; (3) Imperfect development of the photographic plate; (4) Chemical defects in the plates themselves; (5) Failure to make two plates at right angles to each other to verify certain observations; (6) Ignorance of *x*-ray anatomy, especially regarding epiphyseal

lines in young subjects; (7) The superposition of various planes; (8) Movement of the subject, producing a blurring of the image, and last and most important of all the use of the fluoroscope. Until some standard for posture had been adopted, the radiographs by different operators could not be properly compared. He would defy any one to present a case of fracture that could not be demonstrated by the *x*-ray. Of course, if only one radiograph were made, the fracture might elude observation. The difficulty arising from the superposition of various planes could be overcome by the use of the stereoscope. By means of this instrument even those unskilled in examining radiographs could often correctly interpret them. Another valuable feature of the stereoscope was that it absolutely reproduces the posture of the part at the time the radiographs were made. He was positive that the fluoroscope was responsible for more errors in connection with *x*-ray work than any other one thing.

Third Day—Thursday, September 26.

The Case of Mrs. D——. A Study in Contemporary Gynecology.—Dr. G. Betton Massey of Philadelphia reported this case with the object of pointing out, among other things, the danger of forcible dilatation of the cervix, and to show the unfortunate tendency of modern gynecology to mutilate women.

Drs. Robert Reyburn, S. W. Bayliss, O. S. Phelps, J. D. Gibson, and R. J. Nunn discussed the paper, and in doing so commented strongly on the present tendency to resort hastily to mutilating operations with sad and far-reaching consequences, whereas in many painful, nonsuppurative conditions in the female pelvis better results could be obtained by the skilful use of electricity.

Easy Method of Testing the Strength of the Galvanic Current.—Dr. Robert Reyburn of Washington, D. C., presented this communication. The author said that he had found the ordinary milliamperemeter not sufficiently portable for use in country practice, and he had consequently experimented with an ordinary galvanometer, and had found that it could be used in emergencies with very good result. A table was presented showing the results of the tests he had made with this instrument up to 150 milliamperes. By a similar series of observations each practitioner could calibrate the particular galvanometer which he uses.

Report of the Committee on the Rontgen Ray.—Dr. Charles O. Files of Portland, Me., as chairman, submitted this report. He said that he had done a great deal of *x*-ray work, and had learned that it was not the size but rather the number of plates that constituted an important factor in such work. One of the members, Mr E. E. Kinraide of Boston had recently brought out a coil machine which enabled the exposure to be greatly reduced. This coil was constructed on an entirely new principle, and gave a spark of remarkable intensity.

Mr. E. E. Kinraide of Boston said that his object in constructing this coil was to remove the high potential region of the coil as far as possible from the primary, and so remove the danger of destroying the coil so common to the ordinary Ritchie coil. The primary is placed on the outside, so that the lines of force fall away from the primary toward the center, and produce a very high potential there, while there is little or no potential at the outer turns. There is practically no tendency for such a coil to break down. The primary is operated by a form of spark-gap, the efficiency of which is due to a low potential current discharging across a very small air space and producing erosion of copper plates, thus interrupting the primary circuit. The condenser has about 900 volts, and discharges between two copper plates, about six inches in diameter and about $\frac{1}{100}$ of an inch apart. The air-gap is regulated by a lever. In the device used for charging the condenser there is a rotary brake, making about 125 interruptions per minute. With each interruption here, there are from twenty to twenty-five interruptions in the primary circuit of the induction coils, thus giving about 50,000 interruptions a second. It is largely owing to this high frequency that the exposure of the photographic plate can be materially reduced. For the same reason it is probable that the current from this machine will find important uses in electrotherapy. The current is almost identical with that from the Ritchie coil except that it has greater frequency. The Tesla coil gives rather an alternating current.

Officers Elected.—*President*, Dr. Frederic H. Morse of Melrose, Mass.; *First Vice-President*, Dr. Daniel R. Brower of Chicago; *Second Vice-President*, Dr. Alfred T. Livingston of Jamestown, N. Y.; *Treasurer*, Dr. R. J. Nunn of Savannah; *Secretary*, Dr. George E. Bill of Harrisburg.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, October 1, 1901.

Joseph Collins, M.D., President.

Contribution to the Study of Spinal Fracture, with Special Reference to the Question of Operative Interference.—Dr. George L. Walton of Boston presented a paper on this subject, dwelling particularly on the question of whether it was not desirable to make early operation in this class of cases the common custom. The author said that there were no symptoms which would lead one to assert that the cord was or was not unquestionably crushed. In the case of so-called complete injury, one finds immediate relaxed motor paralysis and entire absence of rigidity or other irritative sign in the motor sphere. Partial injury to the cord might be indicated by slower onset of paralysis, its unilateral or irregular distribution, the partial retention of the reflexes, and subsequent improvement. In fracture with total transverse lesion the area of anæsthesia was generally sharply marked, and the level was materially below the seat of the lesion. The classical symptoms of complete transverse lesion certainly do not indicate conditions beyond repair. Incomplete anæsthesia points to incomplete lesion of the cord; the same is generally true of anæsthesia of limited or unilateral distribution. Injury to the nerve roots alone sometimes appears in the cervical region after stretching and bruising, perhaps with temporary displacement of vertebræ. The diagnosis of local concussion of the spine was still applied by certain authors to such cases. Retention of urine was the rule in all varieties of spinal fracture with injury to the cord, whether the lesion involved the cervical, dorsal, or lumbar cord. This probably showed that mechanical conditions prevent the escape of urine so long as the propulsive force is lacking. The symptoms referable to vasomotor disturbances are evasive and baffling. The usual rise of surface temperature might perhaps be explained by the dilatation of superficial blood-vessels due to the cutting off of the vasoconstrictor influence from the medulla. The absence of sweating tends to fortify the theory that the principal sweat center lies in the medulla, the fibers being interrupted in their course by the lesion. Sweat secretion appears to be due to specific nerve influence conducted by specific nerve fibers, and not to heat. It was now generally recognized that the knee-jerk is lost in cases of complete destruction of the cord, and cases of spinal fracture constitute no exception to this rule. The superficial reflexes were generally lost or diminished in these cases, and were probably always lost in the complete lesions. The Babinski reflex was a common later phenomenon, but he would doubt its occurrence in cases of total destruction of the cord without reparative processes. The local signs, such as the formation of a knuckle, were very variable, and not of much significance. Operation often shows that the apparent irregularity is of no importance. It should be remembered that a great variety of curves are found in the back in healthy persons free from injury. This statement was

fortified by the exhibition of a series of tracing from the backs of healthy students in the Boston Normal School of Gymnastics. The Röntgen rays might prove of value in making the diagnosis, but in his own experience this method had not yielded satisfactory results. The prognosis in cervical cases without operation was generally grave, death usually occurring within a few days. In cases of fracture of the dorsal or lumbar region without operation the prognosis was better, but still very grave. The fatality in non-operative cases was about 80 per cent. The statistics at hand were not very reliable regarding operative cases, because many unsuccessful cases were not reported. The cases operated upon at the Massachusetts General Hospital since 1870 yielded a mortality of about 64 per cent. In some quarters laminectomy was not advocated, but was even denounced. Apprehension regarding the danger of the operation had been entirely allayed, and many cases had been reported showing that laminectomy is not dangerous by reason of the weakening of the spinal column. It was doubtless true that in most cases the crush of the cord had taken place. The author was inclined to think that, owing to the decided limitations of our diagnostic ability, it was well promptly to resort to operation in all cases except the moribund and those with great displacement, and give the patient the benefit of the doubt. According to his personal experience, the course of the operative cases coming under his observation had been more favorable than he should have expected without operation from his previous experience and his knowledge of the literature. The neurologist was often asked whether it was wise to open the dura at the operation, and his answer should be in the affirmative. An œdematous condition of the arachnoid was apt to exist, and would be relieved by such a procedure; but the chief reason was the opportunity this afforded for inspecting the cord. Of late, the custom had been not to suture the wound, but to leave it open. It had been the usual custom in the past to secure drainage for a day or two, but various recent operators had demonstrated that it was not at all necessary, and by eliminating drainage one could secure quicker healing and greater immunity from sepsis. In cases of grave shock, it would seem to be reasonable to delay operation if only better to interpret the symptoms. Rapidity of operation was important, and the surgeon need not fear injuring the cord by the use of forceps.

Dr. Charles L. Dana said that his own experience had led him to believe that the operation is practically safe, and that the spinal column itself is not injured by the operation. He had not had any fatal results in his operative cases, about half a dozen in all, and two of them were cases of injury in the cervical region. It was a matter of astonishment to him that such long and severe operations could be done upon these patients without sacrifice of life. He must confess, however, that the ultimate results of these operations had not been satisfactory, according to his observation. He had seen some improvement in motion and in the bladder symptoms in these cases; but that had been about all, and it was quite possible that such improvement would have occurred without operation. If by clinical observation one could be sure that the cord was crushed, one should not recommend operation. This could often be done. If there was a line of anæsthesia coinciding with the line of paralysis, and this coexisted with the absence of knee-jerks, he would feel almost positive that the spinal cord had been cut across, although there were certain exceptional cases affecting the cervical region which did not seem to follow this rule. It seemed to him that the operation performed by Lloyd, and which the speaker had seen employed by Abbé, was the quickest, safest, and most effective. The author had done a service in bringing up this subject, and urging a more persistent effort to relieve this distressing class of cases. The general opinion among surgeons was that this was a class of cases which hold out but little hope of benefit from operation.

Dr. Edward D. Fisher said that he had had a number of cases of fracture of the spine under his observation, and in the main he would agree with the reader of the paper that an operation is advisable. He would do this because death rarely occurs as the direct result of the operation. Where there had been a fatal termination, he felt that the same result would have occurred if there had been no operation. In two cases that had been under his observation in which cocaine had been used, the operation had been done as well as under general anæsthesia. In one of the cases the injury had followed a dive in shallow water, and in the other from an acrobat diving off the shoulders of another acrobat. The lesions had been about the same in each case, and because of the situation of the lesion they had been afraid to administer a general anæsthetic. When the cord was touched there was a sensation of pain, but no localization, and the operation was conducted without any more shock than with general anæsthesia. He agreed with the reader of the paper that it was almost impossible to make an accurate diagnosis between cases in which the cord had been partially or completely crushed. He did not believe that a lesion through the cervical region with an absolute loss of reflex, positively indicated that there had been a complete destruction of that region. Sometimes, on cutting down and exposing the cord, one observed very little change in the appearance of the cord until the dura had been cut. Even then there might be very little change because of a hemorrhage in the substance of the cord. The distribution of the sensation in almost all of these cases was irregular, so that the classical picture was rarely observed. In many cases where there had been absolute loss of reflexes there had been partial recovery; indeed, in his experience it had been the rule to see only partial recovery.

Dr. Graeme M. Hammond did not think it was always possible for the neurologist to say that the symptoms presented were positively indicative of complete destruction of the cord. In one case, coming under his observation, in which a young man had fractured his fourth cervical vertebra by diving in shallow water, there had been evidence of complete injury to the cord. He had been operated upon a year or two afterward, but it was needless to say there had been no resultant improvement. In another case, in which there had been an incomplete injury to the cord, and in which operation had been resorted to shortly afterward, there had been complete recovery, and the man had returned to his occupation of wrestler. Within a few days he had seen a very interesting case. It had been first reported four years ago. Several bales had struck him on the back, and almost immediately he had presented the symptoms of tabes, pure and simple. He had had no reflexes, and almost complete anæthesia with the Romberg symptom. He had been operated upon twelve weeks after the injury, and had made a complete recovery with a return of reflexes. He had seen this man within a few days, now twelve years after the injury, and he had then presented absolutely no symptom of injury to the cord. Such cases naturally lead one to be rather optimistic in regard to the mild cases. The fact that there was spinal deformity meant nothing, for in Pott's disease of the spine there was often very marked deformity without any spinal-cord symptoms. If the symptoms presented in a given case pointed to the total transverse lesion of the cord, there was nothing to be done but to operate, and even this gave a forlorn prognosis. In the milder cases, the operation should be undertaken as soon as possible, as here the prognosis was much better. He would operate in any case, no matter how hopeless it seemed, because nothing else could be done, and the patient was no worse

off than before. In the milder cases it was our duty to operate.

Dr. B. Sachs said that the question arising regarding operative interference in these cases was similar to the question of surgical interference in Pott's disease or in cases of tumor. The answer to this question must depend very largely upon the stage. He could not agree with Dr. Hammond that operation should be done because, to say the least, the person would be no worse. It was still the fashion to delay surgical interference until everything else had been tried, whereas if surgical interference was to do any good, it should be practised at once. In cases of fracture of the spine, therefore, whether complete or incomplete, operative interference at the earliest stage could do no harm and might be productive of a great deal of good. The differential diagnosis between complete and incomplete crush was difficult. When the crush was complete, the reflexes were almost invariably absent, whereas if there was more or less maintenance of conduction through the cord, the reflexes were apt to be impaired or exaggerated according to the site of the lesion. The dissociation of sensation was, in his opinion, an exceedingly valuable symptom, as it pointed out the rather moderate involvement of the cord. He was inclined to think that it was often a root symptom, and not an indication of absolute involvement of the cord itself.

Dr. J. Arthur Booth said that his experience had been limited, but he had not seen any great benefit from operation, although it should be said that operative interference had been resorted to at a late stage. It seemed rational to treat fractures of the vertebræ on the same general surgical principles as fractures in other parts of the body. In two of his cases, the complete paraplegia existing prior to operation had remained unaffected, though there had been some diminution of anæsthesia and improvement in the condition of the bladder.

Dr. Joseph Fraenkel referred to a case at the Montefiore Hospital of fracture of the spine. The patient had been admitted a year and a half after the accident, and had been walking around since the injury. Although the operation had been done late, it was worthy of note that three years and a half after the injury the autopsy showed that the cord had not been entirely destroyed. About six years ago, he had presented to this society a paper on the differential diagnosis between complete and partial destruction of the cord. In four cases in which the reflexes had been lost, the autopsy had shown complete destruction in only one of the cases. That shock alone was sufficient to destroy the reflexes was an old physiological dogma. He wished to insist that it was important to note the condition of the deep and superficial reflexes, because for the maintenance of the deep reflexes it was necessary that the cord be intact, whereas this was not requisite for the superficial reflexes. The plantar reflex was the one that was not destroyed.

Dr. George E. Brewer said that there was a greater inclination in Boston than in New York for operating upon these cases. He had personally passed through various stages of opinion regarding operating on these cases. At first he had been influenced by those around him in Boston. The general rule had been when there was paralysis below the point of injury and involvement of the sphincters to do an exploratory operation. He could not recall a single one of these cases that had been benefited by the operation, though he felt that they had all been examples of complete crush of the cord. In New York City, the surgeons had been perhaps a little too conservative. Injury in these cases is either a crushing one, or there is a hemorrhage within or without the cord; hence the outlook from operation was not good. The cases of hæmatomyelia recover without operation; cases of severe crushing injury, even with operation, do not. This seemed to be the prevailing view here at the present time. Possibly some of the early successes were in cases of unrecognized hæmatomyelia, in which, of course, recovery would have taken place entirely independently of the operation. Last winter he had seen a girl with injury of the last lumbar vertebra. There was a sensory paralysis and complete loss of control of the bladder and rectum. Dr. Hammond had examined the case, and believing that there was no transverse lesion, had urged operation. The speaker had performed laminectomy, and had found only a small spicule of the bone. The patient had recovered from the operation, and at the end of six weeks had regained control of the bladder and rectum. When seen two or three months after operation, she had almost completely recovered. Had it not been for the advice of Dr. Hammond, he would have looked upon this case as an improper one for operation. It had been his practice to introduce in these cases a very small rubber drain.

Dr. A. C. Brush of Brooklyn said that he had seen quite a number of these cases. In the past six months he had had several x-ray photographs made, and they had been so variously interpreted by those who had seen them that they had ceased to have any value. A case was mentioned in which great improvement had followed the removal of a spicule of bone in a man brought into the Kings County Hospital after a fall. A diagnosis had been made of fracture of the arch. An immediate operation had been done, and the arch found to be broken down, but this was not pressing upon the cord, but on a fragment of the tenth dorsal vertebra. This case had impressed him with the value of operative interference as a means of diagnosis.

Dr. Joseph Collins said that he had only seen a few cases of fracture of the spine, and these at a remote date from the injury. The future of spinal surgery for broken back, he affirmed, lay entirely in the hands of the neurologists—in other words, upon the diagnosis. This had been clearly brought out in the cases cited by some of the speakers.

Dr. Walton, in closing, said that the statement made by Dr. Dana regarding the symptomatology of complete crush of the cord seemed to impeach the testimonies of a number of trustworthy observers. Regarding late operations, he would say that if the pressure had been removed there was no use in operating, and if the pressure had existed for many months there was little prospect of doing any good by operating. Theoretically, the late operation would be useful in cases in which symptoms arose from the formation of callus on the inside of the laminæ and the pressure on the cord, but his personal experience did not include any case of this kind. Instead of picking out an occasional case for operation, he would advise selecting one in which an operation should not be done—in other words, a case which was in great shock and practically moribund.

MANHATTAN DERMATOLOGICAL SOCIETY.

A regular meeting was held on Friday evening, October 4, 1901, at the residence of Dr. I. P. Oberndorfer, 1037 Lexington Avenue, with Dr. Wm. S. Gottheil in the chair.

Favus Corporis.—Dr. Gottheil presented a child of seven months with three typical patches in the interscapular region. No subjective symptoms existed. No history of infection was elicited, and the general health was good. The disease had lasted four weeks.

Congenital Syphilis or Intertrigo?—Dr. E. L. Cocks presented a baby of two months with redness and scaliness of the lower abdomen, buttocks, inner surfaces of the thighs, and lower extremities, for opinions as to diagnosis.

Dr. Kinch believed it to be specific on account of the marked involvement of the lower limbs.

Dr. Abrahams called it intertriginous eczema and Dr.

Blemian intertrigo. Dr. J. Sobel classifies these cases as dermatitis erythematosus eczematoides.

Dr. Oberndorfer considered it an intertrigo with more intense manifestations than usual. Dr. Geyser excluded syphilis. Dr. Leveiss called it a clear case of seborrheal eczema of the newborn modified by moisture. Dr. Gottheil also considered it seborrheal eczema.

Syphilis.—Dr. E. L. Cocks presented a mother and two daughters with syphilis. Seven months ago the mother had chancre, syphilide, iritis, and mucous patches. Despite explicit directions as to its contagious nature and its serious consequences, a daughter of thirteen was attacked four months ago with a chancre of the right tonsil and a subsequent syphilide. Three months ago, the second daughter presented herself with a specific throat and a macular syphilide.

Dr. J. Sobel remarked that instances of family syphilis were not uncommon, and very deplorable, to put it mildly.

Dr. L. Weiss suggested that syphilis be placed on the list of reportable diseases and under the same supervision of the local health board as tuberculosis. Dr. Gottheil added that infection by the mouth was not rare, and often explained many obscure and mysterious cases.

Parasitic Eczema.—Dr. R. Abrahams presented a woman who for ten years has had an irregular red, hot, scaly lesion of the lower abdomen and thighs. In addition, for some months, the flexor surfaces of the forearms showed a papular lesion, which, on account of some central depressions, suggested lichen planus. Dr. Kinch thinks it eczema and lichen planus. Dr. Bleiman says that the thighs and genitals show eczema marginatum and the arms lichen. Dr. Oberndorfer considers it an atypical case of psoriasis. Dr. J. Sobel looks upon the condition as eczema, mycotic below, papular above. The excessive scratching has modified the picture and the arms show the retrogressive eczema papules, which, as Gottheil states, so closely resemble those of lichen. Dr. L. Weiss says it is eczema marginatum aggravated by acute attacks. Dr. E. L. Cocks calls it eczema and lichen. Dr. Gottheil states that it is not psoriasis and not lichen, but mycotic eczema.

Herpes Tonsurans Maculosus et Squamosus.—Dr. R. Abrahams presented a girl of thirteen with scaly lesions of various shapes and sizes over the entire body and part of the face. There was a slight amount of itching.

Dr. Kinch would call it seborrheal eczema and advises antiparasiticides. Dr. Bleiman stated that the lesions on the forehead and behind the ears resembled those of seborrheal eczema. Dr. J. Sobel stated that apart from the statements of the previous speaker, the thickness of the scales, their oiliness, the greater elevation of the lesions, and the infiltration of the skin militated against pityriasis rosea. Dr. Oberndorfer, Cocks, Weiss, and Gottheil agree as to the diagnosis of seborrheal eczema.

Vitiligo.—Dr. Blennan presented a woman with lesions of the face, arms, and body.

Eczema Marginatum.—Dr. J. Sobel showed a patient with marginate lesions of the suprapubic region and thighs.

Gumma of the Glans Penis.—Dr. J. P. Oberndorfer presented a patient with a gumma of the glans penis in order to demonstrate the great difficulty at times of differentiating from a large ulcerating chancroid. No history of a previous syphilitic infection was obtained; the patient had not had intercourse for two months, having been confined in a hospital. Dr. L. Weiss advised rapid and heroic treatment. Dr. Gottheil stated that histories in these cases were useless; a diagnosis must be made from what you see.

Chronic Papular Eczema.—Dr. R. Abrahams presented a child who for the past eight weeks has had a papular scaly eruption of almost the entire body. Dr. L. Weiss calls it eczema seborrhœicum psoriatiforme. Dr. Kinch considers it a chronic eczema or lichen. Dr. Cocks calls it dermatitis seborrhœicum. Dr. Oberndorfer says it is lichen planus acutissimus, complicated with seborrheal eczema. Dr. Bleiman calls it keratosis follicularis, and Dr. Gottheil believes it to be congenital follicular keratosis.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 3, 1901.

Herman Knapp, M.D., Vice-President, in the Chair.

Wesley M. Carpenter Lecture.—"Pediatrics in America before 1800." Dr. A. Jacobi was the lecturer. He expressed his indebtedness for the historical data to Dr. F. R. Packard and to the librarian of the College of Physicians of Philadelphia, to Dr. Ellsworth Eliot of New York City, and to the Surgeon-General's Library, Washington, D. C. The first case of hereditary syphilis with which he was familiar had been reported by John Winthrop of Boston. A woman after confinement having been troubled with a sore breast, and no one knowing at the time that she was diseased, no less than sixteen persons became infected with syphilis through efforts made to relieve her by sucking and drawing the breast. The earliest treatise on a medical subject published in this country was by the Rev. Thomas Thatcher of Boston in 1677. It was entitled "A Brief Rule to Guide the Common People of New England how to Order Themselves in the Smallpox or Measles." At that time, morbilli and variola were looked upon as similar, if not actually identical. In 1713, measles occurred in many places in New England, and there was a very extensive and malignant epidemic in 1758, which carried off over 1,800 children in Charlestown, S. C. Measles was complicated with angina in some of the cases reported at this time. All the symptoms of measles without the eruption had been observed by Dr. Benjamin Rush in 1773, 1783, and 1789, and many of these same persons had subsequently become sick with ordinary and typical measles. Measles, influenza, and angina were said to be the usual beginning of epidemics; dysentery, yellow fever, and plague developing later. Influenza was a frequent visitor from 1647 to 1789, the epidemic of 1761 being characterized by an inflammatory fever, and that of 1772 by measles and angina. A practice in vogue at that time was inoculation with smallpox as a means of mitigating the severity of the influenza. Dr. Jacobi said that he had already directed attention to an article published by Goldschmidt in December, 1889, in which the statement is made that a very large number of children under twelve years of age, who had been properly vaccinated, had exhibited an unusual immunity to influenza. In 1793, influenza had been exceedingly malignant in New York City, being complicated with angina. In 1735, diphtheria had broken out in Kingston, N. H., and it is noted that of the first forty cases not one recovered. This "distemper" did not reach the Hudson River, we are informed, until nearly two years afterward. The Selectmen of the town of Boston issued a proclamation in 1736 regarding the disease and the opinion of the medical practitioners of that day. The physicians expressed the opinion that the "distemper" was apparently not communicated from person to person, and they thought it proceeded from some affection of the air. The mortality at that time was said to have been very low. The treatment recommended was gargling the throat with a mixture of honey, alum, and the sharpest vinegar. Many of the articles published at this period were written, not by physicians, but by clergymen. In June, 1769, an article appeared on "Angina Malignum or Putrid Sore Throat," a disease which was said to have attacked children, especially since 1746. It was advised that no attempt be made to combat the inflammation by bleeding. This communication was printed anonymously, but has been attributed to Dr. Benjamin Rush.

For lack of time, Dr. Jacobi read only a portion of his address.

Therapeutic Hints.

Mucous Patches.—

℞	Chloral hydrate	gr. cl.
	Tincture eucalyptus	℥ccc.
	Water	℥v.
M.	Sig. Apply.	

—Lutaud.

Bed Sores.—If the nurse is competent, this painful complication will rarely require treatment. It is advisable to rub the parts upon which the patient rests with alcohol, and daily sponging of the entire body with warm water and then with alcohol will add greatly to comfort. Should a suspicious spot of redness present itself, remove the pressure therefrom by an air-cushion, and prevent the folds of linen pressing upon the patient. Dry dressings are preferable to moist ones for bed-sores, and oxide of zinc in powder or ointment is one of the most valuable remedies; acetate of aluminum has also a very beneficial effect. At times, considerable loss of substance is found, giving rise to a very foul odor; in these cases a charcoal poultice acts remarkably well.—*Rotch.*

Chloroform is now very seldom used in the Dublin hospitals. The patient is first put under the influence of nitrous oxide, and when anæsthesia is secured it is prolonged by means of ether.

Dr. Mundé recommends vaginal injections of bromide of potash, 1 dr. to a pint of water, in cases of so-called irritable uterus, diffuse pelvic pains and hysterical neurosis in various parts of the body.

In the Philippines, the insurgents dress wounds with dry salt or strong brine, for lack of the usual antiseptics, and wounds from firearms heal under it in four or five days.

Peanuts have the faculty of absorbing alcohol and preventing it from demoralizing the nerves and upsetting the thinking machine, without entirely curtailing its exhilarating effects. The large proportion of oil in the peanuts accounts for this result. A good wineglass of olive oil has the same effect.

The passage of the catheter in urinary diseases is a surgical operation, and should be considered as such. It is not merely a manœuver, rashly and indiscriminately to be undertaken.

In Biliary Lithiasis, Dr. Stanley M. Ward finds that if the patient will eschew fats and take 1 dr. of phosphate of soda in hot water three times daily for six months, then twice for three months, and continue the dose before breakfast for the balance of the year, recurrence is very rare.

The injection of a glass syringeful of lemon juice into the nose, after it has been cleansed of clots, will stop bleeding after everything else has failed.—*Massachusetts Medical Journal*, September, 1901.

In Incontinence of Urine in children, antipyrine has proved to be useful in large doses. Take 2 dr. of antipyrine and dissolve it in 1 oz. of water and add 1 oz. of alcohol. Take one teaspoonful at bedtime.

Balsam of copaiba is an excellent remedy for chilblains; paint it on once a day or more.

The following is Vidal's formula for seborrhœa sicca of the scalp: Precipitated sulphur, fifteen parts; castor oil, fifty parts; cocoa butter, twelve parts; balsam of Peru, two parts. Thoroughly mix the sulphur and castor oil, add the cocoa butter with the aid of a gentle heat, and finally the balsam. Rub into the scalp.

Agaricin in doses of $\frac{1}{8}$ to $\frac{1}{4}$ gr. is a valuable remedy in the night-sweats of phthisis.

A thin paste made by mixing iodoform in balsam of Peru is an excellent application to chronic indolent ulcers. Over this, place a dressing of bichloride-of-mercury gauze.

Dr. Sidlo, long ago, claimed to have cured many cases of ozæna by daily washing out the nasal cavities with a 2-per-cent. solution of chloride of potassium, to which 10 per cent. of glycerin has been added. This is followed by inserting rolls of cotton soaked in a mixture of one part of glycerin and three parts of water, the tampons to remain in place for one hour.

Phosphorus in full doses is said to be very beneficial in the treatment of some cases of goiter.

A lotion made of 1 dr. of permanganate of potassium to one pint of water is very effective in counteracting the odor of sweating feet.

Chapman calls attention to a diagnostic sign in myxœdema which has often proved useful. As is well known, puffiness of the eyelids is a sign of Bright's disease. So, too, is it a symptom of myxœdema due to the collection of mucin. So that when the urine is normal and puffiness of the lid is a symptom, the possibility of myxœdema being the cause should be kept in mind.

Dr. Ry reports thirty-two cases of night-terrors in children, in all of which adenoids were present in the naso-pharyngeal vault, and when these were removed, the nightmare ceased. He, therefore, concluded that adenoids are a common underlying cause of this trouble.

Fissure of the Nipple has been very successfully treated by many physicians with orthoform. A few drops of a saturated solution of orthoform in 80-per-cent. alcohol is applied directly to the crack, and a dry compress is then placed above.

The Treatment of Ozæna with antidiphtheritic serum seems to have many prominent advocates. Such specialists as Mgyind, Cathetin, Kyle, and King report good results following this plan.

Haffkine's Serum.—The statistics of the plague in Bombay seem to have established the fact that Haffkine's plague prophylactic is an effective serum for immunizing patients who have been exposed to the disease. Out of 3,814 inoculated persons in the Khoja Mussulman community but three deaths occurred, while among 9,516 uninoculated persons fifty-nine deaths occurred

The Treatment of Pneumonia by serum therapy has not been attended with sufficiently marked results except to give encouragement for its further trial.

Strychnine is the drug most commonly used to sustain the heart, and many advise that it be given in full doses hypodermically because the stomach is often so disturbed as to delay its absorption.—*Journal of Medicine and Science*, August, 1901.

In Acute Gonorrhœal Epididymitis, Setz has great faith in guaiacol. He first washes the parts with soap and ether, and then applies a 10-per-cent. ointment of guaiacol in vaseline.

Many physicians prefer the bromide of strontium to any other form of bromide in the treatment of epilepsy, because it can be continued for months without any of the deleterious effects which attend the use of the potassium salt, and can therefore safely be given in doses large enough to control the fits.

Lime in the Eye.—Wash the eye thoroughly with a large quantity of warm water—for a little water but adds to the trouble by slacking the lime—and then introduce a solution of sugar and water. This is superior to solutions of vinegar or dilute acids, because sugar forms an insoluble compound with lime.

Whatever else you do in internal carbolic-acid poisoning, give at once a large dose of alcohol—whiskey, brandy, rum, or gin will answer—and repeat it often.

Objections to Extirpation of the Gasserian Ganglion.—C. H. Hughes (*Alienist and Neurologist*) summarizes his reasons as follows: (1) The curability of the disease by medication if rightly and vigorously followed up. (2) Trifacial neuralgia is not a disease exclusively of the ganglion. (3) It is not a disease exclusively confined to the fifth nerve. (4) Medical effect equal to that of the operation can be secured by proper means. (5) Because of the irritation, trophic, or paralytic sequences of this formidable operation.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 26, 1901:

	Cases.	Deaths.
Measles	130	4
Diphtheria and croup	213	37
Scarlet fever	117	7
Smallpox	8	3
Chickenpox	26	..
Tuberculosis	235	154
Typhoid fever	77	25
Cerebrospinal meningitis	..	

Statistics of Suicides.—The New York *Sun* of October 6 published the following remarks on this subject: "Two peculiarities are shown in the recently published figures of suicides in American cities—the recession of natives of Germany from the head of the list which they long held, and an increase in the number of suicides among colored people. In the last published report on the subject in this city, all boroughs, it was seen for the first time that there were more suicides by natives of the United States than by those of Germany, though the disparity was very small. The change is explained in part by the fact that while the number of German men who commit suicide is larger than that of male suicides of any other country, suicide by German women is comparatively rare, and gets rarer each year. The suicides of colored people have been more conspicuously observed in the large cities of the South than in Northern cities, where the colored population is small and is not increasing, and the explanation of it is found in a single phrase, city life. Colored residents of farms or small towns seldom commit or attempt suicide; it is in the large cities, where the struggle for existence is under conditions most unfavorable to colored men, that a few of them overcome their repugnance to such an act of violence. In proportion to the total population, suicides among Englishmen residing in the United States are very much more frequent than among residents of Irish birth. Among male natives of France and Switzerland in the United States the rate of suicides is high; among women from France or Switzerland there is practically none at all. In respect to the total number of suicides compared with the population, Chicago and San Francisco rank highest among American cities. Baltimore and Richmond are low on the list. In New York City the ratio of suicides is higher in Queens than in the Bronx."

Treatment of Lumbago.—Plique (*Presse Médicale*, Paris, July 20, 1901) says: "In vigorous subjects the abstraction of blood constitutes the best, the most rapid, and the most efficacious treatment. Vapor baths are uncertain. Hot applications diminish the pain, though caution in their use is necessary, lest they cause burns lasting longer than the lumbago. Camphor and chloral hydrate are frequently successful. At the height of the attack, massage can only be used with gentleness and moderation. Slight spraying with methyl chloride over a large area is more successful than intense local action. In obstinate cases, dry faradization, though painful, is very efficacious. The current should be as strong as the patient can bear, and should be continued till the whole back is reddened. Interachnoid injections of a very weak cocaine solution give great relief. Better, because less dangerous, is the epidural injection made through the coccygeal ligament, between the dura mater and the osseous column. Subcutaneous injections of morphine are not to be recommended. Instead, a mixture of antipyrene and cocaine may be injected. For traumatic lumbago, massage and prolonged baths are indicated. In pure rheumatic lumbago, the salicylates have no action. In prolonged cases, oil of turpentine in capsules or emulsion seems to have some effect. In other cases it may be necessary to treat anæmia, constipation, etc. In all cases, hygienic measures, to prevent chill and exposure, are useful. It must not be forgotten that lumbago is sometimes due to aneurysm."

Treatment of Inoperable Cancer.—The conclusions arrived at by Alfred Cooper, F.R.C.S., and expressed in *The Lancet*, October 12, with regard to the remedies recommended in the treatment of inoperable cancer are as follows: (1) That in cases of inoperable sarcoma, more especially the spindle-cell variety, the patient should have the option of Coley's fluid given to him, since a certain number of cases have been cured; (2) That in cases of inoperable cancer of the breast, in women of about forty years of age, in whom the menopause has not occurred, the operation of oöphorectomy should be proposed, and this treatment may be combined with thyroid feeding; (3) That in cases of inoperable rodent ulcer, and in the superficial malignant ulceration in other parts, the Röntgen rays give a good hope of improvement; (4) That in cases where these other methods are declined, or are inapplicable, the internal administration of celandine is worthy of trial, and when the case appears quite hopeless, morphine should be pushed without hesitation; (5) Finally, Mr. Cooper would suggest that, before trying any of these remedies, the risk should be fully pointed out to the patient that the faint hope, that most of them afford, should not be magnified, and that the discomfort of treatment should be fully discussed; in fact, the surgeon should not do more than offer the treatment, and leave the patient to accept or refuse it.

Human and Bovine Tuberculosis.—Dr. E. R. Brush of Mount Vernon, N. J., says: "One simple fact that strengthens my belief that human bacillary tuberculosis is all derived from the bovine species is that where this animal does not exist, pulmonary consumption is unknown. The Kirghiz on the Steppes of Russia who have no cows have domesticated the horse, using his meat, milk, and skin, and a case of pulmonary tuberculosis has never been known to exist among the tribe. The Esquimau has no cows, neither has he pulmonary consumption; and I think it can be laid down as a fact that where dairy cows are unknown, consumption is unknown. He further says that the reason that tuberculosis is not more frequently transmitted from cattle to man is accounted for in the difference of temperature. A germ cultivated in the cow is a tropical growth, because her average temperature is between 101° and 103°. The human race, by this mode of illustration, represents the temperate zone. The bacillus introduced from the cow into the healthy man finds a difference of temperature of four or five degrees, and although it may live, and in a lessened degree increase, it does not become virulent until, from some other cause, the temperature of the man is increased, when it rapidly multiplies, and thereafter creates its own proper temperature, such as we find in most cases of tuberculosis.—*Sanitarian.*

New Laboratories for Paris.—A special mission was appointed some time ago, says the *Pharmaceutical Journal*, under the presidency of M. Léon Bourgeois, to inquire into the feasibility of furnishing the Conservatoire des Artes et Métiers with the laboratories, which, by virtue of the abundance and variety of work done there, are an absolute necessity. The work of the commission has been concluded, and the report drawn up clearly advocates the building of an addition without delay. The additional surface to be built upon covers 5,000 square meters, so that a handsome edifice in which to do some good and useful work may naturally be expected. These new laboratories will be provided with the most complete and recent appliances to conduct experiments in physics,

mechanics, and chemistry. The probable cost of this proposed addition is estimated at about $100,000, while its maintenance will most likely demand an annual expenditure of $15,000. The prevalent idea is that France has been vastly outstripped by Germany as to applied chemistry, and it is fervently hoped that this action on the part of the government may enable her to turn the tables on, or at least keep pace with, her wide-awake neighbor, for many of the leading industries of Germany owe their origin to French inception.

The Origin of European Races.—The London *Globe* says: "It is a sign of the growing importance of anthropology that M. Hamy, a well-known anthropologist, was president of the French Association for the Advancement of Science, which met recently at Ajaccio, Corsica. Hamy took the origins of his particular science in France for the subject of his inaugural address. The immediate founder of the science in France was William Edwards, who was led to publish his observations by the "History of the Gauls" of Amedée Thierry, an erroneous book which seems to have misled Matthew Arnold in his essay on Celtic literature, and all the English critics who follow him. Thierry, on the strength merely of history and tradition, distinguished only two ethnic elements in the French, the Kimry and Galli, whereas there are many elements in this very composite people. Edwards showed that what history called particular races are really mixtures comprising earlier races who have lost their language, customs, etc. The earlier peoples, in fact, amalgamate with newcomers, and give rise to a new subspecies different from the original elements. It is in this way that all the nations of Europe have been built up in the course of ages, not excluding our own, and this accounts for the diversity of types we find in one country as in different countries.

Legislation on Intemperance.—The New York *Tribune*, October 13, says: "The public is now alive to the fact that it must consider dipsomaniacs, or habitual drunkards, as invalids, very much of the same type as epileptics, that their care has become a necessity, and when the drink habit has become uncontrollable, and the poor victim can no longer restrain himself, and becomes crazed with a maddening thirst for liquor, he should be protected and surrounded by every possible safeguard. During the last session of the Legislature of the State of New York, at Albany, there was considerable discussion as to the best method to be adopted for the care, and, if possible, the permanent cure of victims of alcoholism, and also of those addicted to the use of narcotics and other deleterious drugs, as artificial stimulants so destructive to the nervous system. A bill was presented directing the establishment of an asylum or sanatorium where these patients could be committed, either voluntarily, upon the application or complaint of a member of the family of the afflicted sufferer from drink or noxious drugs, or by especially authorized officers of the law. This commitment to be for a term of not less than five years."

Phagocytosis of the Typhoid and the Colon Bacillus.—Giovanni Battiata de Rosa-Cotronei concludes that phagocytosis affects the colon bacillus more rapidly and more markedly than it does the typhoid bacillus. The latter is, therefore, the more virulent. In animals, which have been rendered immune, the phagocytic power is high in regard to both bacilli. An animal vaccinated with one of these germs acquires a high degree of phagocytic power against the other germ. The action is more intense in animals vaccinated with typhoid bacillus, and injected with the colon bacillus, than in the opposite case. Traumatism, anæsthetics, narcotics, pregnancy, and cold are factors capable of retarding, and even of preventing, the phagocytosis of the typhoid and the colon bacillus.—*Lo Sperimentale.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended October 26, 1901:

		CASES	DEATHS
SMALLPOX—UNITED STATES			
California, San Francisco	Oct. 6-13	1	1
Kentucky, Lexington	Oct. 12-19	2	
Louisiana, New Orleans	Oct. 12-19	5	
Massachusetts, Boston	Oct. 12-19	15	2
Nebraska, Omaha	Oct. 6-19	1	
New Hampshire, Concord	Oct. 13-12	1	1
New Jersey, Camden	Oct. 12-19	9	
New York, Elmira	Oct. 12-19	6	
New York	Oct. 12-19	4	1
Pennsylvania, Norristown	Oct. 12-19	1	
Philadelphia	Oct. 12-19	69	19
Pittsburg	Oct. 12-19	1	
Steelton	Oct. 13-20	1	
Rhode Island, Newport	Oct. 12-19	1	
Utah, Salt Lake City	Oct. 12-19	1	
Vermont, Burlington	Oct. 12-19	15	
SMALLPOX—FOREIGN.			
Austria, Prague	Sept. 28-Oct. 5	4	
Belgium, Brussels	Sept. 28-Oct. 5		1
Colombia, Cartagena	Sept. 23-29		1
Panama	Oct. 7-14	125	
France, Paris	Oct. 5-11		6
Great Britain, London	Sept. 28-Oct. 5	169	7
Southampton	Sept. 28-Oct. 5	1	
India, Calcutta	Sept. 7-14		2
Madras	Sept. 7-13		2
Mexico, Mexico	Sept. 29-Oct. 6	2	
Nova Scotia, Halifax	Oct. 6-12	23	
Russia, Moscow	Sept. 14-23	5	1
Odessa	Sept. 28-Oct. 5	2	
Warsaw	Sept. 14-21		1
Spain, Madrid	July 15-Sept. 9		26
Uruguay, Montevideo	Aug. 16-24	22	2
PLAGUE—UNITED STATES.			
California, San Francisco	Oct. 6-13	1	1
PLAGUE—INSULAR.			
Philippines, Manila	Aug. 18-24		11
	Aug. 31-Sept. 7		2
PLAGUE—FOREIGN.			
China, Hong Kong	Aug. 31-Sept. 7	6	6
Newchwang or Newchang	Aug. 31	2	
India, Bombay	Sept. 10-17		255
Calcutta	Sept. 7-14		13
Harachi	Sept. 8-16	18	13
YELLOW FEVER.			
Costa Rica, Port Limon	Oct. 5-12	2	1
Mexico, Merida	Sept. 21-28		5
Valladolid	Sept. 21-28		4
Vera Cruz	Sept. 28-Oct. 5	7	4
CHOLERA.			
India, Bombay	Sept. 10-17		11
Calcutta	Sept. 7-14		8
Madras	Sept. 7-13		113
Java, Batavia	Aug. 31-Sept. 7	80	68

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received, if it which in the judgment of its editor will not be of interest to its readers.*

A TREATISE ON MEDICAL JURISPRUDENCE By GEORGE VIVIAN POORE. 8vo, 533 pages, illustrated. Longmans, Green & Co., New York, N.Y. Price, $4.00.

A CIVILIAN WAR HOSPITAL. By ANTHONY A. BOWLEY AND OTHERS. 8vo, 343 pages, illustrated. Longmans, Green & Co., New York, N. Y.

DISEASES OF THE UPPER RESPIRATORY TRACT. By W. W. WILLIAMS. 8vo, 436 pages, illustrated, 4th edition. Longmans, Green & Co., New York.

THE CENTURY BOOK FOR MOTHERS. By L. M. YALE and GUSTAV POLLAK. 8vo, 461 pages. The Century Co., New York. Price, $2.00 net.

TWELFTH ANNUAL REPORT OF STATE COMMISSION IN LUNACY. 8vo, 1,165 pages. Illustrated. James B. Lyon, Albany, N. Y.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By JOHN V. SHOEMAKER. 8vo, 892 pages. Illustrated. D. Appleton & Company, New York.

FOOD VALUE OF MEAT. By W. R. C. LATSON. 12mo, 72 pages. Illustrated. The Health-Culture Co., New York, N. Y. Price, cloth, 50c.; paper, 25c.

MAPS OF STATE BOARD OF HEALTH. Twentieth annual report, for 1899.

TWENTIETH ANNUAL REPORT OF THE STATE BOARD OF HEALTH. 8vo, 555 pages for 1899. James B. Lyon, State printer, Albany.

STUDIES IN PHYSIOLOGICAL CHEMISTRY. By R. H. CHITTENDEN. 8vo, 425 pages. Charles Scribner's Sons, New York.

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Original Articles.

SOME OBSERVATIONS ON THE SYMPTOMATOLOGY AND DIFFERENTIAL DIAGNOSIS OF APOPLEXY; WITH THE REPORTS OF SEVERAL ILLUSTRATIVE CASES.*

BY THEODORE DILLER, M.D.,
PITTSBURG
NEUROLOGIST TO THE ALLEGHENY GENERAL HOSPITAL

THE term apoplexy will be used to include encephalic hemorrhage, thrombosis, and embolism, as a synonym for what is popularly known as a "stroke." No attempt will be made to describe the typical attack of apoplexy, nor those occurring in childhood. It is my purpose rather to speak of the apoplexies in the adult, occurring in unusual situations, and to discuss certain points in the matter of symptomatology and differential diagnosis which I believe to be of importance. It is not my purpose to weary you with the recitation of the details of a large number of cases, but to introduce in the briefest manner possible the main features of a few cases only to illustrate the points I wish to make.

In the first place, the conviction is being more and more forced upon me that the occurrence of apoplexy, without the production of either paralysis or loss of consciousness, is far more common than a reading of the standard textbooks would lead one to believe; and the recognition of such apoplexies must be regarded as of the greatest importance, since they often leave little damage behind, and afford a most favorable opportunity for the institution of such dietetic and hygienic measures as may prevent or postpone a second attack. Again, but one of these two symptoms may be present. I recall several cases of what I believed to be cerebral hemorrhage which came into the Allegheny General Hospital, in which there were sudden attacks of coma without paralysis, and in one of these cases the diagnosis was verified by an autopsy.

Apoplexy Without Paralysis or Loss of Consciousness.—As an illustration of this proposition I desire briefly to mention a case already referred to by me last winter in a verbal report before the academy. The case is that of a priest, aged forty-seven, of an artistic and highly nervous temperament, an artist of no mean ability.

On December 7 last, while watching the children at play, he suddenly became slightly clouded in his consciousness. He stayed himself to keep from falling, and, recovering himself quickly, noticed that he was blind to the right. He retired to the house unaided, and no one knew that he was ill—that he had received a stroke of apoplexy. For two weeks he refrained from work, but did not go to bed.

Examination by Dr. W. K. Walker discovered the left halves of both retinæ to be blind, as shown in the accompanying chart (see Fig. 1). At the time of my examination the patient was nervous and excitable, with a pulse of 125. The heart sounds were normal. Wernicke's hemiopic inaction sign could not be elicited, thus indicating an involvement of the cortical optic centers on the left side or the tracts between them and the primary optic centers on the same side.

Here we have, I believe, a clear case of apoplexy with partial and momentary loss of consciousness, leaving behind it only one symptom by which we can form the reasonable belief that an apoplexy has occurred. Had homonymous hemianopsia not been produced, it is altogether unlikely that apoplexy would have been diagnosed. It is difficult to consider a case like this without having the suspicion enter the mind that many attacks of apoplexy occur which are unrecognized because of the temporary or insufficient symptom, which they produce. In another case of apoplexy occurring in a mother during childbirth with hemiplegia and loss of consciousness, homonymous hemianopsia was produced and is a persistent symptom (see Fig. 2).

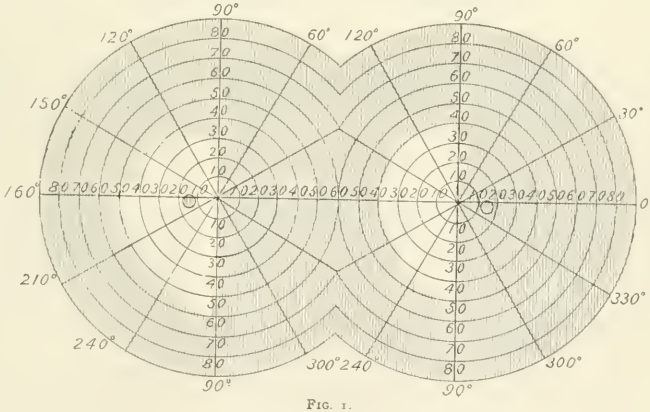

FIG. 1.

While this paper was in course of preparation, it was my good fortune to see within two or three days of each other two apoplexies of the central vessels of the retina. One was probably due to a thrombosis of the vein, the other to an embolism in the artery. In both cases the onset was sudden, but consciousness was not disturbed. The eye-grounds in the two cases presented striking contrasts. Dr. G. E. Curry, to whom I am indebted for the permission to examine these cases, will furnish a description of them.

Apoplexy of the central vessels of the retina, as is well known, is sometimes the forerunner of an apoplexy of a cerebral vessel; and the warning it gives is not to be disregarded.

* A paper read before the Pittsburg Academy of Medicine, September 30, 1901.

Apoplexy Manifesting Itself by Hemiplegia Unattended by Loss of Consciousness.—That an apoplexy may manifest itself by a hemiplegia alone without a loss of consciousness is illustrated by the following case:

A man, aged fifty-eight years, a contractor, while quietly smoking on January 24, 1895, noted his face was drawn to the left; and he was unable to close the right eye. He was fully conscious. When I saw him two years later, the right facial palsy was marked and there was slight but distinct spastic paralysis of the right arm and leg. The right knee-jerk was exaggerated.

At first glance, with the patient's history, the case seemed one of ordinary seventh-nerve palsy, but the electrical reactions of the right face muscles and the right-sided spasticity, with exaggerated right knee-jerk, made the diagnosis of apoplexy clear.

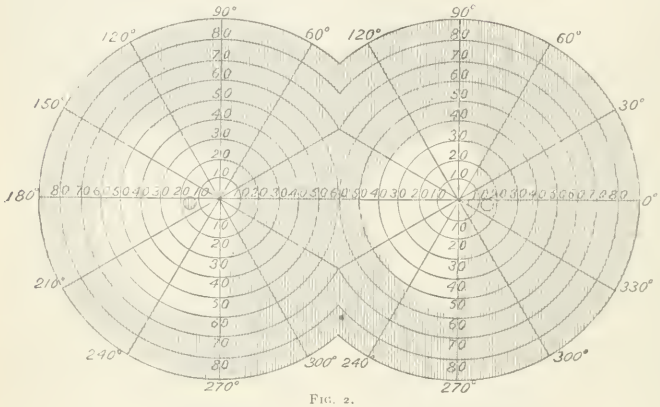

Fig. 2.

Two months after my first examination, the patient awoke one morning dizzy and confused, so that he was unable to stand alone. Within the space of two weeks he regained his usual mental faculties. The hemiplegia was not deepened. In this attack the conditions were reversed, *i. e.* it was attended with disturbance of consciousness without those of motion.*

Apoplexy Producing Loss of Consciousness and Prolonged Mental Disturbance, But Not Paralysis.—The case which, in all probability, was one of thrombosis with secondary softening, was characterized by early and prolonged disturbance of consciousness unattended by paralysis.

The case is that of a very plethoric man, aged fifty-four, an architect by occupation, and a constant drinker.

About two years ago he was struck on the head in a melée, and rendered unconscious, and at the hospital was found to have a right hemiplegia. He recovered entirely from this attack, and was again able to attend to his usual business.

One week ago, after an unusually hearty breakfast, he complained of violent headache. He staggered as though intoxicated, and soon became confused and helpless. At noon he recovered consciousness partially. He soon relapsed into coma again, and so continued for three days. He revived somewhat, but soon relapsed again.

When I saw him he was stuporous, but not comatose. His temperature was 103 and his pulse 90. There was no paralysis; the knee-jerks were unaltered. He was taken to the Allegheny General Hospital, where he remained in a condition of greater or less stupor and mental confusion for three months, and with a temperature, during several weeks, ranging from 100 to 103. He made a partial recovery, and was discharged at the end of three months. I saw him a year later, when he seemed to be in excellent health, except for a minor tinge of dementia.

The several headaches ushering in this second attack, the onset and variability of the coma, the long period of mental confusion, the absence of palsy, and the final approximate recovery were to me all points of interest in this case which could, with profit, I believe, be reported in detail. The first attack seems to have been one of conventional apoplexy.

Cases of Apoplexy in Which Incorrect Diagnoses Were Made.—In the next three cases erroneous diagnoses were made. The first of these is one of thrombosis with secondary softening, in which the diagnosis of brain tumor was made, and it well illustrates some of the difficulties which may be encountered in making a differential diagnosis between these two affections.

A single woman aged sixty, of most exemplary habits, had, for ten or fifteen years preceding my examination, been subject to more or less pain in the epigastric region. Gastric cancer and floating kidney had been diagnosed. For two years she had steadily lost in flesh. For three and a half weeks past she had complained of constant headache which was often severe. For two and a half weeks past she had been subject to much nausea and vertigo, and on several occasions had vomited. A week before death some thickness of speech developed. Three days before death stupor appeared and rapidly deepened into coma. The eye grounds were not examined. Paralysis was not a symptom.

The autopsy discovered great degeneration of all the arteries at the base of the brain, the vertebrals being especially stiff and hard, and one of them contained a well-organized thrombus. A spot of softening, the size of a marble, was discovered on the posterior edge of the left cerebellum. Two smaller areas of softening, one in the tegmental region of the left crus and the other in the left optic thalamus, were found.

The symptoms noted in this case, common to thrombosis with secondary softening and brain tumor, are: Severe headache, nausea, vertigo, vomiting, and stupor. The fact that the headaches had existed only three and a half weeks, and that there was general arterial degeneration, were two points which, however, favored the diagnosis of the true condition—cerebral softening. There was some reason for suspecting that the headaches have lasted longer than stated.

In another case of cerebral softening already published,* the diagnosis of hysteria was made by me and two other physicians. The main points in this case are briefly as follows:

A woman, aged fifty-six, became much concerned because of a hand injury which her granddaughter had sustained, and a few days later began to complain herself of numbness in the right hand, and persisted for some days in repeatedly saying her condi-

*Since this was written, I saw a woman who, several weeks ago, was suddenly stricken down with a left hemiplegia with no loss of consciousness whatever. The hemiplegia persists and contractures are now present. Her mind remains unclouded.

*Medical Record, April 28, 1894.

tion was growing worse, and then that her leg on the same side was similarly affected. Finally, hemiplegia developed on the paræsthetic side. More than a month was required for the development of these symptoms, and the case was regarded as one of hysteria. But a little later the hemiplegia became more pronounced; stupor, and then coma, with elevation of temperature, developed. The patient finally died, the temperature during a few days preceding death having mounted rapidly up to 106.

An autopsy discovered badly degenerated arteries at the base of the brain, a great narrowing of the internal carotids, each of which contained a firm thrombus. Extensive softening was noted in the left cerebral hemisphere. It need hardly be added that, with the deepening of the stupor into coma and the appearance of temperature, the diagnosis of hysteria was abandoned.

The next case* was one of hemorrhage into the frontal lobe attended with violent and prolonged convulsive movements in which the diagnosis of hysteria was made. The chief features in the case are as follows:

A woman, aged forty-six, while out for a walk, suddenly sank to the ground and at the same time vigorously called for assistance. "There was also a spasmodic, hacking cough, with some spitting of blood." She soon sank into coma and at the same time exhibited violent general convulsive movements, which were maintained for more than half an hour. But no paralysis was apparent. The patient improved. After two or three weeks, when her mind was pretty clear, she was seized with an attack characterized by sudden unconsciousness, right hemiplegia, vomiting, and loss of control of the sphincters. Death occurred a few days later.

At the autopsy a large blood-filled cavity was discovered in the left frontal lobe, which itself was much softened. A layer of blood measuring two and a half by three inches was also found beneath the dura over the left parietal region. A similar but smaller area of blood was found over the right parietal region.

The interesting features in this case are the onset of the first attack, with coma and violent and prolonged general convulsive movements, which led those who first saw the patient to regard the attack as hysterical, and the post-mortem findings.

Sudden Loss of Consciousness with Hemiplegia Due to Causes Other than Apoplexy or Without Apparent Cause.—On three occasions I have witnessed autopsies where the clinical diagnosis had been cerebral hemorrhage based upon a sudden loss of consciousness with hemiplegia. In one of these cases nothing was revealed which could explain the symptoms. In the two other cases rather marked cerebral œdema was present. I believe that the possibility of a general cerebral œdema producing hemiplegia with unconsciousness must be allowed.

As is well known, both abscess and tumor may, even when of a large size, remain latent in the brain for many months, or even years, producing few or no symptoms. These lesions may first declare themselves by producing more or less sudden loss of consciousness with hemiplegia.

I recall a case of sudden unconsciousness, with hemiplegia, to which I was hastily summoned a number of years ago. I learned that the patient had complained in a more or less indefinite way of headaches and general ill-health, and had taken "womb treatment," believing that the symptoms arose from that organ. I discovered, upon dissecting the brain, a large abscess in one cerebral lobe.

Apoplexies Occurring in Connection with Brain Tumors and Brain Abscesses.—As is well known, hemorrhage may occur in or about a brain tumor or abscess and produce symptoms masking those of tumor or abscess, so that the physician without a history may be misled as to the true condition; and, indeed, with the history the indications may not be sufficiently clear. In all cases of brain tumor or brain abscess, the possibility of a complicating apoplexy should enter the physician's mind.

Apoplexy as a Symptom of Paralytic Dementia.—The next case is one in which the question arose (and still remains unsettled) as to whether an apoplectic attack was one such pure and simple, or as to whether it was symptomatic merely in the course of beginning paralytic dementia, which disease, as is well known, is often characterized by such attacks.

A man, aged sixty-two, who had been a *steady* whiskey drinker since the age of twenty-one, was, on the morning of April 6, last, seized with an attack which was described as follows: On awakening he talked in a confused manner, like one drunk, and his speech was thick. He had much difficulty in eating his breakfast, used a spoon for a knife, etc. He exhibited no paralysis of any sort, but the mental confusion continued up to the time of my visit, two weeks later.

Examination showed his pupillary reactions, speech, station, gait, and knee-jerks to be normal. Mentally, he exhibited distinct dementia. Asked on three different occasions his age, he gave three different answers. He could not add numbers of two units together, or subtract numbers of a single unit. He misplaced and mispronounced words. His handwriting was more cramped and less legible than before the attack. He normally wrote a clear, bold hand.

This patient was said to have been in excellent health before the attack described, and to have exhibited no mental deterioration whatever. Nevertheless, his mental condition since the attack and the character of the attack itself make me suspect the existence of paralytic dementia, notwithstanding that the age of onset (sixty-two years), the physical examination, and the history argue against this view.

In another case, that of a young man in the early thirties, whom I saw last winter, the history of syphilis, diplopia, convulsive and recurrent hemiplegic attacks, led to the diagnosis of syphilitic thrombosis when the patient was seen in an apoplectic attack. Indeed, this diagnosis was only revised at the autopsy, when the indubitable changes of paralytic dementia were discovered. This case will be reported in full by Dr. W. K. Walker, R. G. Burns, and myself in an early number of the *American Journal of Medical Sciences*.

Yet, the diagnosis of apoplexy was correct enough, so far as it went. But it did not go far enough, *i. e.* far enough to recognize the apoplexy as a symptom of the paralytic dementia.

Apoplexies in Unusual Situations in the Encephalon.—Apoplexies in the pons are probably quite rare. Of these I have two cases to record, the first of which was studied with Dr. J. Hartley Anderson, who, some years ago, made a verbal report of it before this academy.

A gentleman, a member of our profession, aged about fifty-five, had for nearly a year suffered from diplopia. He awoke one morning to find his speech thick, and utterance and deglutition difficult. These bulbar symptoms increased. Slight paralysis of one side and then of the other side of the body appeared.

* This case has already been reported by Dr. Samuel Ayres. See *Pennsylvania Medical Journal*, November, 1897.

The pupils were unequal. Mental confusion, slow, irregular respirations, stupor, and coma followed. Death ensued in a few days.

At the autopsy, Dr. Anderson discovered a thrombus of the basilar artery and bilateral softening of the pons.

In a previous paper* I have reported the next case, one of apoplexy of the pons, and called attention to the great similarity between the symptoms thus produced and those caused by opium poisoning. The symptoms common to both are: Stupor or coma, myosis and slow respirations. It is needless to point out the possible medico-legal significance this fact might have in a given case; for without a history a differential diagnosis would probably be impossible.

In the case I reported, that of a woman, aged sixty-six years, there was increasing stupor over four or five days (when death occurred), temperature ranging from 100 to 103, an internal squint, and twitching of the facial muscles. The respirations were slow (seven to eight per minute) and came in groups of threes. The points which distinguished the case from opium poisoning were: The temperature, facial twitching, the irregularity of the respirations, the ocular palsy, the incompleteness of the coma, and the history of the case (ability to eliminate opium poisoning). I have not yet ceased to regret that an autopsy was refused in this case.

Apoplexies in the cerebellum are not so rare as those in the pons, but occur much less frequently than those of the cerebrum. I desire to report the following two cases of apoplexies in this region:

A man, aged forty-seven, fell to the floor unconscious in attempting to get out of bed one morning. For three days following this attack, he had frequent and violent vomiting spells. He remained in bed five weeks, during all of which time he was subject to attacks of vertigo brought on especially by movement. Severe onsets were attended by nausea and vomiting. Hemiplegia had not been a symptom. When I saw him—three months after the initial attack—vertigo was still a most troublesome symptom. The patient guarded carefully against sudden movements which experience had taught brought on vertigo and vomiting. His gait was slow and uncertain. Sensation and motion were unimpaired, and the knee-jerks were normal. He had had no ringing in the ears. There was no impairment of hearing.

The second case is that of a man, aged fifty-nine years, who, in February, 1900, was suddenly seized with a left hemiplegia. A week later he had fully recovered the lost power in the leg, but only partially that in the arm, which has continued to be partially paralyzed.

On November 26, following, while riding in a street car, his consciousness became clouded, but not lost, and "things swam before his eyes." In getting out of the car, he found himself very unsteady on his feet. He got into a carriage, and after driving a mile was seized with nausea and vomiting, and felt "weak and numb all over." Following this attack, he was extremely dizzy for the next three weeks, and this symptom, in less degree, has persisted up to the present time. He never feels dizzy when sitting or lying quietly. But muscular movement, even slow, careful attempts at walking, bring it on. He has come to avoid all sudden, sharp turns for fear of bringing on this most distressing symptom. He walks in a slow, lumbering fashion, with his feet wide apart, concentrating his attention on the act. Knee-jerks are present, and both are below normal in excursion. There is no deafness or tinnitus.

Following the second attack no increase of the left hemiplegia occurred.

Medical News, May 29, 1897

Two noteworthy features of both of these cases are the appearance of vomiting and vertigo as early symptoms, and the stubborn persistence of the vertigo as the chief after-symptom.

In conclusion, it is perhaps only trite to say that apoplexy is only a symptom—not a disease in itself. Hemorrhage or thrombosis can only occur when the blood vessels are diseased; and embolism can only occur by the entrance of a foreign body in the blood stream. The rise of blood pressure is the most frequent determining cause of apoplexy, and in this single proposition we have our most significant hint for prophylactic treatment.

Westinghouse Building.

SOME REMARKS ON THE ETIOLOGY OF APOPLEXIES.*

By W. K. WALKER, M.D.,
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In Dr. Diller's interesting series of cases this feature stands out prominently; the varying clinical features presented, however accurately they may enable us to determine the character and to locate the lesion within the complicated structure of the brain, are due to destructive changes in brain tissue which we can but little modify by treatment; and this because each case represents the termination or final culmination of conditions and causes which have probably been operative for years. Without consideration of this etiologic aspect, therefore, it seems to me that the lesson to be taken from the paper to which we have listened would be lost.

Whether of cerebrum, cerebellum, or pons, the primary lesion and principal underlying cause is pathologic change in blood-vessel walls. So gradual may this have been in its development, insidiously advancing without the production of symptoms (indeed, the subject is commonly the picture of health and vigor), that the final result in sudden damage to neural tissue often occurs without warning.

That "a man is as old as his arteries" has long been an axiom. Osler says that longevity is thus made a vascular question, and, also, that to the majority of men death comes primarily or secondarily by this portal. Bad quality of the arterial tubing may be inherited, but "a vessel which at the outset was well developed may be modified by the far-reaching influence of post-natal diseases and the influence of various poisons" (Berkley). With disturbance of cell-nutrition consequent upon damage to vessel-walls, we have the production of symptoms varying with the anatomic character and concomitant function of organs involved. With increasing knowledge of the causes and pathology of these changes, the relation of vascular degeneration to nerve lesions assumes increasing importance, many diseases of the nervous system formerly described as trophic, vasomotor, etc., now being determined to be of vascular origin. Results of recent investigations in neuropathology show that the chromatic substance, the most important constituent of nerve cells, is more susceptible to the effects of disordered circulation than to the action of most bacterial toxins (Ewing), and we know that in those forms of insanity which are to-day based upon a precise morbid anatomy—*e.g.* syphilitic insanity, paralytic dementia, senile dementia—the essential lesions are of the vascular apparatus. Although vascular in origin, the clinical manifestations are due to resulting interference with nutrition or destruction of various groups of neurons, with consequent impairment or abolition of their functions.

*Read in the discussion of Dr. Diller's paper on apoplexy before the Pittsburg Academy of Medicine, September 30, 1901.

That the manifestations should vary so greatly when the higher cerebral centers suffer as a result of these changes can be explained only on the grounds of variations in vulnerability of different portions of the brain, and in nervous instability, either inherited or acquired by modes of living. Given, then, an inherited vulnerability of the arterial tubing, a relatively slight influence of the factor of irritant poison may be required to produce serious damage in blood-vessel walls.

In addition to the factors named, there is frequently operating the inciting one of high functional activity, which, in a given individual, determines the location of the lesion in a certain set or group of neurons. "The life of a blood vessel in the main depends upon the use made of it;" enfeeblement by stress would, therefore, predispose particular vessels, or sets of vessels, to injury when subjected to the special force of poisons introduced into the blood stream. One of Dr. Diller's cases well illustrates how overwork of a complex center may determine location of the lesion. I refer to the case of hemianopsia which I saw about six weeks after its development. The patient, a Roman Catholic priest, is also an artist of recognized ability and prolific brush; the exercise of his talents in this line has been his one "recreation" in a life of unusually arduous labors associated with anxiety or stress. Excessive functional activity of the representative visual centers was, doubtless, the potent factor determining the location of lesion in the walls of blood vessels supplying the overworked area. Of interest in this case was family history, which revealed blood-vessel vulnerability on the father's side, with marked nerve instability on the mother's, with personal history showing both tendencies existing in the patient in an exaggerated degree.

Another instance within the domain of organic degenerative processes is furnished by the lesions of paralytic dementia, a disease in which the minute vessels of the cerebral cortex become profoundly involved, degeneration of cortical cells resulting, or at least progressing, with the vascular degenerative process. It was early noted that this disease most frequently attacked those subjected to mental overwork, *i. e.* to excessive functional activity of the higher cerebral centers, and to-day it is generally conceded that stress, either relative or absolute, is important as one of the factors in its production. Though said to be "more gradual in its commencement than any other known disease," paralytic dementia is, in reality, not more so than is disease of like pathogenesis in other organs, viz., kidneys, liver, and heart; in all there may be advanced degenerative vascular lesions associated with gradually progressive parenchymal damage, usually far advanced when first made manifest by symptoms.

As determining which cells or groups of cells are the first to give way, the "selective" action of the various poisons (notably that of syphilis) has been described; this so frequently gives the impress to a clinical picture that the cause of the disease, it has been said, is revealed by the character of the symptoms. We more and more realize, however, that a high degree of functional activity is a most important factor in locating the lesion. As an instance of the selective action of the syphilitic virus, involvement of the centers of vision and the muscular mechanism of the eye is one commonly used. The complex mechanism of binocular vision, so delicately adjusted and so constantly subjected to stress and strain (whether by refractive error or actual overwork), is precisely the one which best illustrates the operation of the principle I have referred to.

As initial causes of vascular degenerative diseases, syphilis and alcohol will probably always be the most frequent and most potent because of their widespread influence, their virulence, and the fact that their action is continuously exerted over a long period of time. Other toxins, however, are known to exert their baneful influence upon blood-vessel walls and to be productive of degenerative conditions heretofore considered characteristic of a few special poisons. With paralytic dementia again illustrating the etiologic importance of these, the recently expressed conviction of Regis is significant. Previously giving the chief occasional cause of this disease as syphilis, he now believes that tuberculosis or any other infection may be the etiologic factor in the production of paralytic dementia, and not necessarily always syphilis.

Indicative of the increasingly great importance which is given to autotoxic substances as causes of disease is the theory advanced by Dr. Ford Robertson in the *British Medical Journal* of June 29, 1901, which makes paralytic dementia (and this disease best illustrates the insidious progress of vascular degenerative lesion) a disease due to a toxæmia of gastrointestinal origin; toxins developed by the excessive growth of bacteria which normally inhabit the alimentary tract, particularly affecting the nutrition of the vessels of the central nervous system, and more especially those of very vascular regions, such as the cerebral cortex. He believes that the toxæmia exists for months or even years before the first manifestation of nervous disorder. Whether later developments will bear out this theory of the disease remains to be demonstrated. At all events, we know that cerebral apoplexies are frequently met with in pale, nervous individuals of the type characterized by indigestion, who present no history of indulgence in alcohol, nor evidence of syphilitic infection. In the light of recent discoveries in the field of neuropathology, which are in concordance with the views here quoted, we must incline to the belief that toxæmias of gastrointestinal origin may be potent factors in the production of vascular degenerative disease, which, in turn, is the cause of many degenerative neuroses.

The importance of the most virulent poisons of syphilis and alcohol as causes of the well-marked cases of degenerative vascular and nervous disease instanced in Dr. Diller's cases is quite generally recognized. The influence of these same factors is not so generally admitted, however, in early involvement of an organ which must express its condition in terms other than those of pain, disordered or changed secretions, etc.; I refer to the higher brain centers, which suffer in precisely the same manner as other organs, but whose altered or perverted functions are made manifest by such symptoms as lowered capacity for work, forgetfulness, sleeplessness, changes of humor, irritability, suspicions, changes in the natural affections or in habits of education, morbid emotions, obsessions, confusion, etc. Symptoms of this order are frequently encountered in active individuals in the prime of life and later, or in those of earlier years who have been subjected to the influence of bacterial, autogenous, or other poisons, and they become here of equal significance with perverted secretions of glandular organs, or failing cardiac power, when kidneys, liver, or heart suffer disease of like pathogenesis. In short, most of the symptoms named, though oftenest considered in connection with the functional psychoses, may also be the precursors of grave organic degenerative disease of the nervous system. In the first class the cases are produced by exhaustion or perverted nutrition of groups or systems of neurons, while in the second class they are due to interference with cell nutrition, progressing to more or less com-

plete destruction, because of extensive changes in blood-vessel walls. With the greater light which chemistry and neurohistology are shedding upon the complex nutritive processes going on within the nerve cell, the causative factors of vascular degenerative disease must more and more occupy our attention.

Appreciation of the far-reaching and destructive influences of the various poisons upon blood-vessel walls, as well as upon nerve cells, brings practical results. The known tendency of all—whether resulting from infectious disease suffered in early life, from altered and perverted processes in body chemistry, or from the virulent poisons of syphilis and alcohol, to expend their forces upon the vascular walls with consequent deterioration or destruction of the functional units of organs, whether glandular, muscular, or of the delicate and complex structure of the brain and nervous system—should lead to prompt, energetic, and prolonged treatment of one known to have been subjected to their influence; and when family history reveals inherited instability or vulnerability of nervous tissue, early appreciation of the significance of the vague symptoms of disturbed circulation within the brain will enable us to do much to prevent the more serious developments and complications which we are so powerless to cure.

It would seem that in no other class of diseases is the influence of heredity so readily traced as in those due to vascular degenerations, nor more plainly manifested the truth that not the disease itself is inherited, but rather "a peculiar type of tissue, which renders the individual peculiarly susceptible to the influence of morbific agents."

CONCERNING THE CLINICAL SIGNIFICANCE OF THE KLEBS-LOEFFLER BACILLUS.*

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In his own words, Professor Osler narrates the following significant anecdote, full of wisdom and food for reflection, "of that true Asclepiad Ludwig Traube, who, adding probity to learning, sagacity, and humanity, reached the full stature of the Hippocratean physician. When acknowledging some error, he would say—often in a soft, meditative manner, as if quietly reproaching himself—have we observed all the facts of the case? Yes. Did the art permit of a judgment on the facts under consideration? Yes. Did we reason correctly on the data before us? No. *Wir haben nicht richtig gedacht.*" No, our thinking was incorrect. This anecdote embodies much that is significant and encouraging for all practitioners; and the sterling sentiments it illustrates are an apology and a justification for any practitioner who elects to take an active part in the discussions that have for their object a satisfactory solution of the problems that have been introduced into practical medicine by bacteriological experimentalists. The encouraging part of the anecdote is the surpassing importance allowed to *thinking*. Facts alone, however carefully sifted, do not constitute science. They become an essential part of science after thinking processes have made their significance and meaning apparent, and their relations and inter-relations evident. Thinking processes are experimental in all minds; and human minds are quite true to themselves when influenced by what Fränkel, without much ingenuity, is pleased to call a dangerous Dreibund, or triple alliance of obstinacy or perversity, stupidity, and prejudice. But Fränkel and von Behring—the latter quotes the former approvingly—are not dominated in their judgments by unprejudiced and true psychological principles when they console themselves with an easy and self-satisfied assurance that this Dreibund, or triple alliance of perversity, stupidity, and prejudice exerts its baneful influence only on those who do not share their views. In so far as the value of the methods employed for developing laboratory facts is concerned, the practitioner, as a rule, is no competent judge, be he an "enthusiastic believer" or merely "a sincere skeptic." But taking the facts, ready made as they are presented to him by scientists, and applying them to the exigencies occurring within his own practical domain, the practitioner has a human right to place some confidence in his own judgment concerning the practical operation of such facts. And if this right be denied him, he is debarred from giving evidence as to his sagacity and scholarship, and his professed probity will be nothing better than veiled hypocrisy.

It is from this point of view of the student practitioner that the following brief study concerning the clinical significance of the Klebs-Loeffler bacillus has been undertaken, and is presented here this evening. From our study it will be seen that the surest fact concerning the clinical significance of the Klebs-Loeffler bacillus is that it is still in an evolutionary stage.

The knowledge we have of it is far from complete, and is the result of much patient observation and thought, not of any one observer, but of many. Nor has its present significance been worked out in the dead-house and laboratory only; but hospital clinicians and private practitioners have contributed important facts, reflections, and criticisms. The observations begun by Klebs, improved upon by Loeffler, and completed by Roux and Yersin, and von Behring chiefly, seem to encourage those who assume to speak for the scientific or laboratory side in claiming that "the problems concerning diphtheria have been completely solved so far as its practical aspects are concerned" (Biggs). But when we take a survey of diphtheria from the clinico-historical point of view, we find it difficult and impossible to conclude otherwise than that "diphtheria remains perhaps the most obscure and complex of all the infective diseases in *its causes* and favoring conditions" (Creighton).

This lack of harmony existing between the laboratory view and the clinico-historical view is not due to the machinations of Fränkel's triple alliance, but rather to differences of definition and clinical interpretations avowed and acted upon respectively by both parties. Besides, many observant practitioners are apt by habit and inclination to look less favorably upon experimental harmony and consequence, which they by no means deny and neglect, than they are eager to welcome a happy empirical and long-hoped-for realization concerning which there can be no two opinions; not that they love science less, but the realization of an experimental promise more.

During the past ten years or so, the practitioner has been having drilled into him that there are practically at least three kinds of diphtherias: (1) Laboratory or experimental diphtheria, that is, the specific Klebs-Loeffler bacillary toxin diphtheria; (2) clinical diphtherias, in which Klebs-Loeffler bacilli are assumed to be the predominating, if not the only, etiological factor, and (3) clinical diphtherias, in which Klebs-Loeffler bacilli are absent, or, for various reasons, are not detected.

All that the practitioner, as a rule, knows of laboratory diphtheria, he knows through laboratory reports; and, as a matter of knowledge and faith, it is purely theoretical.

Concerning the status of the Klebs-Loeffler bacillus in many cases of clinical diphtherias, the practitioner here also takes much on trust. But in

*Read at the May meeting of the City (Charity) Hospital Alumni Society, 1901.

these cases his faith is directed and controlled by his own daily experiences and inferences, besides by hospital clinicians and fellow practitioners. The facts and inferences concerning the Klebs-Loeffler bacillus, reported by various observers, are always interesting; but the reporters individually are not always consequential in their inferences, and, taken collectively, there is a lack of harmony as to what has been seen and inferred by them. In the *American Journal of the Medical Sciences* for April and May, 1889, five years after Loeffler had made his classical report on the bacillus that bears his name, Professor T. M. Prudden published a bacteriological report of twenty-four (24) fatal cases of clinical diphtherias, and "the bacillus of Loeffler," he says, "was not found in any of them." These cases had all been examined with especial and particular scientific care and precision, and the nice work that had been devoted to their examination was at the time highly pra sed by those who claim to know just exactly what is what in such matters. But hardly more than one year after the publication of Professor Prudden's report, an experienced clinician commented thereon in the following interesting way: "These cases for a time misled Dr. Prudden and the entire medical profession in this country, for the absence of the Klebs-Loeffler bacillus in twenty-four cases of clinical diphtheria could not be the cause of diphtheria." "And," continues J. Lewis Smith, "if I am correctly informed, Dr. Prudden now (a year later, 1890) believes that the disease in all these fatal cases was pseudo-diphtheria." All this simply proves what? Nothing more than this: An expert microscopist, pathologist, and bacteriologist failed to find the Klebs-Loeffler bacillus in twenty-four undoubted cases of true clinical diphtherias that had all ended fatally in various typical ways. Several years later, at Paris, Martin examined two hundred cases of clinical diphtherias and found the Klebs-Loeffler bacillus *absent* in sixty-three of them. And at about the same time, Heubner, at Leipzig, found this bacillus absent in thirty-six out of one hundred and thirteen cases of clinical diphtherias. Thus, in about one-third of the cases of clinical diphtherias examined by these two competent observers, the Klebs-Loeffler bacillus could not be found. But as time goes on, other observers claim a greater success in detecting this bacillus in cases of clinical diphtherias. Bazinsky, in his memoir on diphtheria (Nothnagel's Handbuch) tells us that he and his assistants are so very careful in searching for Klebs-Loeffler bacilli that only in about 3 per cent. of their cases of clinical diphtherias does this bacillus escape detection. And von Behring, citing Kossel, says that after an extraordinarily careful analysis of two hundred and sixty-five cases of clinical diphtherias it was found that only 8 per cent. of them lacked the Klebs-Loeffler bacillus, and that, besides, no deaths of diphtheria in sequelæ occurred in the cases that had no Klebs-Loeffler bacilli.* But, on the other hand, Fred. Grant Burrows, A.M., M.D., after a painstaking analysis of over 2,000 cases of clinical diphtherias treated by him in the Boston City Hospital, during 1899 and 1900, found the Klebs-Loeffler bacillus absent in over 200. And contrary to Kossel's experience 26 per cent. were fatal.† Besides this great irregularity as to the presence or absence of the Klebs-Loeffler bacilli in cases of clinical diphtherias examined and reported by various observers and investigators, there are other facts to be taken into account.

*Bibliothek v. Coler, "Diphtherie," page 104.

† "A Clinical Study of Diphtheria," etc.—*American Journal of Medical Sciences*, January, 1901.

1. The presence of the Klebs-Loeffler bacilli in any case of diphtheria is no mark indicative of its severity or otherwise.

2. Park (Bacteriology) tells us that the most virulent specimen of Klebs-Loeffler bacilli that he had ever met with was obtained from a mild case of diphtheria that had simulated ordinary follicular tonsillitis.

3. The degree of virulency of the Klebs-Loeffler bacilli in any given case of diphtheria is not uniform —cultures taken from the same case of diphtheria at different times during the progress of the disease develop varying degrees of virulency.

4. Clinical diphtherias characterized by the presence of the Klebs-Loeffler bacillus usually have other bacteria associated—streptococci, staphylococci, pneumococci, etc.

It has often been affirmed in that easy way that does not feel the need of proof, that "no one will deny that diphtheria is a disease due to the invasion of the body with the diphtheria bacillus, whatever influences may be necessary for the attack to be successful." This view has many faithful adherents. But Professor Biggs puts the matter thus: "The presence of diphtheria bacilli in the throat without a lesion no more constitutes diphtheria than the presence of pneumococci in saliva constitutes pneumonia, or the presence of tubercle bacilli in the nares constitutes tuberculosis. We know that in these and other infectious diseases the organisms may remain for considerable periods of time multiplying in the body cavities without entering the tissues, or producing changes or lesions of the body." And now comes the important thing to be attended to: "If," continues Doctor Biggs, "the conditions are favorable and the individual is not immune, the disease easily follows after a longer or a shorter period. But diphtheria can only be said to exist after the lesion has been produced" (communicated by letter November 24, 1900). This view seems perfectly temperate and rational; but it assumes much as being matter of fact which is only assumption and inference. Professor Biggs's view typifies the knowledge and faith of a large class of practitioners. The "favorable conditions" of this view cannot be demonstrated in any case of diphtheria. They are matters and questions of inference and assumption. Nor can the quantity and quality of any patient's immunity be foretold. This is also a question of logical inference, and not of material demonstration. "Favorable conditions" and "necessary influences" are only hypothetical phrases. They do not typify things, but only the assumed qualities of things and conditions that are not demonstrable, but scientifically imagined; and though they help us in our thinking, they are only resting places which do not by any means mark the end of the journey that must of necessity be traveled. And here we may ask, Where has the majority of the bacteriologists and many clinicians landed us? Certainly, into something more than a justifiable suspicion that the Klebs-Loeffler bacillus, as a possible or probable cause of 65 to 95 per cent. of clinical diphtherias, is of about the same status as a telling factor in the chain of events as was the stone that flew from David's sling and killed Goliath. Analogously, the Klebs-Loeffler bacillus has, as a cause of clinical diphtherias, a precedent history, just as the stone from David's sling had. But the bacteriologists know nothing of it. There's the rub! Enthusiasm in the name of science helps faith along in these matters, if only the Klebs-Loeffler bacillus has been found. The following instance illustrates what is meant: "A Willard (Mass.) parson, who had associated with a case of bacteriological diphtheria,

picked up enough of the bacilli on the clothing to infect a family several miles distant, where there had been no diphtheria in six or seven years. A case of true membranous diphtheria resulted." (Quoted by Henry L. K. Shaw, M.D., in *Albany Medical Annals*, March, 1901.) This simple uncritical narration is supposed to contain all the proof that is necessary to make it acceptable as a demonstration of the etiological significance of the Klebs-Loeffler bacillus. However, all presumptions of this kind are easily disproved by familiar experiences of an opposite kind. If Klebs-Loeffler bacilli were such infectious agents as this clear and simple Willard affair would make them, what a dreadful scourge under a blessed name health officers and medical practitioners would be! On the other hand, I am able to report two cases that prove the contrary, namely, how extremely difficult it seems to be to spread contagion by means of persons who are known to harbor virulent Klebs-Loeffler bacilli in their throats. By accident, virulent bacilli were found in the throats of one of my daughters and the chambermaid of the house. Neither of these girls had been directly exposed to diphtheria patients. At the time this occurred I was attending several cases of moderately severe diphtheria, but no Klebs-Loeffler bacilli were found in the cultures taken from my throat. For weeks Klebs-Loeffler bacilli were found in the throats of these girls, during which time they mingled in a normal way with all and everybody at home and abroad, and nobody who came in contact with them was infected or in any way suffered from diphtheria or its sequelæ. The virulence of the bacilli was tested under the direction of Professor Biggs.* The cultures were taken by me and examined by Drs. Cronk and Billings, bacteriologists to the Health Department of this city. In this connection, it may be interesting to report what one of the Health Department drivers told me the other day. During a service of four years, he never suffered from any serious throat trouble, nor had he, so far as he could remember, caused anybody to catch a sore throat or diphtheria from him, and neither had he taken any such disease home to his children. Speaking of myself, and I have heard other practitioners say the same thing of themselves, I, in the course of a twenty years' general practice, have never been the cause of carrying diphtheria from one family to another. It would be interesting to know how often Klebs-Loeffler bacilli are *not* found in the noses and throats and on the clothes of Health Department drivers and other subalterns who remove or handle infected clothing, bedding, carpets, etc., from diphtheria-infected homes, for these men fairly hug and are hugged by Klebs-Loeffler bacilli.

Not only are Klebs-Loeffler bacilli found only irregularly in cases of clinical diphtherias, and in the mouths and noses of thoroughly healthy persons, but they are also found in the nasal, buccal, and throat cavities of patients suffering from other inflammatory diseases that are not diphtheritic. Thus, in thirty-five cases of fibrinous rhinitis, Edmund Meyer† found virulent bacilli in thirteen. The course of the disease differed in no respect from that in which Klebs-Loeffler bacilli were absent or not detected. This same physician found in fifty-five cases of angina lacunaris the pseudo-bacillus in one, and the true Klebs-Loeffler bacillus in two. None of the cases showing the presence of the Klebs-Loeffler bacilli developed diphtheria symptoms or diphtheria sequelæ. Sorensen found Klebs-Loeffler bacilli in the throats of two hundred and forty cases of scarlatina out of a series of fifteen hundred consecutive cases, and in only thirty-two of the two hundred and forty cases were symptoms of clinical diphtheria noticed. Dr. J. W. Washbourne noticed the presence of Klebs-Loeffler bacilli in the nasal cavities of scarlet-fever patients, while they were absent in their throats, and no clinical signs of diphtheria developed. Such experiences make Dr. Washbourne say: "In any case, the whole subject of diphtheria of other mucous membranes than that of the fauces requires further investigation." He, like many of us, seems puzzled. In these cases there are things and conditions at work of which we have no knowledge.

Having considered some of the clinical difficulties which the Klebs-Loeffler bacillus cannot overcome, let us look at some of the difficulties peculiar to the *idea* of what constitutes a Klebs-Loeffler bacillus disease-promotor, and the difficulties that stand in the way of its being detected. E. von Behring, in his recently published book on diphtheria, does not take kindly to a number of things looked upon as important by others, concerning the special virulence of the so-called typical Klebs-Loeffler bacillus. To associate a specified quantitative virulence with a typical form of Klebs-Loeffler bacilli, he claims, is as inadmissible as it would be to adopt a special zoological norm or type of man with just such a definite amount of will-power that could expend itself only in fixed or definite operations. Other investigators, however, ascribe different degrees of virulence to specified types or forms of Klebs-Loeffler bacilli. Thus, we are told that the long or typical Klebs-Loeffler bacillus is the most virulent, and the short or club-shaped one is least virulent, or avirulent. But von Behring says he has seen long bacilli that were mild, and short ones that were quite virulent. The pseudo-bacillus is in shape like the true virulent Klebs-Loeffler; but it is avirulent, although in the opinion of Roux and Yersin it was at some time virulent. And, according to Park, bacilli that have lost their virulence are not known to have regained it. So-called xerosis bacilli also look like the true type, but are non-virulent, they having lost their power of producing toxin. Klebs-Loeffler bacilli, then, whether they be alike in form or of any form, may produce in the hands of the experimentalist much toxin or none. The microscope cannot gauge their toxicity. Inoculation tests alone can do this. Clinically we have no means of knowing beforehand who is, and who is not, immune; and, therefore, clinically we cannot tell what course the disease diphtheria will take in any particular patient, no matter what the toxic quality of the Klebs-Loeffler bacilli may be that are harbored in the respiratory cavities. The Klebs-Loeffler bacillus in the patient is a very much conditioned and unstable etiological entity at best. How much and how variously Klebs-Loeffler bacilli are dependent on certain conditions for the development of their powers is told us by Park (Bacteriology). Under certain conditions, diphtheria bacilli will grow luxuriantly without developing much toxic power. Physically, as well as conceptually, Klebs-Loeffler bacilli are loaded with many odious uncertainties. They are as inconstant after all clinical phenomena have disappeared as they are uncertain and irregular as to their forms and toxicity, and their bacteriological and pathological associations. And if we attach any importance to their presence as pathogenetic factors in the upper respiratory cavities, it will be as difficult to determine when the disease diphtheria has ceased as it is to say when it has really begun.

*According to different writers, virulent bacilli are found in from 2 to 20 per cent. of normal throats, says von Behring in his "Diphtherie." Park has reckoned that they are in about 1 per cent. of the normal throats of New Yorkers.

†*Arch. f. Laryngologie*, IV.253.

The routine bacteriological examinations as practised at the present time in this city do not seem to be a help in the diagnosis of clinical diphtherias, nor do they help to prevent the spread of contagion. I am speaking from the point of view of the private practitioner, and not as a hospital clinician. It was as rare in pre-bacteriological days to see recurrences of disease in afflicted families, or related families, as it is now, at least in my experience. The severest cases of clinical diphtheria are not marked by the longest and most persistent tenancy of Klebs-Loeffler bacilli. Virulent Klebs-Loeffler bacilli may persist in a singularly mild case for weeks after convalescence and recovery have become established.

Summary and Conclusions.—1. Clinically there are two kinds of diphtherias when Klebs-Loeffler bacilli are taken into account: (*a*) Those having Klebs-Loeffler bacilli present, (*b*) Those having none. Both forms, however, develop the same clinical signs and symptoms, the same complications and sequelæ—von Behring to the contrary.

2. The character or quality of the Klebs-Loeffler bacilli that may be present in any case of diphtheria does not prognosticate its course or termination.

3. Klebs-Loeffler bacillary diphtheria may be so mild as to simulate a simple tonsillitis, and yet the most virulent Klebs-Loeffler bacilli be present.

4. Virulent Klebs-Loeffler bacilli may be present in the throats of healthy people, never doing any harm to the persons harboring them, nor harming in any noticeable way or manner those who have come into close and intimate contact with the bacilli-infected people.

5. Klebs-Loeffler bacilli are found associated with other bacteria in other diseases than diphtheria, but they fail to exert any appreciable influence on the progress and decline of those diseases.

6. Klebs-Loeffler bacilli vary much in size and shape from a regular and artificially determined type, and the quantity and quality of their toxicity is not bound in any special or definite way, to fit any particular typical or atypical form, if the most recent bacteriological utterances on the subject be true.

7. The virulency or disease-promoting qualities of Klebs-Loeffler bacilli can be determined *only* by experimental inoculation tests. All that the microscope can do in this matter is to differentiate their forms; every other delivery based on microscopic investigation alone is largely guesswork or hypothetical speculation.

8. The ubiquity of Klebs-Loeffler bacilli, and their irregular and varying forms, besides the inconstancy of their toxic qualities occurring as they do with clinical phenomena that are in no determinable way to be correlated with these physical irregularities of Klebs-Loeffler bacilli, make it impossible to grant them any primary specific etiological importance in the pathogenesis of clinical diphtherias.

9. The "necessary influences" and the "favoring conditions," besides other factors of which we are still ignorant, enfold within themselves the secret of the real *causes*—not cause only—of clinical diphtherias.

10. The assumed etiological and pathogenetic supremacy of Klebs-Loeffler bacilli is largely, if not altogether, *a synthetical demonstration*. And, although this synthesis is not altogether "a bridge of fancies," enthusiastic laboratory workers and their unquestioning followers, both lay and professional, are traveling to and fro over it unhampered by any of the odious uncertainties and difficulties that have been presented in this paper. And, of course, a bridge that will not load itself with what it cannot bear will give support to any amount of "will to believe," but break under the weight of facts that it denies passage to.

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AN UNUSUAL CASE OF DEATH FROM ETHER ANÆSTHESIA, WITH AUTOPSY AND MICROSCOPIC STUDY.

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Death, as the direct result of a general anæsthetic, is now of infrequent occurrence. This is a very significant fact when we consider the great number of patients to whom anæsthetics are daily administered, and not uncommonly in cases of severe shock or when serious cardiac and nephritic lesions exist. That this happy condition of affairs exists is, I think, largely due to the fact that the anæsthetics furnished to the American profession are almost universally pure. We must, however, give great and just credit to the skill of those members of the profession to whom this work naturally comes. Undoubtedly, the rarity of fatal cases is also partly due to the exclusion of many of those in which contraindicating lesions are present, and to the careful selection and administration of the drug best fitted to each individual.

One cannot but feel wonder, however, at the tolerance of the vital organs, particularly of the ganglionic centers, toward the action of chemicals which produce such profound effects upon them as do the general anæsthetics, and we should not be surprised when fatalities do occur.

Nevertheless, it appears of the greatest importance to the writer that each death from this cause be studied with as great thoroughness as possible, and an account of it be placed on record where it may reach the general profession, so that as the nature of these calamities, which usually occur when least expected, becomes more thoroughly understood, they may be better guarded against.

The writer believes the following case to be of special importance, since it took place in a patient who had been thoroughly examined, without the detection of any contraindicating lesion, and to whom the drug was administered by a skilled anæsthetizer, under the most favorable conditions of a well-regulated hospital, and with all the usual means of treatment of such mishaps immediately at hand.

The patient was a man aged thirty-six years, born in the United States, and resident here for life, married, and of good habits. Previous to the receipt of the injury, he had always been in good health, and had lost no time from his work. On June 2, at 5.50 P.M., while walking across a railway track, he was struck by a trolley car, knocked down, and dragged for several feet, but did not lose consciousness. The ambulance arrived soon after the accident, and the man was attended by the ambulance surgeon, who found him perfectly rational and in but a moderate condition of shock. He had sustained a compound fracture of the right forearm near the elbow, with dislocation of the right carpus. There was considerable laceration of the muscles of the forearm, and there had been hemorrhage at the point of injury; but this was not of sufficient amount to be looked upon as a dangerous feature in the case. A temporary dressing was put on, and the patient was given ¼ gr. of morphine, hypodermically, for the purpose of quieting the pain. He reached the hospital in good condition. Here he

was given stimulants, and the wound was at once surgically cleansed. He reacted well, and when the visiting surgeon saw the case, an hour or so later, it was decided that there was no indication for immediate interference, and that it would be best to wait until morning before the injured extremity was amputated. There was but a small amount of hemorrhage, and the patient suffered very little pain during the night.

June 3, at 9 A.M., the patient was apparently in good condition; he was not suffering much pain, and the pulse was of good quality and regular. There was no fever. At 11 A.M., he was prepared for operation. Examination of the urine gave negative results, and the ordinary careful examination of the heart and lungs revealed no lesion. The anæsthetic used was the usual preparation of Squibb's ether. The drug was well taken, there being no struggling and the stage of excitement was but very slightly marked. The ether was given with the "butcher's-sleeve" cone, and plenty of air was mixed with the drug, which was administered slowly and in small quantities. The pulse was good when the ether was started, but seemed even to pick up a little more, becoming stronger apparently from the stimulation of the ether. The arm was prepared for incision, when the pulse became a little less strong, and, though no pause was made in the operative preparations, the anæsthetizer gave hypodermics of $\frac{1}{15}$ gr. of strychnine and 1 dr. of whiskey. The pulse at once responded, becoming strong and regular. About twenty minutes after the beginning of the anæsthetic, surgical anæsthesia was reached, and the operation was begun by the skin incision for the formation of the flaps. The site of operation was selected just below the elbow joint. The arm twitched a little when the skin was incised, the respirations soon became noticeably more shallow, and there were contractions of the abdominal muscles, so that the house surgeon thought that the patient was about to vomit, and told the anæsthetizer to give a little more ether; there was no cyanosis, and but a slight amount of mucus in the throat; 1 dr. of fresh ether was given and the respiration soon became more natural. The pulse was still of fair quality. Five minutes later, respiration suddenly ceased at the end of a full inspiration. There was no cyanosis, but the pupils dilated at once. The anæsthetic was immediately withdrawn, the operation stopped, rhythmic traction of the tongue instituted, the throat cleaned out, the epiglottis pulled forward, and artificial respiration begun. Whiskey, strychnine, and ether hypodermically were given, the extremities were elevated, and the sphincters were stretched, but absolutely without response; air could be forced from the lungs by the movements of artificial respiration, but apparently no involuntary or voluntary attempts at respiration could be induced, and the heart finally stopped about two or three minutes after respiration had ceased. Death probably resulted about eight minutes after the first onset of dangerous symptoms.

The anæsthetizer was a careful and reliable man of considerable experience in the administration of anæsthetics. About 4 oz. of the drug was used, and up to the immediate onset of dangerous symptoms the patient was thought to be taking the ether even more than ordinarily well.

Autopsy.—The following is a report of the autopsy held June 3, 1900, nine hours after death:

"The body was that of a well-formed mulatto male. Rigor mortis is general, but still increasing, and there is yet some animal heat in the body. The tibial borders are free. The hair is slightly gray.

"The skin covering the lower two-thirds of the right forearm is completely removed, together with the subcutaneous tissues down to the muscle fascia. There is a compound dislocation of the carpus, and a laceration of the tissues at internal condyle, exposing the elbow-joint which has been partly separated. The cartilages of the ulna and humerus have been slightly bruised, and the muscles of the ulnar side of the forearm are considerably lacerated. There are two small abrasions of the epidermis over the right forearm. There is also an abrasion of the skin measuring four by two centimeters over the ulnar surface of the left forearm; otherwise there are no marks of violence.

"The general musculature is unusually well developed, especially that of the extremities. There is a normally abundant light-colored deposit of subcutaneous fat.

"There are dense old adhesions to the anterior thoracic wall, and chronic adhesions partially obliterate both pleural cavities; but they are not of sufficient extent, and are so stretched that they probably did not retard respiratory movements. The exposed pericardium is large. The pericardial sac contains a natural amount of fluid, and it is normal, except that perhaps the venous capillaries are somewhat overcongested. The heart is enlarged. The left ventricle is firmly contracted, but not abnormally so. It contains a small amount of post-mortem clot and a small quantity of fluid blood. The right ventricle is also somewhat contracted and contains a small mass of mixed clot. The right auricle is relaxed. The left auricle shows a thickened endocardium and is moderately dilated. The aortic segments are thickened, but perfectly functional. The conus arteriosus is of rather small caliber, measuring about 5.5 cm. in circumference. Its intima and that of the coronary arteries is quite generally thickened, and higher up in the arch is a progressive insular sclerosis. The mitral segments are quite generally thickened, and the middle segment shows a small calcareous nodule on the posterior surface near its attachment. The heart muscle is firm, there is no fatty infiltration or degeneration, but the vessels are surrounded by thickened connective tissue, and in places, especially in the papillary muscle of the mitral valve, there is a moderate fibroid myocarditis. There is no relative incompetence of the valves and no evidence of acute dilation, except in the condition of the auricles above mentioned.

"The tongue is normal except that the lymph nodes on its dorsum are considerably enlarged. The lymphatic structures of the pharynx are chronically hypertrophied; otherwise that organ is natural. The œsophagus is normal. The arch of the aorta shows arteriosclerosis of quite a pronounced degree, and in places extensive excavation of the intima has resulted; no strictly acute areas are to be seen, however, and the condition does not extend into the carotids or subclavians, which are but very moderately diseased. Small nodules of thymus tissue are still present. The lymph nodes of the neck are slightly enlarged and anthracotic. One contains a small calcareous nodule, apparently the result of anthracosis. The thyroid gland is small; it is natural in structure. The epiglottis is elongated, but is natural.

"The rima glottidis is sufficiently open, and there is no œdema or congestion of the mucous membranes, either of the larynx, trachea, or large bronchi. The large bronchi contain a moderate amount of frothy mucus, but none is present in the trachea or larynx. The lungs are not congested, and are but slightly œdematous. They show a moderate lymphatic anthracosis.

"There are dense old adhesions in the region of the

spleen. This organ is moderately enlarged, but the tissue is normal in appearance. The liver is of natural size; its tissue is firm; the markings are rather indistinct Apparently there is a very moderate fatty degeneration, but not more than ordinarily found. The gall-bladder contains about 15 c.c. of greenish bile. The duct is open. Weight of the liver is about three pounds. The omentum is long and fairly rich in fat; it is bound to the caput coli by a few old adhesions. The appendix is long; it lies posterior to the caput, to which it is attached by slight adhesions. The lymph glands of the mesentery and of the retroperitoneal chain are not enlarged. The peritoneum is normal throughout. The stomach is small and flaccid. Its mucous membrane is natural. The duodenum contains a small amount of well-mixed and digested food; a similar material is found in the lower bowel in a more advanced stage of digestion, but in small quantity. The entire intestinal canal shows no abnormality. The pancreas is normal in size, and its tissue is normal. The suprarenal bodies are small; their substance is apparently normal.

"The kidneys are somewhat smaller than usual. The capsules are not adherent. The markings are distinct. The cortex is thin but regular. There is a moderate general interstitial increase. Apparently interstitial hyperplasia is present, yet of slight extent. The blood vessels are not congested, nor is the tissue œdematous. The parenchyma is apparently in good condition. The bladder is natural, with the exception that the urachus is still perforated for about 2 cm. above the fundus. The seminal vesicles and prostate are normal. The large blood vessels of the abdomen show moderate arteriosclerosis.

"The skull cap is small and well arched. The arching is deeper on the right than on the left. There is very little cancellous bone between the plates, which are thick and heavy. The superior longitudinal sinus is normal; the sinuses at the base are also normal, and contain a small quantity of fluid blood. The pituitary body is small and apparently normal. The dura mater is normal. There is a moderate amount of œdema of the piaarachnoid, which is most abundant, over the vertex. The venous radicals of the piaarachnoid are moderately injected, and there are a few areas of opalescence to be seen along the tracts of the blood vessels. The cerebrum is symmetrically formed. The convolutions are large and fairly typical, and the sulci are deep. The large blood vessels of the base are in a natural condition so far as can be seen. The cortical layer of gray matter is thick and regular. The basal ganglia show no gross abnormality. The cerebellum and medulla are apparently normal. (Lesions in the floor of the fourth ventricle were especially sought for.) No gross lesion is present in the upper cervical cord, nor in any of the nerve centers examined. Fat embolus is nowhere present. There is no gross lesion present which accounts for death."

After removal from the body, the tissues were placed in 95 per cent. alcohol, and when sufficiently hardened they were imbedded in paraffin, after the usual method, and sectioned.

Microscopical Examination. — "Heart. — The amount of endomysium is augmented; apparently the hyperplasia has originated from proliferation of the perivascular interstitium, for the most part. The hyperplastic connective tissue is mostly of an adult form, though occasional patches are more highly cellular and show evidences of recent proliferation. The blood vessels, even to the smaller arterioles, show a marked increase in the subendothelial connective-tissue layer; with but few exceptions, however, there are no evidences of recent hyperplasia. The size of the cells varies considerably. Cross striation is normally evident, and in transverse sections the ends of the sarcous elements are plainly seen. The cell nuclei are considerably altered; they are often proportionately too large for the cytoplasm which surrounds them, eccentric in location, and of many fantastic shapes, some of which show faulty karyokinetic figures. In many places, both cells and nuclei are apparently natural in every respect.

"Lungs.—Sections of the lung show nothing not already indicated in the gross examination, with the exception of a chronic subendothelial arteritis of a moderate degree.

"Liver.—The stroma shows a slight hyperplasia of a chronic character. The blood vessels here seem less involved than in the other parts mentioned. The portal capillaries are not congested. The liver cells are practically normal, though some of them perhaps contain more than a natural quantity of oil globules.

"Kidneys.—There is a slight connective-tissue overgrowth of less extent than was supposed from the gross examination. The cells of the parenchyma are generally intact, though some show a considerable fatty degeneration, and the cytoplasm has broken down in a few places, to a greater or less degree. Occasional cells contain quantities of coarse brown pigment; this is most frequent and most marked in cells lining the straight collecting tubules, though some of the cells of the convoluted tubules also show the change. The vessels of the kidney show a moderate degree of subendothelial hyperplasia.

"Adrenal Bodies.—The adrenal bodies show nothing abnormal.

"Encephalon.—The blood vessels of the cerebrum, cerebellum, and those found along the floor of the fourth ventricle show slight atheromatous changes, certainly not enough to act as a seriously predisposing factor toward rupture or blood extravasation. A very careful gross and microscopical examination for such lesion was without result. The external layer of the cortex seems somewhat macerated, probably from the superabundant meningeal fluid. The cortical archochromes and archostichochromes of the cerebrum (left paracentral lobule) occasionally show the nuclei faintly stained. Not infrequently the cytoplasm contains considerable clumps of coarse brown pigment; this is the most common lesion observed. In most of the cells the chromatic substance is normally arranged and reacts properly to the Nissl dye. There is no chromophilia, either of cytoplasm or nucleus, and by far the larger number of cells are absolutely normal in appearance. The cortical stichochromes from the same place show pigmentary changes even more frequently than do the cells just considered. In the stichochromes the pigment mass is usually situated below the nucleus in the base of the cell; the granules are large and of quite regular size; sometimes where the cell has been pressed upon by the cover-slip, these granules have been more or less separated, showing that they are distinct, well-defined bodies. In most cases the chromatic substance is normally arranged, well colored, and can be demonstrated well out into the cell processes. Occasional cells show but a faint reaction to the dye, sometimes only part of the chromatic substance staining, in which case it is usually the spindles nearest the nucleus which stain most faintly. A few of these cells show the chromatic substance distributed throughout the cytoplasm as rather coarse spheres, apparently suspended on a faintly colored or colorless network, and without apparent

relation to the chromatic spindles normally present. This variation is uncommon, and is generally associated with rather an indistinct line of demarkation between the nucleus and cytoplasm. Two or three cells are found which show a fine subdivision of the chromatic spindles; in these instances, the picture may be an artefact, and may have been caused by crushing the cell from the pressure of the cover-slip. The nuclei in nearly all the cells present no obvious peculiarity. The Purkinje cells of the cerebellum are, as a rule, rich in chromatic substance, the spindles being closely pressed together and arranged in planes surrounding the nucleus. The chromatic network is plainly evident in most of the cells. All the Nissl plaques have stained deeply, a few show a somewhat granular separation of the chromatic spindles; but nearly all these cells are beyond question normal. The ganglion cells found along the floor of the fourth ventricle, as a general thing, are normal, in so far as I could determine; some show a quite marked granular disintegration of the chromatic bodies, and in others the chromatic elements were clumped together in masses of considerable size. A pigment deposit similar to that described in the cells of the cerebrum is also present in these cells."

Conclusions.—The absence of congestion of the lungs, of obstructing bodies in the air-passages, and of all evidences of cyanosis would indicate that the cause of death was other than from respiratory obstruction, which is the factor most frequently reported by operators as occurring in ether anæsthesia.

The animal experiments of Lindermann of Moscow have shown that invariably, when death results from too prolonged ether anæsthesia or from the drug being administered in too great concentration, congestion and œdema of the lungs are present. The absence of these alterations, as well as the history of the case, would then exclude these most common conditions.

In brief, the lesions found in the case may be stated as:

I. A compound fracture of the forearm, which exposed the wrist and elbow joints, accompanied by rather extensive laceration of the muscles of that member.

II. Interstitial myocarditis of moderate degree, complicating functional cardiac hypertrophy.

III. Chronic arteriosclerosis of marked degree in the aorta, but not extending to the smaller vessels, excepting those of the heart.

IV. Submeningeal œdema of slight extent, limited to the cerebral vertex.

V. Pigmentation of the ganglion cells of the cerebral cortex and a similar condition of the cells along the floor of the fourth ventricle. Slight and occasional degenerative changes in the cytoplasm of these same cells.

It does not seem at all probable that the cause of death was shock, for symptoms of this condition were lacking when the anæsthetic was started; and, furthermore, the extent of the traumatism did not seem sufficient to have caused so serious a condition of shock in an otherwise healthy man.

From the history of the case and from the absence of general vascular disease we are led to conclude that the cardiac and aortic disease was probably the result of over-function, and the previous history of the man, who had always performed heavy labor, bears out this supposition. Of course, the lesions of the heart, under the conditions prevailing, could not ordinarily have been determined by the methods of physical diagnosis, which could detect only an increased area of cardiac dulness. Were it not that respiration ceased absolutely about two or three minutes before the heart stopped, we would infer that the cause of death was the action of the drug on the heart ganglia or muscle—a rather unusual method of death in ether anæsthesia, it is true, and absolutely excluded in this case.

I believe that the somewhat minute examination precludes the possibility of embolus of a vessel of a vital center.

Such slight submeningeal œdema as was found could not have caused death, and probably did not even act as a factor in its causation; for it is a condition very commonly found, and when of such slight extent is probably without pathological significance.

The alterations found in the nerve cells were plainly not of recent production, and they were of slight extent. The pigmentation is not usually considered as a strictly pathological state, though I believe it is rarely so abundant in young adults as was the case in this instance.

Admitting, as I believe we must, that the cause of death was the action of the drug on the ganglion cells of the respiratory center, I doubt very much if an effect so quickly produced as in this case would leave in the nerve cells any morphological lesion evident by our present methods of examination.

PRACTICAL RESULTS WITH ONE THOUSAND CASES OF NITROUS OXIDE AND ETHER NARCOSIS.*

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So much has been written upon the subject of nitrous oxide and ether anæsthesia, and the method is now so well understood and its merits so greatly appreciated by the leading surgeons and general practitioners of this country, that a description of it at the present time is not necessary. (See MEDICAL RECORD, April 14, 1900.)

In this paper, with your kind indulgence, I shall briefly touch upon the physiological action of nitrous oxide and ether as compared with chloroform, pointing out some of the advantages of their use in combination and the results which are thereby obtained.

That nitrous oxide and its modifications with oxygen gas or air are the safest general anæsthetic we possess is a fact, I think, which no one will deny. Practically, the only danger associated with its administration is asphyxia, for cardiac complications are exceedingly rare, and are usually secondary to the lulling to sleep of the respiratory center. That this so-called gas asphyxia is not due to nitrous oxide, but to the concurrent deprivation of atmospheric air, and that it has of itself specific anæsthetic properties, is proven by the fact that, with the admixture of oxygen in proper proportions, anæsthesia can be induced and maintained indefinitely without any symptoms of asphyxia whatever.

It is, therefore, of the greatest importance in administering nitrous oxide to keep a close watch upon the respiration, and to admit air with the first sign of impending suffocation. Anæmic persons, and children especially, sometimes become asphyxiated very quickly under nitrous oxide, even when small quantities of the gas have been used, and it is perfectly possible to kill one of these patients with the amount ordinarily used as a preliminary to ether narcosis, unless the color and respiration are carefully watched and plenty of air admitted.

Indeed, I have often been surprised at the very small quantity some of these patients actually require, and the degree of dilution with air they will tolerate

* Read before the Section on Surgery of the New York Academy of Medicine October 14, 1901.

without interfering with the rapid and pleasant induction of anæsthesia.

On the other hand, plethoric and robust patients, and alcoholics especially, frequently require a considerable increase over the quantity ordinarily used in order to induce a narcosis free from the disagreeable sensations of ether inhalation. This can always be accomplished by judiciously admitting air, and I seldom find it necessary to allow more than a slight degree of cyanosis to develop in these cases. This is of short duration and does no harm, provided the respirations are full, regular, and unimpeded. In this connection it would be well to note that the respiration is always more or less interrupted if the ether is turned on before unconsciousness supervenes, or the strength of the vapor is too rapidly increased.

In cigarette smokers, or persons suffering from chronic laryngitis, in whom there is hyperæsthesia of the respiratory mucous membrane, it is sometimes necessary to proceed with the greatest caution, as the cough frequently excited in these cases may seriously embarrass respiration.

During an ordinary nitrous-oxide inhalation, the respirations are at first quickened and increased in depth; but, as the narcosis deepens, they become slowed and shallow, and if the gas be pushed, a complete cessation of respiratory movements will eventually take place (Buxton).

In the first and second stages of narcosis, the heart beats quietly, fully, and regularly, but as the anæsthesia grows more profound with the approach of stertorous respiration and other phenomena of asphyxia, the pulse becomes small, hard, and slightly accelerated. The blood pressure is also somewhat lowered, but this is due more to dilatation of the superficial capillaries and the vessels of the brain and spinal cord than to direct cardiac or vasomotor depression.

During profound anæsthesia, the vessels of the kidneys are contracted and the secretion of the urine is diminished, and it is claimed by some that the administration is occasionally followed by diabetes; but upon this point the evidence is somewhat lacking.

The main advantages of nitrous oxide as a preliminary to ether are its almost perfect safety and its rapid and pleasant action, while the principal disadvantages of ether are its disagreeable pungent odor, its irritability to the respiratory mucous membrane, and the slowness of the onset of anæsthesia.

In using the two in combination or succession, the pleasant and rapid action of the gas supplants the prolonged disagreeable sensations of the first stage of ether inhalation, the patient entering almost directly into the state of full surgical narcosis. This is accomplished with very small quantities of the two agents, and the saturation of the blood and tissues with ether is thus avoided.

Having considered the physiological action of nitrous oxide somewhat in detail, I will now briefly discuss the action of ether upon the principal functions of the body, viz., the respiration, circulation, and organs of excretion.

Because ether has a strong, pungent odor, and is very irritating to the respiratory mucous membrane when breathed in a concentrated vapor, it is commonly supposed by those whose experience with this agent is limited that all the bronchitis, pneumonia, and œdema of the lungs following its administration are due to the anæsthetic.

That this is not true, but that such complications are exceedingly rare when ether is properly administered, and the quantity used is restricted to the smallest amount consistent with good anæsthesia and the requirements of the surgeon, is attested by every anæsthetist who has had a large experience in the administration of anæsthetics. Among the contributing causes of pulmonary complications following the administration of ether may be mentioned: (1) Intestinal obstruction with fecal vomiting, the contents of the intestines being sucked up into the bronchial tubes causing septic pneumonia; (2) The nature of the operation, such as removal of cancer of the tongue, the opening of post-pharyngeal abscesses, etc.; (3) The pre-existence of coryza, bronchitis, pleurisy, or some form of pulmonary disease. (4) The loosening and drawing into the bronchial tubes of dried secretions and incrustations from the nasal cavities, and the aspiration of mucus and saliva from the mouth and pharynx, which is the home of the pneumococcus of pneumonia. I believe this is a strong predisposing cause of septic pneumonia and bronchitis, following the administration of anæsthetics to people of lowered vitality and uncleanly habits, whose teeth from long-continued neglect are laden with the products of decayed and decomposing food-particles. (5) The lowering of bodily temperature and exposure during and after operation. (6) Faulty administration, the patient being crowded from first to last with an excessive amount of ether, until his lungs and blood are overcharged with the anæsthetic, leading primarily to asphyxia and œdema of the lungs, and, secondarily, to bronchitis or pneumonia. There can be no question that were the same care and caution generally exercised in the administration of ether as is universally the case with chloroform, there would be fewer accidents and less prejudice against its use on the part of patients.

Upon the respiratory center, ether acts as a powerful stimulant; but, like all stimulants, if carried too far, it depresses, and finally arrests respiration by directly paralyzing the respiratory center. Locally, it acts upon the nerve terminals of the respiratory mucous membrane as an irritant, sometimes causing profuse bronchorrhœa.

The moist râles frequently heard in the throat during etherization, however, are very seldom due to a true bronchorrhœa, but to aspiration back and forth into the larynx of the saliva and mucus, which, lying loose around the glottis, becomes churned into a tenacious white froth, and impedes the free entrance of air into the lungs. In its action on the heart lies the great safety of ether as a general anæsthetic. On this organ it acts as a powerful stimulant, and the stimulation usually persists to the end of a long operation. Unlike what happens under chloroform, when the heart does begin to fail, it goes down slowly and gives plenty of warning of impending danger.

The inhalation of ether is accompanied by a great rise in the blood pressure, and by dilatation of the superficial capillaries and the vessels of the head and brain. This is evidenced by the flushed face and the profuse diaphoresis observed during the administration, and the fact that the centers governing respiration and circulation are fully supplied with blood adds greatly to its safety, as cardiac or respiratory syncope occurring during anæsthesia is oftentimes due to anæmia of the vital centers of the medulla oblongata.

Dr. Simon P. Kramer has shown by experiments upon etherized dogs (*Annals of Surgery*, September, 1900) that irritation of the central end of the divided crural nerve produces no effect if the animal is deeply narcotized, but that, if a condition of semi-anæsthesia exists, the respiration becomes greatly accelerated in rhythm and increased in amplitude, while there is a marked fall in blood pressure.

This vasomotor shock and reflex inhibition of the heart's action is an element of great danger at all times under incomplete chloroform anæsthesia, as it adds to the cardiac and vasomotor depression of

chloroform, while the accelerated respiration increases the liability to an overdose of the concentrated vapor, which, reaching the heart through the coronary arteries, may cause direct cardiac paralysis.

In ether anæsthesia, on the other hand, since the heart is stimulated and there is a great rise in blood pressure, the vital centers of the medulla oblongata being well supplied with arterial blood, this respiratory reflex becomes one of the most valuable guides in conducting a light narcosis. The action of ether upon the kidneys is that of an irritant; but clinical experience teaches us that healthy kidneys are but little affected by this drug when administered properly, and the dose is not excessive.

Quantity for quantity, it is well known that chloroform is far more irritating to the kidneys than is ether; but the small amount of chloroform necessary to induce and maintain narcosis, and the excessively large doses of ether which, with the use of crude methods and untrained anæsthetists, it has been the custom in the past to use, it is no wonder that an occasional temporary nephritis with albuminuria and diminution, or even with total suppresion of urine, followed its administration.

Drs. W. H. Thompson and Robert Coleman Kemp have shown by elaborate experiments upon dogs that ether always causes a diminution in the amount of urine secreted during the inhalation, and sometimes an absolute suppression with marked albuminuria. There is, however, a vast difference between the results of their experiments and those of clinical observation. Moreover, the diminution or suppression of urine during the time of the inhalation of ether is no evidence that the administration will be followed by any permanent or even temporary impairment of the secretory functions of the kidneys. Granting that Thompson's and Kemp's experiments have conclusively shown that ether does cause diminution or suppression of urine during inhalation, clinical experience abundantly proves that this effect ceases with the administration in practically every case.

The fact that ether stimulates every secretion of the body except that of the urine, and that it causes a marked dilatation of the superficial capillaries and profuse diaphoresis, with consequent temporary reduction of the volume of the blood plasma, would alone account for this diminution. Thus, more fluid and excretory products may be eliminated during the administration of ether than would be otherwise, and this in spite of the fact that there is an actual diminution in the urinary secretion.

Provided it does not excite nausea and vomiting, water should be given freely both before and after etherization, since it tends, on the one hand, to restore the normal volume of blood plasma, which has been reduced by catharsis or other preparatory measures, and, on the other, to assist in the rapid elimination of the drug. Nephritis, following the administration of ether, is, in my opinion, more often due to exposure during the operation or to an excessive amount of the anæsthetic than to the irritation upon the renal epithelium of a therapeutic dose skilfully administered.

In a large experience in the administration of ether, both alone and in succession to nitrous oxide and chloroform, I have never had, to my knowledge, a single case of severe or persistent albuminuria, bronchitis, pneumonia, or other serious renal or pulmonary complication.

In view of the fact that chloroform is a powerful protoplasm poison, and that in equal quantity it is far more irritating to the kidneys than ether, it becomes a question in my mind that if the quantity of ether inhaled could be reduced to something near the amount of chloroform required, whether it would not be safer in mild cases of albuminuria to administer ether in preference to chloroform.

In administering chloroform to patients with diseased kidneys, more attention should be paid to the secondary results of renal inadequacy, for there is every reason for believing that uræmic conditions so impair the vitality of the tissue elements as to leave the system in the worst possible condition to resist the ravages of chloroform inhalation.

I find the number of patients who cannot take gas and ether to be exceedingly small. Even alcoholics and drug habitués, in whom the system has acquired a marked tolerance for narcotics of all kinds, and who are particularly hard to anæsthetize, the nitrous oxide, by inducing unconsciousness with primary anæsthesia, enables the full strength of the ether vapor to impinge upon the respiratory mucous membrane and the stage of surgical narcosis to be quickly reached.

In some cases, however, it is unquestionably better to use chloroform. I consider it a good plan at such times, unless there are special contraindications, to induce complete surgical narcosis with gas and ether and to continue the administration with chloroform.

The stimulation of ether preceding the depression of chloroform is a great advantage, as it fortifies the vital centers of the medulla; the chloroform narcosis beginning with a stimulated heart and an increased blood pressure, while the dangers of primary anæsthesia are almost entirely avoided.

The logic of this argument can be readily appreciated by reviewing the statistics of chloroform anæsthesia, which show that in more than 50 per cent. of the mortality, death, whether due to cardiac or respiratory paralysis, occurred during primary anæsthesia, and when only a small quantity of the drug had been taken, the heart and vital centers, as it were, being taken by surprise and rapidly overcome by the depressing influence of the chloroform vapor.

In neurotic patients and children, the method is particularly valuable, since their nervous fears are allayed and confidence inspired by the pleasant nature of the inhalation, while the rapid action of the gas quickly produces unconsciousness. In valvular diseases of the heart, provided there is good compensation, nitrous oxide and ether can be administered with almost perfect safety, as the quantity of gas required is small, all air is not excluded, and the heart quickly receives the benefit of ether stimulation.

Old people take gas and ether particularly well, but in these especial care should be exerted and its use avoided in all cases of arterial degeneration.

In all pulmonary diseases, provided the heart is not affected, I would advise the use of chloroform in preference to gas and ether, though mild cases do not contraindicate the use of nitrous oxide.

The advantages of nitrous oxide and ether over other anæsthetics are many, and it is gratifying to know that the method is rapidly growing in favor. Its only disadvantage is that it requires somewhat complicated and expensive apparatus and considerable skill to use it successfully.

Its general adoption would necessarily lead to the systematic instruction of anæsthetics, and would make of every hospital interne an expert anæsthetist.

148 East Thirty fifth Street

Wholesome Meat.—To-day, the least we must admit is that the flesh of tuberculous cattle is not as harmless as Professor Koch pretends. My intention is not to discuss at length this new theory, but I will be permitted to state that, generally speaking, it is not safe to partake of meat not absolutely healthy. In following certain rules, we may at least avoid poisoning by ptomaines, if not tuberculosis.—Dr. L. Laura (*Mag. Dosimetria*), Turin.

Ureteral Catheterism in the Male; A New Ureter-Cystoscope.—Bransford Lewis describes his cystoscope, whose freedom from complexity, he claims, relieves it of many of the sources of difficulty encountered in the use of the older forms. It consists of a tube which carries in its upper wall a smaller tube for the conduction of the wires that connect with an electric lamp, and in its lower wall another small tube for the conduction of the silk-web ureteral catheter, and for guiding and controlling its inner extremity after it reaches the bladder cavity. The light from the lamp emerges through a glass window, sealed in the roof of the main tube. The lamp affords a brilliant glow, but radiates so little heat that it may be held within a quarter inch of live tissue for an indefinite period, and without pain or even discomfort. It can be used with perfect safety and comfort so far as heat is concerned in the *empty* bladder. Thus, the use of fluid is eliminated, together with its several disadvantages, such as rapid clouding by in-flowing pus or blood, etc. There are no lenses to intervene between the eye and the object of investigation. The window is so placed that, should it become smeared with pus or blood, it may be cleansed by a cotton swab without removal from the bladder. The lamp is brought within half an inch of the membranes being searched, which is of great advantage.—*St. Louis Courier of Medicine.*

The Stereognostic Sense.—L. Harrison Mettler defines this sense as the faculty by which we determine the size and character of objects held in the hand. It is sometimes lost in disease, as in late tabes, and should be tested in every case of suspected sensory disturbance. It is an exceedingly complicated perceptive phenomenon, possibly involving, as Seiler suggests, "an intricate correlation of tactile, position, localization, and pressure perceptions." Astereognosis can hardly be considered a very definite localizing symptom. Its presence would indicate merely a break in the peripheral tactile paths or in the central associative areas, where the numerous inpouring impulses are brought into comparison with one another. Astereognosis will indicate merely a false perception (psychosis) resulting from an alteration in the central perceptive apparatus, or in the paths that connect this central apparatus with the peripheral organs of touch (neurosis) found in the skin, muscles, tendons, ligaments, etc. While in itself, therefore, it does not promise much as a very definite localizing symptom, in conjunction with other symptoms it may prove to be of the greatest value.—*Medicine.*

The Steatolytic Ferment of the Stomach.—F. Volhard, in continuing his investigations of the fat-splitting enzyme discovered by him in the stomach, found that remarkable differences exist between the product obtained from the gastric mucosa and from the juice itself. Alkalis act powerfully in the ferment from the juice, while a glycerin extract of the mucous membrane is far more resistant; but, on the other hand, when obtained from the gastric juice, this body is much less susceptible to the action of hydrochloric acid than when it has been prepared from the tissue. A further conclusion is that the gastric juice contains the ferment itself, while the zymogen is found in the mucous-membrane extract. Steatolysis in the stomach goes on irregularly and is incomplete, and independently of the amount of neutral salt present, only a certain percentage of it is split up. In achylia, the secretion of the fat-splitting ferment, like that of pepsin and rennin, is greatly reduced, while high grades of hyperacidity inhibit steatolysis in the stomach.—*Zeitschrift fur klinische Medicin.*

Streptothrical Infections.—John H. Musser notes that we have been familiar for some time with two streptothrical infections—actinomycosis and the disease known as Madura foot. He believes that we are liable to meet other forms of this infection, and reports two cases of much interest. The first case was that of a man of thirty-seven years, with physical signs of bronchitis and dilated heart. Bronchopneumonia later developed, and death ensued from exhaustion due to the cardiac condition and œdema of the lungs. The sputa revealed the presence of a streptothrix. Musser states that it may have been either a primary infection or one secondary to a streptococcus infection of the bronchial tract. He says also that we must bear in mind the possibility of such organisms being branched forms of the tubercle bacillus. The second case was that of a man of twenty-four years with symptoms suggesting meningitis. On autopsy, a brain abscess was found, the pus being very offensive and containing a streptothrix.—*St. Louis Medical and Surgical Journal.*

The Staff Surgeon-General of the German Army.—Surgeon-General Rudolf Ferdinand von Leuthold, First Physician-in-Ordinary to the German Emperor, has been appointed Staff Surgeon-General of the German Army in succession to the late Surgeon-General von Coler. Surgeon-General von Leuthold, says the *British Medical Journal*, was a pupil of the Friedrich Wilhelm Institute, and received his professional education at the University of Berlin. After passing the State examination in 1857, he became an Assistant Surgeon in the Medical Department of the Army, rising to be Staff Surgeon in 1862, Staff Surgeon-Major of the second class in 1867, Staff Surgeon-Major of the first class in 1875, and Surgeon-General in 1889. He was associated with the late Professor von Lauer in the medical care of the Emperor William I., and on the accession of the present Emperor was chosen by him to be his Physician-in-Ordinary. Surgeon-General von Leuthold was for many years professor of military surgery in the Kaiser Wilhelm Academie, and was at the same time editor of the *Deutsche militärärztliche Zeitschrift.*

The Relations of Human and Bovine Tuberculosis.—Schwabe relates an instance in which 90 per cent. of a herd of highly bred cattle, kept by a gentleman farmer under the best possible hygienic conditions, developed tuberculosis shortly after a consumptive stableman was engaged. After an analysis of this and several similar cases, he comes to the conclusion that human tuberculosis plays a very important rôle in the etiology of the disease in domestic animals, especially in cattle. This source of infection has received but little attention, but deserves careful consideration and study at the hands of both physicians and veterinarians. Tuberculous cattle cough and expectorate so little that in well-conducted dairies the main source of infection cannot lie in this direction, while the presence of consumptives in stables involves so great a risk to the animals that none such should be allowed to come in contact with them.—*Zeitschrift fur Tuberkulose und Heilstättenwesen.*

The Present State of Our Knowledge of Autointoxication.—J. Kovacs believes that in such cases there is a great increase in the osmotic pressure of the blood. The materials leading to autotoxicity are permanently present in the system, but why they are in one case active and in another absolutely inactive is not easily explained. The explanation may be, first, that these chemical products being very changeable are decomposed, and later on unite with other products of metabolism, and in such way they are harmless; secondly, that the organism has under its command certain bodies that defend it, which hold the enemy in check, and so these poisons are eliminated from the organism. Experiments have shown that in diseases in the course of which autointoxication occurred in its most striking form, the osmotic pressure of the blood was increased to the highest point.—*Medical Press and Circular.*

Report of Twelve Cases of Surgical Intervention in Tuberculous Peritonitis.—Alfredo Ramoni reports twelve cases of laparotomy for tuberculous peritonitis. Of the number seven patients recovered, and are still in good

health after a lapse of three or four years. Two have escaped observation. The operation in each case consisted in a median incision of the abdominal walls below the umbilicus to an extent of from 5 to 8 cm., a buttonhole into the peritoneal cavity, and gradual emptying of the ascitic fluid, followed by drying of the cavity by means of boiled gauze, and finally complete closure of the wound in three layers. The author is decidedly in favor of surgical intervention, spontaneous cures being altogether exceptional, and medical treatment of slight avail.—*Gazette Medica di Roma.*

The Medical Treatment in Surgical Tuberculosis.—W. B. Thistle says that tuberculous cases requiring surgical treatment in the great majority of instances receive no medical treatment, surgeons, as a rule, being content with purely mechanical treatment. He urges the application of climatic and hygienic measures, as in cases of pulmonary tuberculosis, and the administration of drugs which improve nutrition, and which weaken the power of the tuberculous germs. For the first purpose, iron, arsenic, and strychnine have gained the greatest repute, but must be given continuously and for long periods. For the second purpose, Dr. Coghill has found that by saturating the body of an animal with creosote, it could be rendered immune to tubercular infection, and if the animal were already infected, the growth of the tubercle could be largely inhibited. In a human being, twenty to thirty minims three times a day brings about the necessary degree of saturation. Creosote, unfortunately, is an irritant, but this property may be counteracted by means of bismuth. The author's plan is to order creosote in bulk, say one ounce, and to order a quantity of bismuth subnitrate. The patient loosely fills a capsule with bismuth, and then drops in slowly as much of the creosote as will be absorbed by the bismuth. As many capsules as are needed to contain the dose may be filled. The creosote should be taken three-quarters of an hour after meals, beginning, say, with five minims, and gradually increasing to from twenty to forty drops three times a day. The results are excellent, and often remarkable.—*The Canadian Practitioner and Review.*

A Review of Some Recent Literature on the Etiology of Carcinoma.—Aloysius O. J. Kelly calls attention to the fact that has been pointed out by Sailer that Schaudinn, one of the keenest zoologists, has lately stated that he has carefully examined sections of one hundred malignant growths in which the so-called parasites were present, and he is convinced that the growths did not contain any bodies that could be regarded as coccidia or protozoa. The writer is not willing to deny that malignant tumors may be due to the pathogenic activities of lower forms of life, still he believes that the proposition has not yet been proved, and that there are many facts known that speak against the likelihood of its ever being proved, at least with the present methods of investigation. He concludes by quoting Ziegler's opinion: "The formations that have been described as protozoa and blastomycetes are in reality degenerated nuclei, degenerated nucleolar figures, various products of the cell protoplasm, such as mucus, colloid, hyalin, keratohyalin, or cells; for instance, cancer cells that have included leucocytes or the products of their retrograde metamorphoses. The supporters of the parasitic theory of tumors are in reality decreasing in number, and this phenomenon is justified not only on account of the want of the demonstration of the occurrence of tumor parasites, but also because all the biological characteristics of tumors speak against their parasitic nature."—*University of Pennsylvania Medical Bulletin.*

The Treatment of Tuberculous Peritonitis.—R. Humphrey Martin considers that we can get good results in this disease by either medical or surgical means. Dr. Yeo pleads for the former, which consists of rubbing into the abdomen three times a day a liniment consisting of equal parts of cod-liver oil and iodoform ointment (1 in 10). He also gives a pill containing $\frac{1}{4}$ grain of iodoform with $\frac{1}{2}$ minim of creosote three times a day. All practitioners would probably prefer to give this treatment a trial for at least six weeks. As to surgical treatment, Watson Cheyne thinks that 50 per cent. can be cured, the prognosis being most favorable in the ascitic variety, next so in the fibro-adhesive form, and least in the ulcerous variety. In all chronic cases which have lasted from four to six months, laparotomy should be performed, the operator simply opening the cavity, draining off any fluid present, and immediately sewing up the wound. There is no satisfactory explanation of what brings about the cure, but it has generally been thought to be due to the admission of daylight. Aspiration alone, or aspiration followed by the pumping in of air, does no good; but let in air and light, and in a few months the peritoneum, on being reopened, will be found to be quite free from any sign of tuberculosis.—*The Australasian Medical Gazette.*

On the Value of Iodine Cataphoresis in the Treatment of Hypertrophy of the Thyroid Gland.—Jacopo Nardi has had good success by means of this treatment. His method consists in soaking a bit of cotton in an alcoholic solution of the tincture of iodine, applying it to various parts of the hypertrophied gland, and placing on it the anode. The cathode may be placed on the back of the neck or the palm of the hand. As a rule, fifteen to twenty milliamperes may be applied for from ten minutes, as a minimum, to forty minutes, as a maximum. The efficacy of this form of treatment is in direct relation to the softness of the glandular tissues, being of little value where fibrous degeneration is at all extensive. It is of no use at all in cases of cystic struma. Improvement, when it occurs, is at first rapid, and then somewhat slower.—*Giornale Internazionale delle Scienze Mediche.*

A Fatal Case of Acute Dermatitis Exfoliativa.—E. Brunsgaard describes a case occurring in a boy of seventeen years. In the subcutaneous tissues were found numerous effusions of blood containing diplococci and streptococci, and certain agglomerated cocci stained by Gram's reagent. The clinical symptoms and post-mortem findings pointed to a general infection; the skin affection is probably an expression of this infection, but one which forms the characteristic and essential feature of the disease. It was not possible in this case to trace the source of the infection, but it may have originated in the lungs, as both were found to contain tuberculous cavities as well as foci of bronchopneumonia.—*Norsk Magazine for Lægevidenskaben.*

Determining Causes of Genius.—Cesare Lombroso, writing on this subject, delivers himself as follows: "Sometimes surrounding influences, with predisposition and hereditary transmission, determine the form that genius shall take. So Darwin, St. Hilaire, Raphael, Bach, and Bernoullis were born of naturalists, painters, and mathematicians, and lived among them, finding in atavistic tendency and surrounding intellectual atmosphere the first cause of their later work. But this is not a general rule; on the contrary, geniuses, particularly the scientific, show a tendency to, I might say, dissimilar heredity, by means of which sons are as different as possible from their parents. Edgar Allan Poe was a descendant of rigid Puritans.

The Terminal Period of General Paralysis.—E. P. Chagnon concludes that general paralysis does not follow the regular cycle described by most authors. Nearly one-half of his patients died while still able to move about, and more than two-thirds never reached the period of absolute impotence. The marasmus described in the books is extremely rare, and eschars seldom occur. The ictus is rather a symptom than a complication of the disease; more than a third of the writer's paralytic patients died of ictus, and it frequently occurred in patients who died of intercurrent diseases.—*Bulletin Médical de Québec.*

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SMALLPOX AND VACCINATION.

THE outbreak of smallpox on a somewhat large scale in London has, in the natural order of things, once again brought forth bitter denunciations of vaccination and its upholders. The antivaccinationists are, as usual, profuse in language and vehement but loose in argument, and endeavor to depreciate the value of Jenner's discovery by declaring that the decrease of smallpox is due to improved sanitation. That the disease should have diminished both in prevalence and severity since the introduction of vaccination they profess to regard merely as a coincidence. So much has been written upon the subject of vaccination that it would be a wearisome and unnecessary task to reiterate even some of the conclusions definitely arrived at with regard to its benefits.

The *London Saturday Review*, October 5, has an especially acute criticism of the attitude of the scoffers, and one or two opposite points are exceedingly well put.

The writer of the article remarks that the details of a complex problem, involving the delicate interplay of the activities of life, the attractions and repulsions of contending cells, the production and warfare of toxins and antitoxins, the nature of microbes and microbial poisons, lie in a region closed and unprofitable to a layman. A special aptitude, a long training, and a constant and assiduous devotion are requisites of the modern bacteriologist, and it is only the bacteriologist who is in a position even to understand the evidence that has accumulated regarding the artificial reduction of relative or complete immunity to a disease. And this is the more so because the production of immunity by vaccination, for long and isolated empirical result, hit upon by what may be called a happy chance, and at its inception out of line with what was known of disease, has now, by the vast growth of knowledge, taken its place as one particular problem exactly congruous with the problems raised by study of the vast majority of diseases. Had Jenner not existed, were smallpox a new plague, suddenly brought to Europe from some remote part of the earth, modern bacteriologists, from their knowledge of other diseases, would be seeking for some means of producing immunity much on the lines of Jenner's empirical solution. The scientific discussion of vaccination, as a biological process, must be life to biologists, and in particular to those biologists who make pathological bacteriology their especial subject.

The truth undoubtedly is that the ordinary individual has not the trained intelligence necessary to understand more than the rudiments of the matter, and is consequently precluded from passing an opinion of any value. The opponents of vaccination are, for the most part, incapable, through their ignorance of bacteriological science, of judging of the merits or demerits of the method; but led away by their emotions, they play upon the feelings of the masses and create a prejudice against vaccination in the same way as they, or their like, have stirred up an adverse sentiment against every form of medical study and investigation

THE GENESIS AND DEVELOPMENT OF PRIVATE HOSPITALS.

INSTITUTIONS of this nature are springing up with much rapidity in the large cities of the United States. Private hospitals, maisons de santé, private sanatoriums, surgical homes, nursing homes, have been known for a considerable period in the Old World, and in certain cities of Great Britain have flourished exceedingly. Hand in hand with the extraordinary advance of modern surgery, rendered possible by the introduction of asepsis, the creation and multiplication of private hospitals have occurred.

In Great Britain, where the conditions regulating hospital management differ widely from those which obtain in this country, the reasons for the innovation were, at any rate in the first instance, rational and easily comprehensible. Surgical interference, undertaken with close regard to antiseptic principles, had been shown to be attended with results which, when compared with those prevailing under the old system, seemed little short of miraculous, and robbed the knife of much of its terror. Persons of means were willing to pay for, and surgeons were eager to furnish, facilities for operating which would ensure the minimum of danger to life. Such advantages were not easily attainable in the wards of a general hospital. Pay patients were but a few years ago almost unknown in the British hospitals, and even now are the exception rather than the rule. Thus a wide and untrodden field was opened to the surgeon ambitious of demonstrating his skill, and incidentally gathering in fame and money.

At the present time, private hospitals, nursing homes, and similar institutions abound in London and in other large English cities, and the question now arises as to whether the field is not being somewhat overworked.

Here, however, where the pay system in hospitals is overwhelmingly in evidence, there would appear to be room for, and perhaps need of, private establishments for the treatment of disease and of injuries. Objections, some illusory, others founded on a sound basis, may be brought against public hospitals.

The benefits accruing to a patient provided by a private hospital, and lacking in a public institution, are many of them too obvious to require much verbal demonstration, the chief of which undoubtedly is that, with almost equal privacy and with all necessary home comforts, a treatment can be followed without that domestic chaos supervening which is unavoidable when a person's own house is used as the scene of medical or surgical service.

A strong tendency on the part of physicians of the large cities of the United States to establish private hospitals has been exhibited recently, and it will occasion no surprise among those who study the signs

of the times if this inclination in favor of institutions in which lay management has no part should spread. Practical experiments in this direction, upon an extended scale, will afford the experience required fully to test the point.

THE LIGHT TREATMENT OF SKIN DISEASE.

Some forms of skin affections have been shown within recent years to be remarkably amenable to treatment by means of light. Finsen of Copenhagen was the first to ascertain this fact, and to put it to successful practical proof. Such good results were obtained by his method, and by adaptations thereof, that dermatologists generally became convinced that the Danish physician had made a discovery of more than ordinary value, and that it behooved them to follow so promising a lead, and furthermore thoroughly to investigate the matter, with the view to improve upon the methods in vogue.

At the meeting of the British Medical Association, which took place during the past summer, no discussion evoked more enthusiasm than that in the section on dermatology, dealing with the light treatment of skin affections. Mr. Malcolm Morris, than whom there is no more earnest and strenuous worker in his chosen field, was the first to review the arguments for and against the light treatment from the standpoint of the dermatologist. Mr. Morris disclaimed any rabid partisanship in favor of the new methods, but at the same time stated his strong belief that under many circumstances no mode of treatment is better calculated to afford relief to those suffering from a certain class of skin disease than is the light treatment. The advantages of the method, according to his experience, were, he said, its reliability, its painlessness and its satisfactory cosmetic results. The reverse of the picture showed that the time required for treatment was long, and that the attendant expenses were exceedingly heavy.

The next to speak on the subject was Dr. Sequeira of the London Hospital, Whitechapel, whose remarks are worthy of close attention, because, in the first place, he is in charge of the largest installation of the light plant used for therapeutic purposes in Great Britain, where sixty or seventy patients are treated daily; and, in the second place, because to him belongs the credit of having discovered the exceedingly beneficial effects exerted by the *x*-rays upon rodent ulcer.

Finsen, when he began his light treatment, made use of the sun, but as it is by no means a constant visitor in Copenhagen, he was compelled to have recourse to electric light, and to this fact and to the cumbersome apparatus by which was utilized the light thus obtained, the almost prohibitive expense of the system has been due. Dr. Sequeira, however, has so far modified the objectionable arrangements that he has not only simplified the treatment by Finsen's method, but he has very materially reduced the cost. The outlook, therefore, for treatment conducted upon this plan is hopeful.

Since the *x*-rays have been found to be efficacious in treating some skin affections, a few injudicious supporters have somewhat lost their heads with regard to the matter, and have asserted that this form of light treatment must assuredly supersede every remedy for skin complaints as yet known, and that it is almost a panacea for all diseases. Dr. Norman Walker wisely threw a certain amount of cold water upon this ill-judged enthusiasm, and with canny Scotch caution gave as his opinion, at the Cheltenham meeting, that both the light methods of treatment were efficacious in combination with the older and more familiar methods. Rays are the most suitable treatment for extensive rodent ulcer; but in more limited cases of lupus, where the appearance has to be greatly considered, then the Finsen method, with its extremely perfect scar, is to be preferred.

Regarding the situation from an impartial point of view, and while acknowledging that the light treatment is but yet in its infancy and may accomplish all that its most ardent adherents now claim for it, the wisest course will probably be to refrain from a decided expression of opinion until both methods have been more thoroughly tested than has been at present the case.

THE EDUCATION OF CHILDREN.

Education of the young and the means to be employed successfully to attain this end have been for years past a fruitful theme for discussion among philanthropists. There are those who declare that the value of education—as it is known in these days—has been much overestimated, and provided that a youth possesses sufficient knowledge to make his way in the world, and enjoys good health, his equipment for the battle of life is satisfactory.

This view of the case is no doubt true so far as it goes, and it is undeniable that over-exerting the immature brain at the expense of the body is radically wrong; but, on the other hand, in almost all paths of life, the well-educated individual, given other conditions equal, has the advantage over the one whose mental powers have not been so efficiently trained. Education conducted upon rational lines—that is, paying due attention to the needs of the body while bringing out judiciously the intellectual capacities—is a boon of great value. It would seem, however, judging from the reports published in many of the New York lay journals, that the care of the young from an educational point of view is being greatly neglected in this city. The statement has recently been made that a very considerable number of children in the boroughs of Manhattan and The Bronx are unable to avail themselves of the advantages of education, owing to the fact that the school accommodation is inadequate.

This defect should be remedied as soon as possible, for it is a grave blot upon the fair fame of perhaps the richest city in the world, and the metropolis of certainly the wealthiest and most advanced country in that she should not afford facilities *for education* in keeping with her acknowledged elevated position.

American Courtesies to Professor Waldeyer.—Professor Heinrich von Waldeyer, President of the Academy of Sciences of Berlin, after a complimentary dinner given to him in New York, visited the Georgetown University, D. C., at which institution he was tendered a reception. In an address to the students he expressed his high appreciation of American medical education, and maintained that it was on a par with that of any part of Europe. Drs. Klober, Baker, and Joseph Taber Johnson acted as hosts of the occasion. Professor Waldeyer was also tendered a reception at the Cosmos Club.

News of the Week.

The Medical and Chirurgical Faculty of Maryland has begun a process of absorption of various special and local societies, the present members of the latter constituting themselves members of sections of the faculty. It is proposed to organize five sections of clinical medicine and pathology, surgery, obstetrics and gynecology, neurology and psychiatry, and ophthalmology and otology. The first of the separate societies to surrender its anatomy and become merged in the State society is the Clinical Society of Maryland, which voted to take this step at a meeting held on October 18.

Journal of the Association of Military Surgeons of the United States.—At the meeting of this association, held early in the summer at St. Paul, it was decided to publish the transactions hereafter in journal form, and the first issue of the same, dated August, has recently appeared. For the first year the journal will be published quarterly, but it is hoped to issue the numbers monthly thereafter. The expressed aim of the journal is to aid in the advance of military surgery, medicine, and hygiene, as well as to publish the transactions of the association. The fact that the editor is Dr. James E. Pilcher, Major and Surgeon, U. S. A., is in itself a guarantee of the success of the new undertaking.

An Impractical Suggestion in Higher Stirpiculture.—The Huxley lecturer before the British Anthropological Institute this year, Francis Galton, took as his theme the improvement of the human race by scientific selection. He advocated action by the state absolutely forbidding marriage to any but the healthy, and the morally and mentally superior. These favored ones should not be forced to grinding labor or any work that would cause physical deterioration, all this being done by the defectives whose mission was not to procreate. The difficulty would be to persuade the latter that it was their duty to work without hope of reward for their self-constituted superiors, and to prevent revolution.

Naval Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the Navy, week ending November 2, 1901: October 26—Assistant Surgeon R. T. Orvis, detached from the *Pensacola*, upon reporting of relief, and ordered home and to await orders. Assistant Surgeon U. R. Webb, ordered to the *Pensacola*, as relief of Assistant Surgeon R. T. Orvis. October 28—Medical Inspector F. Rogers, having been examined by a retiring board and found incapacitated for active service on account of disability incident thereto, is retired from active service, October 28, 1901, under the provisions of section 1453, Revised Statutes. Surgeon D. O. Lewis detached from the *Philadelphia*, ordered home and granted sick leave for three months. October 29—Passed Assistant Surgeon R. T. Orvis, commissioned Passed Assistant Surgeon from May 27, 1901. Passed Assistant Surgeon G. L. Angeny, commissioned Passed Assistant Surgeon from September 16, 1901.

Christ's Hospital, Jersey City, N. J.—The semi-annual dinner of the Alumni Association of the Internes of Christ's Hospital, Jersey City, was held at the Union League Club, Jersey City, on October 21. The following are the officers for the ensuing year: *President*, Dr. Henry Spence; *Vice-President*, Dr. John C. Parsons; *Secretary and Treasurer*, Dr. Wallace Pyle.

Philadelphia Polyclinic.—Dr. John H. Gibbon has been elected professor of surgery in succession to Dr. T. S. K. Morton, who had resigned, and was elected Emeritus Professor. Dr. Samuel McC. Hamill and Dr. James H. McKee have been elected professors of the diseases of children.

The Mental Condition of Czolgosz.—Drs. Fowler, Crego, and Putnam, the physicians who were requested by District Attorney Penney to examine into the mental condition of Leon F. Czolgosz, the assassin of the President, have made public their report, in which they say that he was sane. "The most careful questioning," the report states, "failed to discover any hallucination of sight or hearing. He had received no special command; he did not believe he had been especially chosen to do the deed. He always spoke as his motive for the crime as duty; he always referred to the anarchists' belief that the killing of rulers was a duty. He never claimed the idea of killing the President was original with him, but the method of accomplishing his purpose was his, and that he did it alone. He is not a case of paranoia, because he has not systematized delusions reverting to self, and because he is in exceptionally good condition and has an unbroken record of good health." The assassin was executed on October 29, and the autopsy was made by Drs. Edward A. Spitzka and Carlos F. Macdonald of New York, and Dr. John Gerin, prison physician. The autopsy occupied over three hours, and embraced a careful examination of all the bodily organs. The examination revealed them in a perfectly healthy state. All of the physicians who attended the execution were present at the autopsy, and all concurred in the findings of the examiners.

The Associated Physicians of Long Island.—The eleventh annual meeting of this society was held at Garden City on October 19, under the presidency of Dr. William B. Gibson of Huntington. The following officers were elected: *President*, Dr. William B. Gibson of Huntington; *Vice-Presidents*, Drs. Calvin F. Barber of Brooklyn, James S. Cooley of Glen Cove, and W. H. Ross of Brentwood; *Secretary*, Dr. James Cole Hancock of Brooklyn; *Treasurer*, Dr. John P. Heyen of Northport; *Board of Directors*, Drs. James M. Winfield, William B. Gibson, Calvin F. Barber, James Cole Hancock, and John P. Heyen.

The Montefiore Home.—The seventeenth annual meeting of the officers and directors of the Montefiore Home for Chronic Invalids was held last Sunday morning. The annual report was read showing that there are at present 236 patients in the home, and 113 in the sanitarium. The total number of patients treated during the year was 737. Of this number 151 died. There were 1,095 applications for admission, 423 being admitted, and of this number 34 are still awaiting room. The per capita annual support for each inmate amounted to $255.23.

Accusations Against a Trained Nurse.—A woman named Jane Toppan, a trained nurse, was arrested on October 30 in Amherst, N. H., on suspicion of having caused the death of a woman whom she had been nursing. Since her arrest, inquiry has developed the fact that twelve persons have died while she was in attendance as nurse, ten of these deaths having occurred within the past two years.

Alleged Maltreatment of the Insane.—Another insane patient has died at Bellevue, whose body after death was found covered with bruises. The man was very violent when admitted, and was said to have constantly beaten himself with all his force until bound with a restraining belt. In the Asylum for the Insane at Dunning, Ill., two female nurses have been charged with having caused the death of two female patients in the asylum by deliberately withholding food from the patients, sometimes giving them nothing at all, and for weeks nothing but bread

and tea. It has also been charged that medicines provided for the patients were not administered to them. The motive assigned in the charges is that the patients were especially obnoxious to the nurses, and that their course was prompted by a desire to so weaken the patients that they would become ill and be sent to a ward for the sick, thus relieving the nurses of the care of them.

Tetanus Attributed to Infected Diphtheria Antitoxin.—Nineteen cases of tetanus have been reported in St. Louis among children who had received injections of anti-diphtheritic serum. The antitoxin used in these cases was prepared by the City Board of Health. Inoculation of guinea-pigs with the suspected antitoxin has been followed by symptoms of tetanus. The horse from which the serum was obtained on several occasions, the last time on August 24, developed symptoms of tetanus on October 1, and was killed.

Army Emergency Rations.—In the annual report of the Commissary General of the Army, made public the first of this month, is an account of a number of practical tests of the value of certain emergency rations. A board was appointed to try each ration on soldiers in actual field service, the precaution being taken to march the men into an uninhabited region of the Indian Territory, so that they could not obtain food surreptitiously should the emergency ration fail to satisfy hunger. Of all the rations tried, the only one that gave satisfactory results was one prepared by the board which consisted of cakes of chocolate and of compressed meat and bread.

Accused of Smuggling Surgical Instruments.—A customs inspector a few days ago seized surgical instruments to the value of $1,500, alleged to have been smuggled by a Wisconsin physician who had just returned from Germany.

A Dinner to Dr. Thomas.—A dinner will be given on November 21 to Dr. T. Gaillard Thomas of this city in celebration of his seventieth birthday. The medical friends of Dr. Thomas who wish to honor him in this way are requested to communicate with Dr. A. J. McCosh, 16 East Fifty-fourth Street.

The Prevention of Typhoid Fever in Germany.—Typhoid fever is reported epidemic in several towns in Prussia, 1,329 cases having been officially reported in one town (Bochum). In consequence of this, unique precautions to prevent the spread of typhoid have been inaugurated on the Prussian State railways. A dispatch to the *Herald* says that practically every station will be turned into a quarantine depot and every station master into a health officer. In addition to being ordered to maintain scrupulous cleanliness throughout the station premises, station masters have been instructed to furnish to a physician accompanying every through train a detailed report of any typhoid cases in his town or any symptoms thereof. If fever conditions are found to exist, the station master must furnish freshly boiled water for the use of passengers and crew, as well as maintain tanks of sterilized water conspicuously designated for use of the traveling public. The regular stationary drinking fountains must be sealed up until the town is fever free. The medical authorities who framed the new regulations assert that railway travelers and railway coaches are among the most prolific carriers of contagion.

King Edward's Health. The discussion over the King's health has extended to the medical journals. The *Medical Press and Circular* of October 31 prints the report that papillomatous growths have on three occasions been removed from the King's left vocal cord, and that an immediate operation of another nature has since been rendered necessary, and calls for an official announcement as to the truth or falsity of these rumors. The *Lancet* of November 2 says: "There is every ground for believing that the rumors in regard to the King's health are entirely untrue. His health is good, and he has undergone no operation whatever." The *British Medical Journal* of the same date also says that the King's health is good, and that no operation has been performed on him. A dispatch to the *Sun* says that it is known that his Majesty's throat has been subjected to spray treatment for several months. The King himself traced the trouble, which first made itself known by the appearance of blood, to his throat. Knowing the royal family's predisposition to cancer, he was naturally alarmed, and specialists were called in. They diagnosed the trouble as smoker's throat, and prescribed complete abstinence from tobacco. The King has always been a very heavy smoker of cigars and cigarettes, and when he demurred to such drastic treatment, his advisers compromised the matter by greatly reducing his daily allowance of cigars and cutting off cigarettes altogether. Denials of the cancer story also come from Professor Ehrlich of the Bacteriological Institute of Frankfort, to whom it is said some tissue was submitted for examination, and from the *Official Gazette* of Copenhagen. This journal declares untrue the report that specialists were in consultation regarding him during his recent visit to Denmark.

A Nothnagel "Festnummer."—The issue of the *Wiener klinische Rundschau* for October 9 is dedicated to Professor Nothnagel in honor of his sixtieth birthday, which occurred on September 28. There are twenty-six original communications in the number, contributed by friends and admirers of the great clinician, and an artistic reproduction of a recently painted portrait is the frontispiece.

The Importation of Vaccine Needles.—A novel case was recently decided by the U. S. General Appraisers. A company dealing in antitoxins and vaccines recently protested against the action of the Chicago Collector of Customs upon an importation of cambric needles charged with anthrax vaccine, in admitting the vaccine free, but subjecting the needles to a duty of 25 per cent. ad valorem as "needles not specially provided for." The importers set up that either the needles were hand-sewing needles, and that they were properly entitled to free entry, or that the virus and needles were entireties and were entitled to free entry as virus. The claim that the virus and needles are entireties is not sustained, but it is decided that the needles, being hand-sewing needles, must be so classified, and that they come in free, being specifically provided for.

Dr. Bulkley's Lectures on Skin Diseases.—The governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley will give a fourth series of clinical lectures on diseases of the skin in the out-patient hall of the hospital on Wednesday afternoons at 4.15 o'clock. The series began on November 6. The course is free to physicians.

The Consumption of Alcohol in Germany.—A dispatch to the New York *Times* states that at a meeting of the Society for Combating the Abuse of Spirituous Liquors, held recently in Breslau, one of the speakers, Baron von Diergardt, said that he believed alcohol would one day be universally regarded as an enemy of civilization, but at present it was only possible to recommend moderation in its use. Seven hundred and fifty millions of dollars was yearly spent in Germany on intoxicating liquors.

It was estimated that the average German consumed the equivalent of five glasses of spirits a day. Baron von Diergardt added that one difficulty in the campaign was that the State itself was interested in alcohol, deriving, as it did, a revenue of $41,000,000 from spirits and $25,000,000 from beer. One-third of the German exports to Togoland and one-seventh of those to East Africa consisted of alcohol.

Philadelphia County Medical Society.—At a stated meeting held October 23, Dr. Wilmer Krusen read a paper entitled "Triple Ectopic Gestation, with Report of a Case." Dr. Andrew J. Downes presented a communication entitled "Some Pertinent Remarks on Appendicitis in the Female." Dr. Joseph Sailer made a report upon "Two Cases of Diphtheritic Infection of the Mouth, Following Typhoid Fever." The patients were members of the same family, and in both a condition of noma developed. In one, diphtheria had been present more than a year previously. Typhoid fever occurred also in a third member of the family. Dr. John H. W. Rhein read a paper entitled "The Treatment of Locomotor Ataxia, with Special Reference to the Treatment by Educational Exercises." The latter are directed to a training of muscular and remaining nervous structures, and if faithfully practised are capable of bringing about most marked improvement in co-ordination. The mental state also is often happily influenced.

Philadelphia Neurological Society.—At a stated meeting held October 22, Drs. F. X. Dercum and W. W. Keen presented "Two Tumors of the Frontal Lobe." Drs. Max H. Bochroch and Alfred Gordon read a paper entitled "A Case of Multiple Lesions of the Spinal Cord and Cranial Nerves, with Amyotrophy, Probably Due to Syphilitic Infection." Dr. William Pickett read a paper entitled "Paresis: A Study of 149 Cases Occurring at the Philadelphia Hospital." Dr. John K. Mitchell described "An Unusual Symptom in a Case of Insanity." The patient, a man of intelligence, displayed an imperative impulse to arrange objects in groups of three, and in reading to mutilate, by tearing or cutting with a knife, pages on which the figure or the word three or multiples thereof occurred. Dr. Joseph Sailer read a paper on "The Supraorbital Reflex." He referred to three cases of facial palsy in which this reflex, which consists in contraction of the levator palpebræ when the brow is struck, was wanting. Dr. D. J. McCarthy, who was the first to describe the phenomenon, cited evidence to show that it was a true reflex, the arc including the trifacial and facial nerves. It may be a means of differentiating supranuclear from infranuclear facial palsy.

Pathological Society of Philadelphia.—At a stated meeting held October 24, Dr. R. C. Rosenberger read a paper entitled "Comparative Experiments with Neutral Red Agar and Neutral Red Bouillon." Dr. J. A. Scott presented a specimen of "Amœbic Abscess of the Liver." The collection of pus occupied the right lobe of the liver and had ruptured successively into the right pleura and the bronchi of the right lung. Aspiration during life resulted in the evacuation of considerable amounts of fluid. There was no increase in the number of leukocytes until a short time before death. Dr. Scott presented also a heart with marked mitral obstruction, less marked bicuspid obstruction and atheroma of the pulmonary artery. The left ventricle was small and its walls thin, and the right ventricle large and its walls comparatively thick. The left auricle was greatly dilated and it contained two ante-mortem clots. The right pleural cavity contained considerable fluid, and the liver, which was rather diminished in size, was displaced downward, so that during life this organ was thought to be enlarged. The kidneys contained old infarcts.

Drs. Chas. W. Burr and D. J. McCarthy exhibited "A Brain with Internal Hydrocephalus." The patient had been a man with a large head of good shape and of the average intelligence of his class. He had had two or three attacks of insanity. The lateral ventricles were greatly distended.

Dr. Jos. Sailer exhibited sections of skin from a case of undetermined character. The patient was a colored child, eight years of age, who presented a lesion of the face suggestive of ringworm. The growth progressed from the periphery, leaving a central area covered by smooth, thin skin. Clinically a diagnosis of syphilis had been made, but leprosy or some form of tuberculosis or blastomycetic dermatitis was taken into consideration. Histologically giant-cells were visible, but no bacteria of any kind had been found.

An Association of the French-Speaking Physicians in North America is to be organized in Quebec in 1902 during the semi-centennial celebration of the foundation of Laval University. Members of the association need not be of French or French-Canadian birth, but they must be able to speak French, as all the scientific and other work of the society will be conducted in that language.

The New York State Association of Railway Surgeons.—The eleventh annual meeting of this association will be held at the Academy of Medicine in this city on November 14 and 15, under the presidency of Dr. W. R. Townsend of New York. The secretary of the society is Dr. C. B. Herrick of Troy. The subject for the set discussion at the opening session will be railway sanitation. The program contains the names of many men from other States who will read papers or take part in the discussion.

Obituary Notes.—Dr. William M. Hudson died at his home in Hartford, Conn., on October 30, at the age of sixty-eight years. His death was the result of a cold contracted during his attendance at the Yale bicentennial celebration. He was a graduate in arts of Yale in 1854, and in medicine of the now extinct Pennsylvania Medical College of Philadelphia.

Dr. J. Mortimer Crawe, Sr., one of the oldest practising physicians of Watertown, N. Y., died October 29, aged seventy-one years. He was a graduate of the Jefferson Medical College in 1859, and was a member of the New York State Medical Association and of the Jefferson County and Watertown City Medical societies.

Dr. Faure Miller, a well-known physician and a prominent member of the Anglo-American Continental Medical Society, died in Paris on November 4, aged sixty years.

Dr. Genit D. Van Vranken died at his home in Hempstead, Long Island, on November 1. He was born in Clifton Park, Saratoga County, N. Y., July 2, 1841. He was graduated from the Jonesville (N. Y.) Academy and entered Union College, from which he was graduated in the class of 1863. For several years afterward he was professor of sciences in the Jonesville Academy, but finally decided on medicine as a profession. He attended the Albany Medical School and later the Philadelphia School of Medicine. He practised medicine for some years at Jonesville, but gave up general practice to accept the place of house physician in a sanatorium in Saratoga. He retired from practice many years ago.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

SCHOOL OF TROPICAL MEDICINE—THE SOCIETIES—CANDIDATES FOR COUNCIL—GUILD OF ST LUKE—SMALLPOX—THE LATE MR. VINCENT JACKSON.

London, October 18, 1901.

The London School of Tropical Medicine is making determined efforts to keep itself before the public. It may be there is a little rivalry with Liverpool, and a resolve to justify its existence, the necessity for which you know was at first disputed. On Wednesday afternoon the third session was opened by Lord Brassey, who said more funds are required, and boldly asked for £100,000. He did not consider this a large sum for such an institution, and said a "favorable response must come from the large section of the public interested in the tropics." Dr. Manson followed, and said, at the outset, medical men proclaimed from platform and press that the schools could supply all that was required. Such opinions he regarded as "vamped-up figments of the imagination," and with questionable taste went on to talk of "errors in diagnosis made by ships' doctors and others," illustrating them by a case of a negro admitted to the Seamen's Hospital with a tropical disease of which the medical men who had previously seen him knew nothing. Sir Francis Lovell then spoke of a visit he will make to India, Burma, Ceylon, the Straits Settlements, China, Japan, New Zealand, Australia, America, and Canada in the interests of the school—a tour of the world to inform wealthy residents of the need of further funds.

After the meeting, Dr. Manson gave an interview to the press, the use of which is not very apparent. He made one statement, however, which is worth repeating, viz., that in conversation with Professor Koch he found out that Germany spent five times as much as England on the study of tropical diseases. Englishmen go out for study and research for a mere pittance. Germany pays her men a comparatively handsome salary.

The societies are now in full work. At the Pathological, as usual, there were important points brought forward, and specimens shown.

The Clinical Society began the session on Friday last with interesting surgical cases. Quite a rarity was one of displaced strangulated femoral hernia, told by Mr. Bryant. The case was of importance to every practitioner, as it showed the danger of forcible attempts to reduce by the taxis, and the difficulty of diagnosis that may arise when there is no history. In fact, but for the distinct history of an old femoral hernia there was not sufficient indication in this case that the obstruction of the bowels was due to such a hernia being strangulated. Apart from the history, abdominal section might thus have seemed indicated, but if undertaken would have been useless, for the seat of strangulation was outside the abdominal cavity. An exploratory operation in the femoral region was determined upon in accordance with the good old rule of first examining, in every case of obstruction associated with hernia, the region in which the hernia existed. Mr. Bryant operated in the usual manner. The crural sheath, which on exposure did not seem expanded, was opened with great care, and a small piece of tissue looking like omentum found, but no bowel; the femoral ring was clear, and on passing a director, a piece of pale intestine, which had been collapsed and not seen, became suddenly distended, and was lost downward through a narrow opening at the apex of the femoral sheath, where it was strongly held and strangulated. This constriction was divided on a director, and four or five inches of highly congested intestine drawn out and returned to the abdomen. Though the operation was thus completed, the patient sank, and the post-mortem examination showed that the hernia had been forced through a rupture of the femoral sheath at its lowest part or apex into the connective tissue of the thigh on the inner side of Scarpa's triangle, and that the seat of strangulation was not at the ring, but at the seat of the rupture of the sheath. The specimen is now in the College of Surgeons' Museum. The patient had been troubled with the hernia for about five years, but had not worn a truss. She had usually reduced it herself, and had sometimes used considerable force, and no doubt on the last occasion had caused the displacement, as symptoms set in two days afterward.

The president (Mr. Barker) presented an exactly similar case. He had himself abandoned the taxis, and questioned if it ever should be tried, and thought if this view were endorsed by Mr. Bryant, it would have a good effect both in private and hospital practice. Mr. Golding Bird endorsed this view, and Mr. Bryant agreed so far as femoral hernia was concerned. Inguinal was rather different, but in that anything like violence was iniquitous. In scrotal hernia, too, there was less danger than in femoral.

At the same meeting, Mr. Jackson Clarke read notes of a case of painful backward projection of the tips of both twelfth ribs succeeding kyphosis in a nursemaid. When the spinal support was discontinued, the pressure of even her dress on the ribs was painful. As much of each twelfth rib as could be taken away without incising the erector spinæ was removed, nearly one inch. Mr. Clarke regarded the case as rheumatoid. Dr. Ewart said a condition called acrochondralgia was known as a localized ailment due to various causes aggravated by the pressure of corsets. He was surprised to hear of osteoarthritis being relieved by excising a bit of distal bone, and would like to have further evidence of that disease.

Mr. Cuthbert Wallace read notes of cases of injuries to joints—some wounded by compound fractures, others of probable or doubtful nature, as in the case of punctured wounds which might have penetrated. He thought, with a large external wound and only a small one entering the joint, it was worth while to give the joint a chance. Cleansing, he said, must be mechanical; it was no good trusting to antiseptics. The President said antiseptics were useless, and often worse. For many years he had only employed irrigations with normal saline solution, since which his results improved. He laid it down as a principle that, once a joint became infected, it could not be disinfected.

Mr. Wallis referred to some similar cases he brought before the society in 1898. If perforating wounds of joints became at all inflamed, he found a free opening and drainage gave good results.

Mr. Mansell Moullin then read notes of five cases of ascites dependent upon cirrhosis of the liver, in which he had sutured the omentum to the anterior abdominal wall, with a view to establishing a collateral circulation after the Drummond-Morison method. Two of the five cases died, the operation being too late; one could not be traced: the other two are alive and at work now, two years after the operation. Mr. Moullin did not consider the risk of the operation serious. The mortality, he admitted, had at present been high, but that was the case with all new operations, and would fall with more careful selection.

At the Obstetrical Society, Dr. Herman reported a case of leukæmia in pregnancy, and remarked on twelve others published elsewhere. Examining them critically, he found the evidence of leukæmia deficient in five, so that there were only eight cases from which to draw conclusions. He advised the induction of abortion or premature labor as the treatment of these cases—not in all indiscriminately, but only in those in which the symptoms caused suffering and were aggravated after the onset of pregnancy.

At the Gynæcological Society, on the 10th inst., Dr. Macnaughton-Jones read notes of a series of cases, and Dr. W. Travers gave an account of a case of fibroid tumor causing obstruction of the bowels and simulating appendicitis.

Candidates for the General Medical Council are beginning to move. Mr. Victor Horsley's intention to resign in order to have a single election is to be defeated. The draughtsman of the act has made him ineligible for re-election—evidently contrary to the intention of Parliament.

Members of the Guild of St. Luke have again disported themselves in academical college robes at St. Paul's Cathedral.

The epidemic of smallpox has continued at about the same rate. The school board has continued its destruction at the bidding of some members who pander to the anti-vacs.

Mr. Vincent Jackson, J. P., Surgeon to the Wolverhampton Hospital, died on the 12th inst., aged sixty-seven. He was a notable surgeon, and his opinion much valued by his brethren. He was energetic, too, and spent some of his energy in public life, was elected an alderman, and made a magistrate. He was interested in the well-being of the profession, a reformer in many ways, and one always worth listening to. He was a rather voluminous writer on various surgical subjects, *i. e.* stricture, the knee-joint, lithotomy, colotomy. His last work was an "Historical Sketch of the Medical Profession or Medical Craft in Great Britain."

The Tri-State Medical Association of Mississippi, Arkansas, and Tennessee, will meet in Memphis, Tenn., on November 19, 20 and 21. The president is I. A. McSwain, M.D., of Paris, Tenn., and the secretary Richmond McKinney, M.D., of Memphis. Many interesting papers are promised and a large attendance is expected.

LETTER FROM NEW ZEALAND.

(From Our Special Correspondent.)

GRIEF FOR PRESIDENT McKINLEY—INFLUENZA—ALEXANDER'S OPERATION—LAW AGAINST OPIUM SMOKING—PROHIBITION OF THE SALE OF PREVENTIVES OF CONCEPTION.

AUCKLAND, N. Z., September 19, 1901.

I AM writing this on the day of President McKinley's funeral, and it is impossible to write at all without commenting on his death, and on the way in which the news has been received here. Are we becoming more emotional, or, if not, what becomes of the stolid, unexcitable Anglo-Saxon in this Southern hemisphere? Ever since the news of the dastardly and atrocious attack on your President reached here, there has been one and almost only one topic of conversation. During last week intense anxiety gave way for a time to hope, and then for most of us, almost to a certainty, of recovery. I have seen too much of gunshot wounds to be so confident as the President's surgeons apparently were, and had expressed to your Consul, Mr. Dillingham, when I first called on him, my doubts and fears. When the disastrous news came on Saturday evening that the President was sinking, you would really have thought that every one you spoke to was losing a near and dear relative. The emotion exhibited was extraordinary. Old men and men of the world spoke in husky tones, with the tear forming, and very near falling. On the Monday, when the news came of the death, on the King's ship in the harbor the American flag was hoisted half-mast high, and every one who had a flag and a flag-staff hoisted either the Stars and Stripes or their own national flag half-mast with a strip of black.

Now, I can well remember when the news of Abraham Lincoln's assassination reached England, and although there was a universal feeling of indignation and horror at the crime, there was no such manifestation of general mourning as we have made here. Is it that the effect of rapid locomotion, of telegraphs, and telephones, and the constant influx of news from all parts of the world, have combined to make the generation brought up under their influences more sensitive and more emotional?

Whatever may be the causes, I think any citizen of the United States who walked down our principal business street to-day, and saw on every public building, on every bank, on every large merchant's office or store the flag at half-mast, just as they were for our own Queen, must have been deeply gratified, and felt that, as one of your naval officers said, "Blood is thicker than water after all."

There was an article in a late number of the MEDICAL RECORD on the subject of influenza in Chicago, and its persistency in greater or less degree for the last ten years. Precisely the same phenomenon has occurred here. We have never been entirely free from it since it first appeared, I suppose about ten years ago, and this winter it has been very severe all over the Colony, but especially in Auckland. It leaves behind it an extraordinary amount of nervous depression, which never entirely disappears unless the patient can get a change of air for a time.

It is interesting to medical agnostics like your correspondent, who has seen too many pathological theories brought forward as infallibly true, and too many methods of treatment vaunted as successful, to believe in any, to notice the perfectly cock-sure way in which the speakers at medical congresses express the most absolutely opposite opinions. We have had a striking example here recently in a discussion at the New Zealand Medical Association in Alexander's operation. Some condemned it as useless, others as impracticable, or at least extremely difficult; others strongly advocated it as perfectly safe, and thoroughly efficacious. Probably some of the last gentlemen have never heard their former patients of two or three years previously express themselves as to the results of the operation. If I might judge from what is going on here, I should venture to prophesy that the day of the operating gynecologist will soon be over. The everlasting operations on the uterus and its appendages, which have been the fashion of late years, are beginning to disgust the women themselves. At first, they were quite proud of these operations—a woman hardly felt herself in the fashion unless she had been curetted once or twice, or had an Alexander. Then came the rage for scooping out ovaries and uterus altogether, and spaying the women. Even this has become so common that it is no longer a distinction, and, besides, the women are not cured of their aches and pains.

Two stupid bills have been brought into our legislature, which has taken to meddling with everything. One is to try to abolish opium smoking of the Chinese. For this object the bill prohibits the importation of opium in any form in which it can be smoked—that is, it will prevent the importation of the crude drug, the extract and the powder! It also allows any policeman to make a raid at any time on any Chinese house, where he may suspect that opium smoking is being practised. Why on earth we are to trouble the Chinese for such a perfectly harmless vice (to others) as opium smoking, nobody can say. In my opinion, it is done simply to annoy the Chinese, and give an opportunity to the police for blackmailing.

The other is the offspring of our Premier's horror at the decline of the birth rate. I have seen only the newspaper account of it, but it appears to be an act for preventing the sale or importation of preventives. How the government will prevent the importation of syringes and sponges is not quite apparent. The way in which we are being legislated for in these democratic colonies is perfectly ridiculous. I have lived under martial law in Russia, Cuba, and Venezuela, and under the absolute despotism of the Sultan in Turkey, but nowhere was my personal liberty so interfered with as in this British colony. We have the female franchise here!

EXECUTION AND AUTOPSY OF CZOLGOSZ.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR.—Agreeably to your request, the following brief account of the execution and autopsy of Czolgosz, the assassin of President McKinley, is respectfully submitted:

The execution by electricity of Leon F. Czolgosz, which took place in the State Prison at Auburn, N. Y., on the morning of October 29, 1901, terminated the earthly existence of the most monstrous magnicide of the age. Every precaution was taken by the Warden of the Prison, under whose immediate supervision and direction the execution was conducted, to minimize the opportunity for notoriety, as well as to insure that the taking off of the prisoner should be effected in an orderly and dignified manner.

The official witnesses, consisting of prominent New York State officials, several physicians, representatives of the respective press associations, and two official physicians—Dr. John Gerin, Prison Physician, and myself—having been assembled in the execution room and received the usual admonition from the Warden as to the maintenance of order and quiet during the execution, the prisoner was conducted to the room by a guard on either side a few minutes after 7 A.M. As he entered the room, his head was erect and his manner self-possessed and defiant. Immediately after being placed in the fatal chair, the binding straps were quickly adjusted to his arms, legs, and body; the head and leg electrodes were placed *in situ* and connected with the wire which was to transmit the lethal current through his body. The criminal offered no resistance whatever, but during the preparations addressed himself to the witnesses in the following significant language: "I killed the President because he was the enemy of the good people—the good working people. I am not sorry for my crime. I am sorry I could not see my father." At this juncture, everything being in readiness, the Warden gave the signal to the official electrician in charge of the switch, who immediately turned the lever which closed the circuit and shot the deadly current through the criminal's body. The instant the contact was made, the body was thrown into a state of extreme rigidity, every fiber of the entire muscular system being in a marked condition of tonic spasm. At the same time, consciousness, sensation, and motion were apparently absolutely abolished.

Czolgosz was pronounced dead by the attending physicians and several of the other physicians present in four minutes from the time he entered the execution room, one minute of which period was occupied in the preliminary preparations, one minute and five seconds in the electrical contacts, and the remainder of the time in examinations by the physicians to determine the fact of death.

Two electrical contacts were made occupying in all one minute and five seconds. In the first contact the electromotive pressure was maintained at 1,800 volts for 7 seconds, then reduced to 300 volts for 23 seconds, increased to 1,800 volts for 4 seconds, and again reduced to 300 volts for 26 seconds, when it was broken. The second contact was maintained at 1,800 volts for 5 seconds. That conscious life was absolutely destroyed the instant the first contact was made, was conceded by all of the witnesses.

Immediately after the execution, the lay witnesses having departed, an autopsy was made by Mr. Edward A. Spitzka of New York, under the direction and supervision of the official physicians and in the presence of several of the visiting physicians who were invited to attend. The autopsy occupied more than three hours and embraced a careful examination of all the bodily organs including the brain, all of which were found to be in a perfectly

normal state—a conclusion which was concurred in by all the physicians present.

In compliance with the expressed wish of the relatives of the criminal, the Superintendent of State Prisons, who was present, and the Warden declined positively to allow any portion of the body to be removed from the prison. Consequently, and regrettably, it was impossible to retain honorable possession of any portion of the brain for future examination and study. Accurate drawings, however, and detailed anatomical descriptions of the brain were made by Mr. Spitzka for subsequent study and report. A careful, naked-eye examination of the brain in all of its parts was also made, and full notes taken thereof. The organ and its appendages appeared to be absolutely healthy and free from any abnormality whatever, thus corroborating the opinion of the mental experts who had examined the criminal during life—namely, that he was perfectly sane.

Respecting the question of Czolgosz's mental condition, it appears that all of the mental experts at his trial, on either side, namely, Doctors Putnam, Fowler, and Crego for the people, and Arthur W. Hurd and myself for the defence, after repeated examinations, concurred in the opinion that he was sane. A final examination of the criminal, with reference to his mental condition, was made by Dr. Gerin and myself at the Auburn Prison on the evening before his execution with entirely negative result. In fact, none of these examinations disclosed, in the opinion of any of the experts, the slightest evidence of mental disease or mental degeneracy. On the contrary, he was regarded as exceptionally intelligent for one in his walk of life. Furthermore, this conclusion was fully corroborated by his manner, appearance, and declarations in the execution room as well as by the post-mortem findings. Moreover, Czolgosz's bearing, conduct, and declarations from the time he murdered the President down to that of his execution have been entirely consistent with the teachings and the creed of Anarchism, and stamp him as an Anarchist of the deepest dye.

CARLOS F. MACDONALD, M.D.

58 MADISON AVENUE, NEW YORK,
November 2, 1901.

Progress of Medical Science.

The Boston Medical and Surgical Journal, October 31, 1901.

Association of Anæmia with Chronic Enlargement of the Spleen.—Arthur H. Wentworth concludes that the blood changes in so-called anæmia splenica are those of a secondary anæmia. The degree of cachexia does not always correspond to the blood changes, and may be due to toxic influences, although it is difficult to see how fibrous changes in the spleen can produce toxin. The statement is not warranted that this condition is related in any way to pseudoleukæmia. In the case of splenic anæmia, nothing characteristic of a primary disease has been discovered in any organ or in the blood. The evidence is conclusive that anæmia infantum pseudoleukæmia is a secondary anæmia, owing its symptoms and blood changes to the occurrence of severe anæmia at an early age. There is no apparent connection between the character of the blood and the splenic changes in infancy.

A Case of Anomia and Paraphasia. George H. Thomas reports the case of a man of sixty years, previously in excellent health and of refined habits, who suddenly began to have headaches, and to use profane language toward his wife. Difficulty of speech and forgetfulness were the next symptoms. Paraphasia and anomia became marked; there was no motor aphasia, no agraphia, no physical word-blindness, nor deafness. There was a purulent discharge from the left ear, and tenderness on pressure about three inches above the tip of the mastoid. Operation failed to discover any abscess, partly because the patient's condition was so poor that careful research was not possible. At the autopsy, an abscess cavity about the size of a walnut was found in the posterior part of the left lower temporal convolution, and was filled with thick, foul-smelling pus of a gelatinous consistency. The surrounding tissues to a distance of about three-fourths of an inch were softened.

Intermittent Hydrops.—E. G. Brackett describes two cases of this affection, which is characterized by a regular periodic swelling, of a constant length of duration and of interval between the attacks, and with no apparent permanent resulting disability. Sixty-eight cases are on record. The joint most frequently affected is the knee; but hip, shoulder, elbow, wrist, ankle, jaw, and spine have all been attacked in various cases. The onset is sudden. As a rule, the disability is only that due to the mechanical hindrance of the effusion. Pain is very frequently absent, but in some cases is marked. Subjective languor is common during and after the attack. The duration varies, but is apt to be three or four days. The interval between attacks is curiously constant in each case for long periods of time. The usual period is fourteen days from the beginning of one attack to that of the next. The disease seems to be functional. It is hard to formulate treatment from the data on hand, but it seems fair to infer that quinine and arsenic and electricity should be tried. If this plan is unsuccessful, after an interval to allow for spontaneous remission, puncture and injections or open drainage may be resorted to.

Journal of the American Medical Association, Nov. 2, 1901.

Fat Necrosis from a Surgical Standpoint.—Carl Beck reports the case of a woman of twenty-six years, who suffered at intervals from attacks of biliary colic. Operation having been decided upon, the abdomen was opened in the median line. The omentum and the peritoneum of the intestines and mesentery were found studded with areas of white spots, from the size of a pinhead to 5 mm. in diameter. They were angular, flat, and somewhat depressed. Excision of a portion of omentum showed that they were areas of fat necrosis. The patient made a good recovery. The principal points in treatment, the author holds, are that no obstruction is left in the gall ducts before closing the abdomen. If we regard the obstruction of the common duct as the cause of fat necrosis, we must remove the obstruction at once, and not be satisfied with simply draining the gall-bladder, or the fat necrosis will progress and kill the patient.

The Treatment of Typhoid Fever in Children.—H. E. Tuley sums up his ideas in the following advice: Feed carefully, medicate cautiously, nurse vigilantly, bathe frequently, and give plenty of water internally. In feeding, the proteid element of food is to be cut down, even in children as old as ten years. This can be done by any one of the many methods of modifying milk. A child of five years does not need more than twenty to thirty ounces of milk in the twenty-four hours. A quart of water should be taken in the course of the period named, and if the child will not swallow that amount, some can be given by a saline enema. Fever may be reduced by sponging, tubbing, packs, or cold colon irrigations. Warm or tepid sponging will often act better than any form of cold bath. For diarrhœa, Tuley prefers bismuth and tannalbin. Strychnine is the remedy *par excellence* for a flagging heart. Whiskey should be reserved until late, and when given it should be with regularity and in a considerable dose.

A Report of Four Cases of Fat Necrosis in connection with Gallstones.—W. A. Evans believes that more attention should be paid to the differentiation of gallstones with necrosis from gallstones without it, though the point bears mainly just on the question of prognosis. Not much reliance can be placed on differences in fever, pain, or extravasated fluid in the two conditions. Patients with fat necrosis are apt to be restless, moving about, having a sense of something impending, and asked to be relieved of a something which they do not themselves understand and cannot clearly locate; when the patient is simultaneously suffering from gallstone colic, the sharp cutting pains, and the profound shock of the latter condition would completely mask the mild sensations of the first condition. In making a diagnosis of fat necrosis, we must bear in mind the possibility of gallstones with suppuration of the cyst and acute intestinal obstruction. In fat necrosis the pain is generally located in other regions than the gall-bladder. It is shifting and never very definitely located by the patient. In fat necrosis the pulse is generally more rapid. Moreover, there is a duskiness of the skin that we do not get in gallstones. Halsted and Opie have called attention to a passive congestion or deficient oxydation in the epigastrium in cases of fat necrosis, and this symptom calls, in the judgment of Evans, for further investigation.

New York Medical Journal, November 2, 1901.

Scientific Aids to Diagnosis.—Henry Holton makes a plea for the more general use of the ophthalmoscope by the general practitioner; also, for the systematic examination of the blood, careful examination of the urine, and the employment of the x-rays in suitable cases.

Social Aspects of Dermatology.—Malcolm Morris speaks in the eighth Lane Lecture of Neuroses of the Skin, which he divides into motor and sensory neuroses, angioneuroses, and trophoneuroses. Special attention is paid to the various forms of urticaria. This condition may occur mechanically from pressure of lymph on the blood vessels. The affection is often associated with functional and organic disease of the uterus and other organs, with nervous disorder, with gout, indigestion, jaundice,

rheumatism, and asthma. In the last case, the asthmatic symptoms are probably due to urticaria of the bronchial tubes. It is also often produced by external irritants, such as nettle stings, insect bites, the contact of hairy caterpillars, etc., and internal irritants, such a shell-fish, and in certain individuals, strawberries, parsley, oatmeal, etc. The neurotic temperament is a powerful predisposing factor, and a violent mental emotion may determine an attack.

American Medicine, November 2, 1901.

The Influence of Mental Depression on the Development of Malignant Disease.—Joseph D. Bryant, after careful study of statistics, states that it is not probable that mental depression exercises any influence in the causation of cancer, except through the blood impoverishment which almost invariably exists in melancholia (Steele), a change which appears not materially to influence the outcome in the man, as the percentage of affliction is substantially alike in this sex in all forms of insanity. Hence, it appears that the preponderance of malignant manifestations in woman should be attributed rather to the broader field of attack than to any form of special vulnerability.

Report of a Case of Poisoning from Nutmegs (Myristic a Fragrans).—F. D. Merritt reports this case. The patient was a woman of twenty-seven years. She had suffered from menorrhagia for fifteen days, probably on account of the high altitude to which she had recently moved. She attempted to relieve this condition by drinking a concoction made from two grated nutmegs and a pint of water. She drank about one-quarter of this mixture after eating breakfast, and was soon overcome by drowsiness which passed into a deep sleep. She awoke about six o'clock at night, when she ate her supper and drank the rest of the concoction. From the stupor which followed, she was aroused with difficulty. The attendants resorted to slapping, passive movements, and the administration of three or four ounces of brandy. She was slightly delirious, the respirations were 42, with prolonged inspiration and shallow expiration, the pulse was weak and irregular and over 140, the extremities were cold and cyanosed, and the pupils reacted slowly to light. The writer gave her strychnine sulphate, $\frac{1}{60}$ gr. by hypodermic injection, repeated in an hour. Half an hour after the second dose, both delirium and dyspnœa had disappeared, the pulse was 102 and regular, but there was extreme muscular weakness. Strychnine sulphate was continued in $\frac{1}{60}$ gr. doses by the mouth every two hours. The recovery was rapid and uneventful. The menorrhagia ceased that night, and menstruation was normal the following month.

The Medical News, November 2, 1901.

An Interesting Accident of Staining.—J. O. Cobb calls attention to the crystals formed by the use of methyl which he has at times used instead of methylene blue, as a contrast stain in working with sputum. When the crystals were first noticed, they were supposed to be accidental air bacilli. The presence of carbolic acid and heat produce beautiful crystallization, and fresh preparations of the stain give crystals much more uniform in size and much smaller than in old preparations. An albuminoid substance seems to be necessary to the production of the crystals. The writer then speaks of the accident of staining with Sudan III. In working with sputum of a doubtful case, Sudan III must not be relied upon, as it deposits crystals which closely resemble the bacillus.

Experimental Tuberculosis of the Suprarenal Capsule in Relation to Addison's Disease.—Bindo de Vecchi has developed experimental tuberculosis in the suprarenals with a view to studying its effects on the general organism. The animals used in these experiments were male and female rabbits, both white and colored. The injections were made on one or both sides, in one or two operations. If there were no complications, and the animal did not succumb to the immediate effects of the operation, life continued for three and one-half to four months. During this time no alteration in the color of the skin or mucous membranes was ever noticed, nor was there any dystrophy of the fur. There seemed to be a general loss of appetite; in some cases tremor and paresis of the hind limbs developed, and the fur became ruffled. There was a loss of 50 per cent. in weight, a little rise in temperature occurred, and a progressive decrease in the number of red cells was observed. Thus it appears that by inducing tuberculosis of the suprarenals, a serious poisoning of the rabbits is produced, which finally leads to their death. There were degenerative changes in the heart, liver, and kidneys. The cells of the central nervous system showed themselves to be particularly vulnerable; there were grave changes in the gray matter, especially in the nerve-cells themselves, in which there was an increase of the pericellular lymphatic spaces, sometimes with the presence of corpuscles, probably leucocytic in character, swelling and thorny appearance of the cells, abnormal position of the nucleus, with disappearance of the chromatic network and the pseudonucleoli; the nucleolus moved to the outside, and advanced chromatolysis of the protoplasm developed; the bodies of Nissl appeared to be pulverized with broken or varicose prolongations. The nerve-cells in the posterior part of the spinal cord were entirely changed, and the pericellular and perivascular spaces were filled with red cells and leucocytes. The writer adds that all these lesions in his opinion must not be attributed to changes in the sympathetic system, but to a general intoxication with tubercle toxin. No injury of the white nerve substance could be discovered. The solar plexus, the splanchnic nerves, and the cervical and thoracic chains of sympathetic ganglia were normal. In only one case was the cœliac ganglion altered by the tuberculous process. There was no important alteration of the bowels. The capsules were in partial or complete caseation. The injuries to the cells of the central nervous system explain the nervous symptoms of those suffering from Addison's disease. The lungs, alimentary tract, pituitary gland, thyroid, and ovaries were normal. From the decrease in red blood cells and the activity present in the bone-marrow, it may be concluded that the capsules possess hæmolytic properties.

Philadelphia Medical Journal, November 2, 1901.

Observations on the Treatment of Croupous Pneumonia.—James C. Wilson describes the following treatment: The diet consists chiefly of milk and light broths, junket, custard, and gruels, a little ice cream, and sometimes raw or stewed fruits may be given. The amount should be small. Water is given in abundance, not more than two ounces at a time. In ordinary cases, the patient is given a morning and evening sponge, with water the temperature of which is regulated by the sensations. Early in the attack, several large flat ice-bags are applied to the affected side. Alcohol is given in most cases. A calomel purge is commonly administered at first. This is repeated once or twice during the attack. If there is great pain, morphine is given by hypodermic injection; in any case Dover's powder is administered every two or three hours throughout the greater part of the course of the attack. Expectorants are rarely used. Digitalis is sometimes given when the pulse is small and frequent, but often strophanthus is better. For weak heart, strychnine and the nitrites or venesection are employed. Atropine is used for pulmonary œdema. Dyspnœa demands oxygen. Ice to the head is useful in delirium. The patient wears a moderately heavy, loose-fitting merino undershirt. At the crisis the patient is carefully watched. Collapse is rare. During convalescence an abundant nutritious diet is given. Bitter tonics are sometimes employed.

The Influence of Secondary Infections in Chronic Pulmonary Phthisis.—Alexander G. R. Foulerton calls attention to the pathological difference between chronic pulmonary tuberculosis and chronic pulmonary phthisis; the bacillus tuberculosis is present in the lesions of each, but in uncomplicated cases of the former, the single kind of organism is present, and generally manifests but a low degree of virulence, while in phthisis there is added to this the more potent influence of pyogenic organisms. It is to the pyogenic cocci, particularly to the streptococcus pyogenes, that we must look for the effects of secondary infection. The effect of secondarily infecting organisms has to be considered only with regard to their local action and with regard to the production of a toxæmia. When secondary infection by pyogenic bacteria is absent, constitutional symptoms indicative of any serious toxæmia are wanting. With the increase of the pyogenic organisms, there is a development of physical signs in the chest, wasting, night sweats, and high evening temperature. This has been observed in careful examinations of sputum. Secondary infection is the chief, or at any rate the immediate, cause of the excessive mortality from pulmonary phthisis. The secondary infections should be the chief object in the treatment of this disease. The writer believes that ultimate success in the specific treatment of declared tuberculosis will be attained with some modification of tuberculin, and he also thinks that the comparative failure of the method in the past has been almost entirely due to the ignoring of the effects of secondary infection of the lung lesions by pyogenic cocci. The patient so afflicted should be kept in an atmosphere of practically germ-free air, such as may be found at moderate altitudes, while the nearest approach possible to complete physical rest should be ordered. Besides this, it is likely that a systematic treatment with antistreptococcic serum in cases in which the streptococcus pyogenes is the predominating organ-

sm—and these cases form a large proportion of the whole—would materially help in shortening the time which must elapse before any specific treatment for the tuberculosis can be safely attempted.

The Lancet, October 26, 1901.

A Case of Urticaria Following Immediately on Wasp-Sting.—The patient of T. W. Parry was a boy of fifteen years who was stung by a wasp on the finger and who developed urticaria all over the body with the usual symptoms. The author regards the case of special interest, first, because general eruptions are exceedingly rare after wasp-stings; and second, because the suddenness of the onset of the rash, after the sting had been inflicted, is also peculiar and seems to be indicative of a hypodermic injection of some toxic substance which might have been imparted with the sting. May it not be within the range of probability, he asks, that there is in existence an urticaria-producing bacillus which may take its place among those myriads of bacilli which, though at present "undiscovered," are suspected of being the causation of certain so-called "idiopathic affections?"

A Case of Compound Fractures of Both Jaws.—The patient of H. Weighton was a young man who fell from his bicycle while descending a steep hill. There was a complete fracture of the lower jaw near the symphysis and also detachment of a part of the alveolus in front containing three teeth. There was further a fracture of the upper jaw at each side in the region of the canine teeth, but with little displacement or deformity. The whole premaxilla could be easily moved about. The fractures were treated temporarily by wire passed between the teeth on each side, the whole being fixed with an external poroplastic splint fitted to the chin and a four-tailed bandage. Next day a dentist made a snug gutta-percha mould, in the center of which was a hole through which a feeding tube could be introduced. This apparatus was removed in five weeks, and firm union was found.

Acute Dilatation of the Stomach.—H. C. Thomson says that acute dilatation of the stomach is probably allied in its causation and nature to the paralytic distention of the intestines which frequently occurs after severe abdominal operations, and also in inflammatory conditions of the peritoneum. At present, there seems no adequate explanation as to why the intestines should be distended in some cases and the stomach in others, though most likely this depends on the difference in reaction to stimulation of the several nerve ganglia. It is possible that some cases occurring after operation are due to the effect of the anæsthetic upon the nervous system. Treatment of recorded cases seems to have been of little avail. The passing of a tube into the stomach has given but temporary relief. Reliance should be placed on rectal feeding, and the tendency to collapse may be combated by hypodermic injections of strychnine. Some of the more serious symptoms are undoubtedly due to the loss of large quantities of fluid, and saline solution should be used either by enema or transfusion.

The Acute Retropharyngeal Abscesses of Infants.—S. V. Pearson reports eight cases. His mode of operating is thus stated: The position of the incision should be immediately behind, and parallel to, the sternomastoid; its center should be as nearly as possible on the same level as the center of the swelling behind the pharynx, or a little below this. Toward the bottom of the wound the spinal accessory nerve must be avoided. Having used a knife to cut through skin and fascia, the posterior edge of the sternomastoid being carefully exposed and the muscle pulled slightly forward, the knife should be abandoned in favor of a blunt dissector and a pair of dissecting forceps. By the time this stage of the operation has been reached, it may have been necessary to remove one or two slightly enlarged glands situated behind the sternomastoid. From this time onward the operation consists in a careful separation of the structures until the prevertebral region is reached. The landmarks are the transverse processes and the plane of the anterior surface of the vertebral bodies. Keep well back, feel with the finger for these landmarks, and there will then be no danger of injuring the jugular vein or cervical sympathetic, the only two structures likely to be interfered with. The patient should never be at all deeply under anæsthesia, but at this stage of the operation he should be allowed to come round partially. Then matters are much facilitated by introducing one finger into the mouth and a finger of the other hand into the wound. By this means the exact limits of the abscess cavity can be made out. Then a fairly fine-pointed blunt dissector or similar instrument can be passed along the front of the finger in the wound, and the abscess sac pierced. The pus flows out readily when the opening is made larger by means of a pair of sinus forceps guided into the cavity by the instrument already introduced. It is important to remember that the finger of one hand has been introduced into the mouth, and this should not touch the wound until it has been again sterilized. The cavity must be irrigated once or twice with some antiseptic solution. Then a very small drainage-tube should be introduced down to the greatest depth of the wound, and a small strip of gauze may be wrapped around this superficially. One or two stitches are then put in to bring the edges together above and below the tube, and an ordinary antiseptic dressing is applied.

British Medical Journal, October 26, 1901.

The Means of Arresting Acute Endocarditis.—G. H. Younge advocates the combined use of blisters and poultices in the earlier stages of acute endocarditis, when pain is a marked symptom. A blister is fixed with adhesive plaster over the place where pain is most severe. A large linseed-meal poultice, as hot as can be borne, is applied over the blister and changed as often as necessary. The blister is punctured and dressed, and then a thick layer of cotton wool or spongiopiline is placed over the entire surface to prevent any chill.

Primary Chancre of the Tonsil.—W. H. Kelson reports a case with the history that after tonsillotomy one side never got properly well, enlarged glands appeared at the angle of the jaw, and in due time the patient showed the typical signs of secondary syphilis. The writer believes that infection occurs in the following ways: Either hereditary syphilis may be overlooked in a child, or if a young adult with large tonsils seeks advice for what is really an incipient specific throat, it often happens that tonsillotomy is performed and the syphilitic character of the disease is not recognized. Thorough sterilization is the moral.

A Discussion on the Rôle of Toxic Action in the Pathogenesis of Insanity.—W. Ford Robinson concludes that by far the most important factor in the pathogenesis of insanity is toxic action. The large majority of cases of insanity are not primarily diseases of the brain at all, but are dependent upon the action of toxins formed elsewhere, which affect the functional activity of the cortical nerve cells by disordering their metabolism, and often permanently damaging or even destroying many of them. The common view that the "mental disease" is the primary condition, and that any accompanying "bodily disease" is secondary, is generally founded upon an erroneous conception of what is taking place. Insanity must be regarded as a disease of the whole organism.

Note on the Results Obtained by Antityphoid Inoculation in the Case of an Epidemic of Typhoid Fever.—A. E. Wright reports the following results which have been calculated upon the average strength of the individuals composing the groups of inoculated and uninoculated individuals in the Richmond Asylum of Dublin. The period of time considered is that intervening between the commencement of the inoculations and the termination of the epidemic. The daily strength was calculated as follows: Each case was multiplied by the number of days during which that particular strength was maintained; the figures in each group were then added together and divided in each case by the number of days included within the whole period of observation. In this manner, the result was reached of a daily average strength of 339 for the inoculated, and of 298 for the uninoculated. On this basis, the number of cases among the uninoculated was thirty, among the inoculated, five. The percentage of cases is thus, 10.1 for the first group, and 1.5 for the second. The number of deaths in the first group was four, a percentage of 1.3, in the second group, the number was one, a percentage of 0.3. The writer states that this result is in conformity with that of all the statistical returns of antityphoid inoculations that have reached him.

Colitis or Asylum Dysentery?—Thomas Claye Shaw states that in the absence of a definite bacillus, it would seem that in nerve degeneration there is the very condition required for the growth and development of bacteria, and as insane persons are already in a state of reduction, this is a probable reason for the diarrhœa and colitis so often found in asylums. Certain recent observations make it not improbable that recurrent attacks of insanity are due to some recurring condition of the blood of a toxic nature. The writer thinks it quite possible that the intestinal ulceration, which without doubt does occur in some of the insane, may be also due to some toxic condition which develops in the patient. If a special bacillus exists for dysentery, it has not been isolated. The writer adds that he does not believe that any asylum exists in which ulceration of some part of the intestines is not occasionally found. But it is quite

independent of overcrowding, and according to the writer's belief it does not depend on the food, on the sewage farms, on the habits of the patients, or always on the presence of a bacillus of a particular type. He believes that there is a degeneration of the mucous coats of the intestine due to nerve degeneration, and that pathogenic organisms may be and are generally present in these cases, but no specific germ has been isolated. The probable order of events is: degeneration, owing to lowered vital tone, and then the presence of bacterial due to this catabolic state.

Münchener medicinische Wochenschrift, October 15, 1901.

The Value of Methodical Deep Breathing, Especially in Sea-Sickness.—M. Kaufmann, like Heinz, who recently published some observations in the same journal, has found deep inspirations a great aid in warding off sea-sickness. He also recommends the measure in various other contingencies of practice, and as the tendency to syncope, collapse after hemorrhage, particularly in labor cases, epistaxis, singultus, etc. In such cases the effect is due mainly to improvement in the circulation depending on increased activity of the respiratory center, though the psychical effect produced by the mental concentration required is also important.

Why Does Gelatin Act as a Hemostatic?—Zibell analyzed four specimens of gelatin and found that the most constant constituent was calcium, the average amount present being 0.6 per cent. In 100 c.c. of a 5-per-cent. solution this would correspond to 0.03 gm. of calcium—a not inconsiderable dose, particularly when it is considered that in this form it is very soluble and therefore very absorbable. The action of calcium salts in hastening coagulation is well known, and, in the absence of more definite knowledge, it seems highly probable that the gelatin owes its hemostatic properties, when given subcutaneously, to the calcium that it contains.

Two Cases of Foreign Body in the Tympanic Cavity.—Holscher adds two more to the list of casualties produced by unsuccessful attempts at the instrumental removal of foreign bodies from the ear. Both patients were children; in the one case the offending object was a cherry pit, and in the other a small pebble. The unsuccessful manipulations had finally forced the foreign bodies through the drum membrane into the tympanic cavity, whence they could be removed only by a radical operation. The general practitioner should always confine his efforts to the use of the syringe, which in most cases will produce the desired effect. Even bodies likely to absorb water and swell may be attacked in this way, and if they are not immediately removed, further swelling may be prevented by pouring warm alcohol into the ear.

An Unusual Case of Tuberculosis of the Trachea, Associated with Tracheal Varicosities and Ending Fatally.—Gidionsen describes the death from sudden hemorrhage of a middle-aged woman who gave the physical signs of extreme emphysema, but no evidence of tuberculosis. On autopsy, the posterior wall of the trachea was found covered with dilated veins, and in the middle of this area was an ulcerated patch which was subsequently shown to be of tuberculous origin. The assumption is that one of the dilated veins having been eroded, the trachea and main bronchi immediately filled with blood, which the very emphysematous lungs could not expel, and death therefore resulted from suffocation. Primary tuberculosis of the trachea is rare, and as all the organs could not be examined, it is doubtful whether even this case is to be regarded as such.

Deutsche medicinische Wochenschrift, October 17, 1901.

A Case of Epidemic Parotitis of Unusual Severity.—E. Schwarzkopf describes a case of mumps presenting features of unusual gravity. During an epidemic of the disease a man of twenty-nine years was brought in who, after several chills, headache, and vertigo, developed the typhoid state. A little later the gland began to swell, and at the same time diarrhœa with pea-soup stools set in. For a time it seemed possible that the case was one of typhoid fever with parotitis as a complication, but defervescence on the ninth day with rapid convalescence settled the question of diagnosis.

A New Method of Treatment of Carcinoma.—F. Loeffler calls attention to some observations by older clinicians that the supervention of a malarial infection can cause the disappearance of cancerous growths. He also says that malignant disease is very rare in the tropics, where malaria is common, and suggests that by carefully controlled inoculations it may be possible to use the malarial organism as a remedy for at least some forms of carcinoma. In conclusion, he invites observations from medical men in the tropics on the comparative frequency of the two diseases, and urges clinical tests of the method.

Further Contributions on the Differentiation of Human and Animal Blood by the Aid of a Specific Serum.—E. Ziemke publishes further observations on this subject which corroborate the conclusions of other observers. In attempting to simplify the reaction for practical use, he experimented with serum obtained from cadavers, and found that when taken within four days of death a product can be secured which does not infect the animals used, and is active to the degree required by Uhlenhuth's postulate that in a strength of one to thirty a distinct clouding shall take place in yellowish blood solutions. Experiments with hydrocele fluid and with pleural exudate gave positive reactions, rather a remarkable result when it is considered that the latter was more than a year and a half old. Various efforts to produce a preparation which might be kept indefinitely and serve as a stable reagent for forensic use gave encouraging, but not wholly satisfactory, results. The observation was also made that the admixture of blood of other species from that examined did not interfere with the reaction.

French Journals.

Movable Kidney.—Guillet collects the various theories concerning the pathogeny of movable kidney under three headings: 1. An anatomical lesion of the kidneys or of the neighboring organs. 2. Physiological cause. 3. A general laxity of construction of the individual organism. As to the conditions indicating operation, the writer concludes: There should be no operation on movable kidneys which cause no trouble, the use of a bandage being sufficient. Operation should be performed on those which are the seat of a neoplastic or inflammatory degeneration, such as hydronephrosis, pyelonephritis, etc., the operation being suited to the individual case. Recourse should be had to nephrorrhaphy for painful movable kidneys, and for those which cause digestive troubles, when it is clear that the pain and digestive troubles are due to the displacement of the kidney. In these cases the effect of a bandage may be tried before operating. The symptoms which force the patient to seek medical advice fall into three categories, viz., pain, which is the most common, neurasthenic symptoms, and dyspeptic symptoms.—*Le Bulletin Médical*, October 26, 1901.

Aneurysm of the Mesenteric Arteries.—Louis Gallavardin states that two periods in the symptomatology of this affection can be distinguished: a period of evolution of the tumor, and the terminal period or the rupture. The first period varies greatly according to the patient. The tumor is sometimes absolutely latent, but more frequently there are some pains or obscure abdominal symptoms. In certain cases the pains are sharp, resembling in their violent and paroxysmal character the painful crises of aneurysm of the aorta. The tumor has rarely been perceived. The tumor may compress the neighboring organs. The patient may die before the rupture of the tumor from endocarditis (the causal malady), or some intercurrent affection. Rupture is, nevertheless, a frequent termination. It is remarkable that in the cases noted death has not been sudden, but only rapid. There are violent abdominal pains, followed by nausea and vomiting. The patient becomes pallid and dies sometimes after several hours. The diagnosis of this affection is almost impossible in most cases. Autopsy generally discloses the true state of affairs. The superior mesenteric artery is nearly always the one affected. —*Gazette Hebdomadaire de Médecine et de Chirurgie*, October 13, 1901.

Surgery of the Spleen.—Février enumerates as surgical affections of the spleen: traumatism, abscess, tumors (including cysts and hypertrophies), and displacements. In subcutaneous ruptures the spleen may be reduced to pulp, or it may be only lacerated. The diagnosis of subcutaneous rupture is easily made from the symptoms of internal hemorrhage, with localization of pain in the left hypochondrium, especially if there are external signs of traumatism in the region of the kidney. Abdominal contraction is a striking sypmtom. Various methods of treatment have been tried, such as extirpation of the kidney, tampons, suture of the splenic wound, ligature of the vessels of the pedicle, and laparotomy, pure and simple. Diagnosis of abscess of the kidney is surrounded with difficulties. When it is once established, the abscess should be incised. The treatment of tumor of the kidney is varied and depends upon the nature of the growth. One growth, perhaps worthy of special mention, is tuberculosis of the kidney. The most frequent form is the sclerocaseous. The lesion resemples tuberculosis ganglia. The best surgical treatment is splenectomy. In displacement of the spleen, there are two methods of treatment: The spleen may be extirpated, or it may be sutured in position. The choice of the method will depend upon the individual case.—*La Presse Médicale*, October 23, 1901.

Book Reviews.

SURGICAL TECHNIC: A Textbook on Operative Surgery. By FR. VON ESMARCH, M. D., Professor of Surgery, University of Kiel, Surgeon-General of the German Army, and E. KOWALZIG, M.D., late First Assistant at the Surgical Clinic of the University of Kiel. Translated by Professor LUDWIG H. GRAU, Ph.D., and WILLIAM N. SULLIVAN, M.D., Assistant at the Surgical Clinic at Cooper Medical College, San Francisco. Edited by NICHOLAS SENN, M.D., Professor of Surgery, Rush Medical College, Chicago. With 1,497 illustrations, and fifteen colored plates. New York: The Macmillan Co.; London: Macmillan & Co., 1901.

WE gather from the two American prefaces of this large volume that the translators and the editor believe that they have rendered a great service to American surgery. The number of our own publications is so large and their quality so high that no great benefits are apt to be conferred by the translation of a foreign work, though the present volume will afford an opportunity for those who are not familiar with German to read the work of one of Germany's foremost followers of this department of medicine. The idea of the work is to offer an encyclopedic though concise treatise upon the whole field of operative surgery, and this intention has been furthered by the use of many illustrations and comparatively little text. In the first part of the book, the subject of the treatment of wounds and injuries in general is given, and in this is included the subjects of bandaging and splints. As would be expected, emergency and military surgery receive full discussion, especially the emergency treatment of wounds. The chapters devoted to amputations and resections are satisfactory enough, and the illustrations, though not of high quality, serve their purpose. Abdominal operations are described briefly, and many of the technical procedures upon the abdominal organs are illustrated; but it is almost impossible in a work of this kind to do justice to such highly specialized subjects. Those who wish a book of reference upon operative surgery will find this volume useful, but not indispensable. The colored plates are good, but the other illustrations are apparently from old plates, and are poor, according to present-day standards. The translators have done their work well.

ATLAS AND EPITOME OF SPECIAL PATHOLOGIC HISTOLOGY. By Docent Dr. HERMANN DÜRCK, of the Pathologic Institute of Munich. Edited by LUDWIG HEKTOEN, M.D., Professor of Pathology in Rush Medical College, Chicago. Vol. II. Liver: Urinary Organs; Sexual Organs; Nervous System; Skin; Muscles; Bones. With 123 colored illustrations on 60 lithographic plates. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $3 *net*.

THIS, the second volume upon Special Pathologic Histology in the Saunders Series of Handatlases, deals with the liver, pancreas, urinary organs, male and female sexual organs, central nervous system, muscles, skin, bones, and joints, and, with the preceding volume, completes the subject. Concerning both text and illustrations, nothing but praise can be said.

The former, while concise, is adequate, and is notably clear and accurate. The volume is illustrated by 60 colored lithographic plates which are admirable in drawing, and which reproduce in a really beautiful way the appearances of the stained sections.

All the more important lesions are dealt with in a systematic and thorough way, and the little volume will be found valuable, not only to students of medicine, but to all who wish to familiarize themselves with the microscopic appearances of morbid processes.

A TEXTBOOK OF BACTERIOLOGY. By GEO. M. STERNBERG, M.D., LL.D., Surgeon-General United States Army, ex-President of the American Medical Association and of the American Public Health Association; Honorary Member of the Epidemiological Society of London, of the Royal Academy of Medicine of Rome, of the Academy of Medicine of Rio de Janeiro, of the Société Française d'Hygiene, etc., etc. Illustrated by Heliotype and chromo-lithographic plates and two hundred engravings. Second revised edition, 708 pages. Muslin, $5.00; sheep, $5.75. New York: William Wood & Co., 1901.

AT the request of the publishers the author has revised and now edits what is practically the third edition of his "Manual of Bacteriology," although the title was altered when the second issue appeared as a more practical textbook.

The most notable changes are the chapters on Protective Inoculations in Infectious Diseases and on the Bacteria of Plant Diseases, both of which are new and contain practically all that has been determined upon the subjects. The most notable of the experiments are mentioned and the latest theories discussed. About one hundred pages are devoted to Protective Inoculations, while a much shorter résumé of Plant Bacteria will prove of interest to those working in Agriculture and allied pursuits.

In order to allow the work to be published in one volume, the new knowledge has compelled the omission of descriptions which dealt with uncommon or imperfectly studied varieties, but nowhere has it forced out what is practical or vital.

The work has been so well received by those interested in bacteriological research here and abroad that it seems unnecessary to praise it. Still, it must be admitted that it fulfills every requirement for the student, practitioner, and advanced worker in pathogenic bacteria. The presswork, colored plates, engravings, and binding, all add to a text which employs smooth English, and imparts knowledge, clearly, compactly, and with discrimination.

As a laboratory guide and a companion for scientific medicine we know of no better book on the subject treated, and of no better authority from which to draw information concerning results obtained in this extremely active field.

LIBERTINISM AND MARRIAGE. By Dr. LOUIS JULLIEN, Surgeon of Saint-Lazare Prison; Laureate of the Institute, of the Academy of Medicine, and of the Faculty of Medicine of Paris. Translated by R. B. DOUGLAS. Philadelphia: F. A. Davis Company, Publishers, 1901.

WERE we asked what means, other than legislative acts, would tend to prevent the marriage of a diseased couple (be it the male or the female), we would unhesitatingly say that an extensive distribution of this admirable work of our French colleague would absolutely serve the purpose. This treatise is the forerunner of the literature which is bound to come, in order to educate the masses that the nuptial bed is but, in many cases, the sick bed of the future wife and mother. The main object of the author is to bring before the reading medical public the awful result of the combination of libertinism and marriage. How well and clearly he puts his words is shown on every page: sad always; but occasionally the flippant humor of the Frenchman crops out in the attempt to paint the embarrassment either of the guilty lover or the not overparticular wife or the adventurous husband who is caught in or after the act with its dire consequences. Our duty, as the author properly claims, is not alone to cure, but to prevent on the one hand, as well as to instruct the young people, both male and female, on the other. His words are as follows: "The campaign must be carried on without respite, until every class of society is aware of the dangers. When we have attained that end, the problem will be nearly solved; for, on the one hand, young people will seek every means of cure, and on the other hand, parents will awake to a danger formally considered as non-existent or illusory, or in any case quite negligible, and they will not omit to make inquiries on the subject. They will then be our best allies." This, in a nutshell, is the author's position, and any rightminded thinker must agree with him. We commend this book, not alone to medical men, but to the great laity.

HUMAN PHYSIOLOGY. Prepared with Special Reference to Students of Medicine. By JOSEPH HOWARD RAYMOND, A.M., M.D., Professor of Physiology and Hygiene in the Long Island College Hospital, and Director of Physiology in Hoagland Laboratory, New York City. Second edition. Philadelphia and London: W. B. Saunders & Co., 1901.

THE first edition of this work enjoyed the reputation of being an excellent textbook of physiology for students' use. The author's style was clear and his descriptions were lucid and accurate. In the present edition, the changes, while extensive, are not such as to alter in any respect the character and general plan of the work. A section on histology has been added, and in certain topics upon which discussion is still going on, such as the origin of uric acid, the neuron theory, the relation of menstruation to ovulation, alcohol, etc., the author has added a description of the progress that has been made in the direction of this solution of the existing problems.

EXPERIMENTELLE UND KRITISCHE BEITRÄGE ZUR HÄNDEDESINFECTIONSFRAGE. Von Dr. RICHARD SCHAEFFER in Berlin. Berlin: S. Karger, 1902.

IN this brochure of a hundred pages, the author gives in résumé the results of the elaborate work lately done by Paul, Kronig, Sarwey, Blumberg, and others, and after a consideration of the possible fallacies of their methods

describes his own experiments. These are sufficiently encouraging to indicate that the pessimistic views prevalent on the subject of hand disinfection are overdrawn, and that it is possible to reduce the bacterial flora of the hands to such a degree as to make danger of infection from this source very slight indeed. The method that gives best results is the hot-water-soap-alcohol process, which is superior to the procedures depending mainly on chemical disinfection.

PATHOLOGICAL TECHNIQUE. A Practical Manual for Workers in Pathological Histology and Bacteriology, Including Direction for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By FRANK BURR MALLORY, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School; and JAMES HOMER WRIGHT, A.M., M.D., Instructor in Pathology, Harvard University Medical School. Second edition, revised and enlarged, with 137 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $3 *net*.

THAT a second edition of this most excellent handbook of pathological technique should be so soon required furnishes another illustration of the rapidly growing appreciation by the profession at large of the value of pathological examinations in practical clinical work.

The book has been somewhat enlarged, chiefly by additions to the sections on bacteriological methods. The appearance of a number of new and beautiful microphotographs of bacteria and other microorganisms is especially to be noted. The description of the parasite of actinomycosis is much amplified, and there have been added descriptions of the bacillus of bubonic plague and of the parasite of mycetoma as well as of a number of improved methods of histological technique. Altogether, this book fills more completely than any with which we are acquainted the requirements of a laboratory guide in practical pathology and bacteriology.

MANUAL OF CHEMISTRY. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Textbook Specially Adapted for Students of Medicine, Pharmacy, and Dentistry. By W. SIMON, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, in the Maryland College of Pharmacy, and in the Baltimore College of Dental Surgery. Seventh edition. Philadelphia and New York: Lea Brothers & Co., 1901.

THIS work has been so long in existence as a textbook, and has been used by so many now long since graduated, who know its merits from practical experience, that little beyond repetition can be said of this new edition. The work has been brought thoroughly up to date, and much valuable material has been added in the parts on physiological chemistry and chemical physics. The aim of Dr. Simon in the successive editions of his book has been "to furnish to the student in concise form a clear presentation of the science, an intelligent discussion of those substances which are of use to him, and a valuable guide to his work in the laboratory." A careful examination of the book convinces us that the author has well accomplished this object.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the Kindred Branches, with their Pronunciation, Derivation, and Definition, Including Much Collateral Information of an Encyclopedic Character. By W. A. NEWMAN DORLAND, A.M., M.D., Assistant Obstetrician to the University of Pennsylvania Hospital; Editor of the American Pocket Medical Dictionary; Fellow of the American Academy of Medicine. Second edition, revised. Philadelphia and London: W. B. Saunders & Co., 1901.

IT is strange to find that, with all the competition that exists in the medical-dictionary manufacture, the products of nine dictionary builders coming out in a period of about twelve years—the latest has found sale enough to exhaust an edition in less than a year. The only explanation of this fact that occurs to us is that none of the existing works is satisfactory in all respects, and so each new one that appears attracts purchasers among those who still hope to find something really good. Another explanation of the success of Dr. Dorland's book is perhaps that it is an improvement over the one upon which it is modeled—an improvement in size and convenience of handling, in typography and illustrations, and in accuracy. In this second edition the author says he has added about one hundred important new terms that have appeared in medical literature during the past few months, which is curious testimony to the rapidity with which medical science is progressing.

Clinical Department.

GUNSHOT WOUND OF THE ABDOMEN.

TEN INTESTINAL PERFORATIONS FROM PISTOL BULLET—RESECTION OF TWENTY-FOUR INCHES—ANASTOMOSIS BY MURPHY'S BUTTON—RECOVERY.

By D. E. BIGGS, M.D.,
FAIR HAVEN, WASH.
ATTENDING PHYSICIAN TO ST. LUKE'S HOSPITAL; CONSULTING SURGEON TO ST. JOSEPH'S HOSPITAL.

THIS case is believed worthy of record, on account not only of the severity of the injury, but also of the age of the patient.

J. N., aged fifty-seven, American, a logger, was shot in the abdomen during a street brawl on May 20, 1897. After being shot, he ran a distance of forty yards to shelter himself behind a wagon, his assailant firing three or four more shots, without effect, before being taken into custody. Then, without aid, he walked about the same distance toward my office and upstairs to the first landing, when, with the assistance of a man on either side, he walked into the office and lay down upon a sofa.

A hasty examination showed a gunshot wound midway between the umbilicus and pubes, two inches to the left of the median line. He was suffering from a moderate degree of shock and was given a hypodermic of morphine gr. $\frac{1}{4}$ and atropine—$\frac{1}{150}$. As it seemed certain that a wound of this sort (38 caliber, fired at the distance of only a few feet) could not be other than penetrating, with probable injury to the intestines or other viscera, it was thought advisable to send him to St. Luke's Hospital, only a few blocks distant, for an exploratory operation. On account of the medico-legal aspect of the case, operation was delayed until the County attorney could be sent for, and the statement of the patient taken, which consumed considerable time. I was assisted by Drs. H. A. Compton and H. E. Henderson, chloroform being skilfully administered by Dr. Axtel. Drs. Kelly, Appleby, and Van Zandt were present.

A median incision was made, extending from an inch below the umbilicus to the same distance above the pubes. The ball was found to have passed upward, backward, and toward the right side, probably burying itself in the thick lumbar muscles of that side. It was not found, nor was an exhaustive search made for it. An examination of the small intestine showed ten perforations, one at the mesenteric attachment, causing considerable hemorrhage. It was hoped at first that the perforations might be situated so that they could be closed by Czerny-Lembert sutures, but the intestine was damaged so badly that this procedure would in two places have caused serious narrowing of the lumen of the gut. The lowest perforation was about three feet above the ileocæcal valve, and the highest nearly two feet above this point. Accordingly, the entire damaged segment, measuring twenty-four inches, was resected and an end-to-end anastomosis made by Murphy's button. The abdominal cavity was carefully sponged out and then irrigated with sterilized hot salt solution, and the incision closed by a single layer of silkworm-gut sutures.

Combined tubular and gauze drainage was used and removed in forty-eight hours. Time of operation, one and one-half hours. The man made a slow but very satisfactory recovery, his temperature only at one time going to 100½, this being due to a stitch abscess. An annoying complication after about ten days was a cystitis, due no doubt to lack of care in cleansing the catheter, although an unusually long prepuce and a moderately hypertrophied prostate made it difficult to avoid. The but-

ton passed on the thirty-sixth day, and the patient left the hospital on the forty-second day, with a good cicatrix, his bowels moving regularly and without difficulty.

Eight months later he was in good health and able to appear in court to defend a suit for collection of the fees in the case. And later, it is alleged, he eloped with the ex-wife of the man who shot him, and who has since borne him an heir.

SULPHUR IN THE TREATMENT OF CARBUNCLES AND BOILS.

By G. HARDY CLARK, M.D.,
WATERLOO, IOWA.

Since 1893, following the publication of W. Arbuthnot Lane's articles in the *Lancet* upon the subject, sulphur has found occasional place in general surgery. After using it for almost a decade in every case of carbuncle or boil that has come to me, and finding its curative effects immediate and painless, I feel free to direct the attention of the medical profession to its use in this condition.

The pathogenic agent in carbuncle and boil causes a necrosis of the areolar tissue, together with sclerotic and deliminating processes, and it is only after the local destructiveness of this agent has been largely expended that the pus cocci operate to extrude the necrotic mass. In the experience of the writer this drug will compass the destruction of the materies morbi as well as the purification of its products within six or eight hours, and resolution will then occur with little or no assistance from pus-producing cocci. The wonderful facility with which sulphur products permeate the tissues of the body has led practitioners to rely upon large doses of the sulphide of calcium and the sulphates of magnesia and iron to cure carbuncles and boils to the exclusion of all surgical procedure. How much more effective this drug can be when placed in immediate contact with the diseased tissues must be tried to be appreciated. The moist surfaces rapidly transform it into sulphurous acid, sulphuretted hydrogen, and sulphuric acid, which, by preventing the further destruction of tissue, limit the extent of the resultant scar.

The technique of the little operation consists in making a free crucial incision under local anæsthesia, loosening the tissues in a measure from the underlying fascia with a strong director and packing the wound carefully and completely with a strip of gauze thoroughly filled with precipitated sulphur. Over the wound is placed a pad of wet gauze or absorbent cotton, and the whole is covered with a piece of gutta-percha tissue, and held in place by a roller bandage. In from six to eight hours the dressing is removed, and the wound is cleansed and redressed with Thiersch's solution, boroglyceride, or other antiseptic under the protective and roller bandage as before.

MULTIPLE DISSEMINATED SUBDERMAL NODULES.

By MARK A. RODGERS, M.D.,
TUCSON, ARIZONA.

I have recently encountered in my practice in this city a very peculiar case, which I would like to bring before the medical profession for the purpose of having some assistance in the matter of diagnosis. The case is that of a young Mexican woman, aged twenty-two, who has resided on a ranch, about forty miles south of this city, during her lifetime. About three years ago, she began to have nodular swellings in the regions of the articulations; these were associated with considerable pain, some disturbance of digestion, slight fever, and general malaise. The nodules gradually increased in size, and then at times the size diminished somewhat, but the nodules never wholly disappeared. On the whole, there has been a general increase in size of all of the nodules, and also an increase in their number. The nodules resemble, in some respects, the lesions of erythema nodosum, but seem to be subdermal. They are largely in the vicinity of the ends of the long bones, but are generally distributed all over the body, even on the scalp. The nodules range from the size of a small nut to almost that of a hen's egg. They are fluctuating and well outlined, and seem almost as if they were enclosed in a serous sac. On opening one of them, a peculiar greenish-tinged serum exuded, which continued to flow for several days. Then the opening closed, and the nodule reappeared under the skin. There has been at no time any discoloration such as one might expect in a case of erythema nodosum. There is absolutely no pigmentation, nor is there any evidence of inflammation. The nodules, however, appear in every instance on precisely similar points on opposite sides of the body, and the opposite lesions are always of uniform size and contour. I have been unable to make a diagnosis in this case, and the general appearance of the patient leads me to believe that unless some specific remedy is obtained the case will terminate fatally.

Is it a peculiar case of erythema nodosum, or some obscure nervous disease which manifests itself in this way? I would say, also, that there is no evidence of any abnormal condition in any of the vital organs.

A PAINLESS METHOD OF SKIN GRAFTING.

By CHARLES G. FOOTE, M.D.,
CLEVELAND, OHIO
ASSISTANT TO THE CHAIR OF SURGERY, CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS.

The operation of skin grafting, although exceedingly painful, hardly justifies the administration of a general anæsthetic. In the vast majority of cases nothing is done to obviate the pain of the operation, and consequently the suffering is intense.

The instruments for the painless operation required are: a sharp curette, a sharp razor, tissue forceps, and an ordinary hypodermic syringe and needle. Some Lister protective, oiled silk, cotton, gauze, sublimate solution 1 to 2,000, and alcohol are also essential.

If the wound is very recent, it is not necessary to curette. If, however, the surface is covered with granulations, the superficial ones should be removed with the curette; the slight pain connected with this part of the operation can be prevented by placing a piece of absorbent cotton saturated with a 4-per-cent. cocaine solution on the wound for about ten minutes.

A suitable place on the arm or thigh is prepared in an aseptic manner as for any ordinary operation, after which all antiseptics should be utterly discarded. An ordinary hypodermic syringe is filled with decinormal salt solution, the needle is inserted underneath the epidermis, and as much of the salt solution as possible injected into the skin, producing a wheal as in the ordinary Schleich infiltration method, although somewhat larger in diameter. It is very important that the injection be endermic, *i.e.* between the cutis vera and epidermis, and not hypodermic, otherwise the anæsthesia will be very imperfect. The needle is inserted three times in this manner, so as to produce an elevation or ridge about one and a quarter inches in length by one-half inch in width. The graft is then very easily removed by a sharp razor, without causing any pain. After

the wound has been well covered with grafts, it is protected by a reticulum of Lister protective, cut in strips, and then covered with sterile gauze moistened with salt solution. The gauze should be frequently removed, once or twice every day, and the wound gently irrigated with decinormal salt solution, leaving, of course, the Lister protective undisturbed until the grafts become firmly attached.

The advantages claimed for this method are (1) its painlessness, and (2) the removal of the grafts is rendered much easier.

THE OSBORN

A CASE OF TRIPLETS, COMPLICATED BY PARTIAL PLACENTA PRÆVIA AND TRANSVERSE PRESENTATIONS, FOLLOWED BY SEVERE POST-PARTUM HEMORRHAGE.

By W. G. WILLIAMS, M.D.,
CROSS, TEXAS.

On June 29th, at 8 P.M., I was called to attend Mrs. C. in her third confinement. This case had been under my care for some time and presented nothing more unusual than considerable œdema in the lower part of the abdomen, and of the lower limbs. The patient had complained very much of inability to get around, being fatigued on the least exertion. No examination was made before confinement, but from her general appearance multiple pregnancy was suspected. She was attended in her first two confinements by a midwife. The first of these was normal, the second being complicated by post-partum hemorrhage followed by fever of two weeks' duration. She menstruated last on August 25th, the date of her confinement being two hundred and eighty-seven days thereafter.

On examination, the os was found to be dilated about the size of a silver dollar. The membranes were unruptured and, on passing the finger into the internal os, I discovered that it was overlapped in its upper half by the placenta, which at this point was very thin, being scarcely one-quarter inch thick, and, as I afterward ascertained, was attached more to the left side of the uterus, not reaching the fundus by about five inches. The os was very tense, and throughout the labor uterine inertia was a serious complication. Hemorrhage at this time was very light, the os not having dilated sufficiently to tear many blood vessels. I decided to tampon, which I did, using 10-per-cent. iodoform gauze, first applying to the os a 5-per-cent. solution of cocaine hydrochlorate, containing one-half grain of atropine sulphate to the drachm. The tampon was allowed to remain three hours, five grains of quinine sulphate and twenty minims of fluid extract of ergot being given every two hours to stimulate pains. By this time the os was considerably dilated, and, the hemorrhage becoming severe, the placenta was peeled back several inches from around the os, and the head of the first fœtus, which was presenting by its right elbow with head in the right iliac region and back to the spinal column, was, by combined manipulations, brought down into the normal position. The os still not being sufficiently dilated for delivery, the vagina was again tightly tamponed to compress the bleeding vessels against the head of the fœtus and to facilitate dilatation. At this time I found myself in a dilemma often experienced by the country practitioner, *i. e.* I was without assistance. However, the woman was chloroformed, and the os having become sufficiently dilated, the membranes were ruptured and the first child, a six-pound boy, was delivered with forceps, the woman having then been in labor eleven hours. The pains improved after the first child was delivered, due, no doubt, to the fact that the uterus had previously been over-distended, each fœtus having its own amniotic sac, and, I should judge, each sac containing three to four pints of fluid. The position of the second child was corrected as soon as possible, it also being transverse. The hemorrhage continuing severe in the meantime, as soon as the head engaged the pelvis, the membranes were ruptured and the second child, also a boy, was delivered with forceps, twenty-five minutes after the first. This child presented by its left shoulder, but being small, no special difficulty was experienced in correcting its position. There was complete uterine inertia after the second child was delivered, and on account of hemorrhage it was found necessary to introduce the hand into the uterus and rupture the third bag of waters. Forceps was applied to the head of the third fœtus, and the child was rapidly delivered. I then had the grave responsibility attendent upon a severe post-partum hemorrhage. The uterus was whipped out and I could get no contraction, although ergot had been given every two hours until three teaspoonfuls had been taken. The placenta, which weighed five pounds and covered nine or ten inches of surface, was with great difficulty and much loss of blood detached and delivered. One quart of very hot water was then immediately thrown into the uterus, which caused some contraction, but not enough to arrest the hemorrhage. Strong vinegar thrown into the uterus was next tried, but the hemorrhage was only controlled after tightly tamponing and continually manipulating the uterus to keep up contractions. The woman at this time presented all the symptoms of impending fatal syncope, rapid thready pulse, shallow respiration, with severe nausea and cold extremities. Her head was immediately lowered, the foot of the bed was raised, and strychnine sulphate gr. $\frac{1}{30}$ was given hypodermically, while whiskey ℥ss. was given internally. A saline solution, ℥iv. to one-half gallon of water, was thrown into the rectum, which had been previously emptied. Under this treatment the patient gradually improved, small quantities of milk and whiskey being given every few hours, until the danger-point was passed, when the woman was put on iron, quinine, and strychnine. There was some rise of temperature a few hours after delivery, which gradually declined to normal, and under rigid aseptic treatment the woman made an uneventful recovery. Other items of interest in this case were that the three children were all males, and each fœtus had its own chorion and separate bag of waters. The first one delivered weighed six pounds, the other two five pounds each, all being well developed. The cords were separate and distinct, unusually large, and attached separately to the placenta. This latter was very large and its blood vessels were greatly developed, which would, in part, account for excessive hemorrhage. This placenta was examined carefully, and I am satisfied that it was single. The three children, at this time, one month after their birth, are doing well. At no time was albumin found in the woman's urine.

Size and Disease.—Properly speaking, giantism is a disease. Dr. Charles L. Dana of this city long ago gave out the opinion that many so-called giants were cases of excessive pathological development, rather than cases of excessive physiological growth. According to Professor Brissaud, giantism is nothing else than acromegalia. M. Brissaud has demonstrated that the combinations of giantism and acromegalia are far from being uncommon, and that the general symptoms of each one of these diseases are observed also in the other. According to M. Brissaud, acromegalia is the giantism of adults, while giantism is the acromegalia of adolescents.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, October 15, 1901.

JAMES N. WEST, M.D., CHAIRMAN *pro tem.*

Thrombosis of the Inferior Vena Cava.—Dr. O. HENSEL presented this case, a woman of twenty-four years, with a negative family history. There was no history of infectious disorder. Up to four years ago, according to her statements, she had not menstruated at all, but had vomited up blood at intervals. She is markedly neurotic. Three months ago the lower extremities became swollen and the veins prominent. There had never been any jaundice, there was no evidence of syphilis, and the result of mixed treatment had been negative. She had sought relief because of varicose ulcers of the leg. Examination had shown enlargement of the veins extending up on to the abdomen. Both the liver and spleen were enlarged. Throughout the four months she had been under his observation, there had been no change in her condition. The absence of ascites and of varicose hemorrhoidal veins and the distention of the abdominal veins afforded ground for a probable diagnosis of thrombosis of the inferior vena cava.

Dr. E. LIBMAN presented in this connection a specimen of thrombosis of the inferior vena cava. The specimen had been removed post mortem from a woman of thirty years, who had died of sepsis. There had never been any marked distention of the veins of the abdominal wall, but the legs had been swollen. One day she sat up in bed, gasped suddenly, and died instantly. The autopsy revealed thrombosis of the pulmonary artery. A thrombus also extended from the internal and external iliacs into the vena cava and up to the opening of the diaphragm. The veins of the legs could not be examined, hence it was a question where the thrombosis had begun. Streptococci in pure culture had been found in the thrombosis.

Dr. JAMES N. WEST said that he had been so unfortunate as to meet with two cases of embolism of the pulmonary artery. One of them had followed a simple gynecological operation, and had led to the death of the patient on the ninth day. The diagnosis had been confirmed by autopsy, but the origin of the process had not been traced.

Dr. LIBMAN said that he had examined the patient just presented by Dr. Hensel, and was inclined to agree with him in the diagnosis. From the history of vomiting of blood, it was possible that the condition had begun as a cirrhosis of the liver, and that this had been followed by phlebitis of the hepatic vein. It seemed to him most probable that the thrombosis of the vena cave was primary in this case.

Dr. HENSELS aid that he had searched the literatures and had found a number of similar cases reported in which the etiology had been equally obscure

The Influence of Electric Ozonization Upon Disease.—Dr. G. LENOX CURTIS presented a paper with this title. The machine used by him for this treatment is a high-frequency one, having a voltage of one million and an amperage of one-sixth. Owing to the low amperage, there was no shock or unpleasant sensation produced The machine has one pole; it is portable, and can be used at the bedside instead of the ordinary oxygen apparatus, provided an electric-lighting current is at hand. The patient remains in a cabinet for from twenty to thirty minutes to get the best results, and during this time inhales ozone and receives the high-frequency current. In addition, electric massage is given The electric current is conducted to the patient through a vacuum glass electrode, and the patient is unconscious of the application of the electricity except through the sensation of warmth produced. The effect of the treatment on the blood was shown by an increase in the number of red corpuscles and an augmentation of the percentage of hæmoglobin, together with a diminution in the number of white corpuscles. The treatment was usually given daily, and ordinarily a good result would be manifest in the course of a month. The author said that he had used this treatment in about 250 cases, and had come to the conclusion that it was useful in both acute and chronic disorders. Among the diseases in which he had observed benefit from this treatment were tuberculosis, syphilis, carcinoma, locomotor ataxia, paralysis agitans, hysteria, meningitis, neurites, torticollis, paresis, nerve prostration, impotence, diabetes mellitus, Bright's disease, septicæmia, oöphoritis, dysmenorrhea, anæmia, and leukæmia. He had used it in a considerable number of cases of undoubted pulmonary tuberculosis associated with fever and bacteriological evidence of mixed infection. Two treatments had been given daily, and in each instance the sputa had become more liquid, the night sweats had diminished, and food, which had previously been rejected, was retained. After a week or two the pulse and respiration had improved, and there had been free expectoration of shreds of tissue and a very large number of bacilli. These cases were advanced ones, and had been treated only to observe the effect of the treatment, and not with any expectation of averting a fatal termination. Daily observations on the sputa of such patients under this treatment had proved to him beyond doubt that the ozone so influences the tubercle bacilli that they die quickly. The author stated that he had used the ozonic treatment in a few cases of external suppurative inflammation, and in two or three instances had obtained results little short of marvelous in cases of mastoiditis apparently calling for operation at the time. Very happy results had followed the use of electric ozonization in some cases of melancholia. He had treated ten cases of diabetes mellitus with very gratifying results. The quantity of sugar in the urine had varied from ½ to 4½ per cent. The effects of this treatment in alcoholism had been most brilliant, in both the acute and chronic cases. The pain, odor, and discharge had been diminished, as a rule, by electric ozonization in cases of cancer, and the general health had been very noticeably improved. This treatment had been employed in twenty-five cases of muscular rheumatism with complete success, even in severe cases of long standing. In rheumatoid arthritis the results had been equally good, though obtained much more slowly.

High Potential Electric Modalities in the Treatment of Diathetic Diseases and Inflammatory Conditions.—Dr. WILLIAM BENHAM SNOW was the author of this paper. He said that the voltage of a static machine was dependent upon the size of the plates and the amperage upon their number. The static machine for electrotherapeutic work should be constructed according to the most modern and approved plans, and have eight glass plates, thirty inches in diameter. They should be actuated by a motor capable of imparting to the machine a speed of 300 or 400 revolutions per minute. It was also desirable that there should be at hand means for gradually increasing and diminishing the speed. The mode of treatment most commonly employed at the present time was that in which the high-frequency current is administered by means of one pole. General diaphoresis was produced in most patients subjected to the wave-current for upward of thirty minutes. There was also a marked increase in the total quantity of urinary solids eliminated. Nothing interferes so much with the relief of pain and inflammation, in connection with such a treatment, than a thick layer of adipose tissue under the skin. Among the local effects of the current were: (1) Stasis; (2) The absorption of any inflammatory exudate present and not

too deeply situated; (3) The induction of a healthy metabolism; (4) A prolonged lowering of arterial tension after the application of the wave-current; (5) A marked rubefacient effect after a prolonged application of the brush discharge. In order to produce constitutional effects the séance should last for thirty minutes, and the treatment should be repeated daily for at least two weeks, and then given on alternate days. The electrode should have an area of from fifteen to twenty-four inches, and the spark-gap should be four to eight inches long.

Dr. G. Lenox Curtis then demonstrated his apparatus, showing the potency of the high-frequency current and its extended sphere of action. The machine itself consists of a series of step-up coils.

Dr. A. D. Rockwell said that while he had been impressed with the earnestness of the authors, he did not feel quite certain that the remarkable therapeutic results reported could be generally obtained by others. He could, however, easily understand the good effect of saturating the system with ozone generated by electricity. His own experience had been that these high-frequency currents were not beneficial in tubercular conditions, and that they sometimes even did harm in such cases. Neither was he prepared to admit that they are useful in the treatment of acute inflammatory conditions. For the removal of plastic deposits due to inflammation, he thought we must rely upon the galvanic current, but for increasing circulatory conditions and improving nutrition, the high-frequency currents were exceedingly valuable. These currents cause, first, a lower blood pressure, and then, a higher blood pressure and an increased vascularization. For this reason these currents must be as applicable to the treatment of hyperæmia of the kidney as for the relief of joint affections, and his own experience had confirmed this view.

Dr. William James Morton said that he had nothing but unbounded praise for the character of the work forming the basis of these two papers, as well as for the courage of these men in coming forward and frankly giving their results. These results, remarkable as they might seem to many, were but the echo of an old story in his ears; they were perfectly attainable by any one who will make a proper application of these high-tension currents. He had made many experiments at one time with ozone, and they had led him to the belief that ozone does not penetrate the body, and has no place in the treatment of disease. He would, therefore, explain the excellent results obtained not by the action of the ozone, but by the effect of the high-tension electric current. Such a current affects profoundly every particle of protoplasm, and this, in itself, was a sufficient reply to the scoffing critic who points skeptically to the claims of electrotherapeutists that electricity is beneficial in such a great variety of diseased states. A most encouraging sign of the times was the tendency to carry electrotherapy into the field of acute diseases. He could personally bear testimony to the truth of all of Dr. Snow's statements concerning the electric treatment of acute inflammatory conditions. The high-tension current not only causes rapid absorption, but it does this much more quickly than the galvanic current, and at the same time relieves the pain.

Dr. Robert Newman said that, as a victim of inherited gout and a sufferer from acute rheumatism, he was in a position to bear personal testimony to the value of the high-tension current in the treatment of acute inflammation. Only recently he had had a severe attack of acute rheumatism in one knee, and had been both astonished and delighted at the way in which Dr. Snow, by electrical treatment, had reduced the swelling and caused the pain to vanish. The electrical application had been made to his painful and swollen knee in the form of the electric breeze, using Dr. Snow's soft-wood electrode moistened with water. Dr. Curtis's method of electric ozonization seemed to him decidedly original, and the current employed by him had certainly been demonstrated to have great potency.

Dr. Mary Putnam Jacobi coincided in the view expressed by Dr. Morton, that ozone had not been demonstrated to have any share in the effects described by Dr. Curtis. These results could all be explained by the action of the high potential current.

Dr. O. D. F. Robertson gave his personal experience with the treatment, and declared it to be his belief that his recovery from a slowly resolving pneumonia had been effected by this treatment advocated by Dr. Curtis, and that a large share of the credit was due to the ozone. The opinion was founded not only on the fact that it had had a marked effect on the expectoration, but because it was in line with the generally accepted views regarding the high value of fresh air in the treatment of respiratory diseases, especially pulmonary tuberculosis.

Dr. Margaret A. Cleaves said that she, too, questioned whether the ozone had had anything to do with the cure of the cancer in the case reported, though the favorable influence exerted on cough and expectoration in pulmonary cases could probably be explained in this way. As the high-tension current was very rich in the ultra-violet rays, she was disposed to hold these rays, more than the ozone, responsible for the good result in the case of cancer.

Dr. John B. Rich said that, after having suffered for about nine years from lupus of the nose, and receiving no benefit from the usual methods of treatment, he had placed himself in Dr. Curtis's hands, and, as those present could verify for themselves, the improvement in his condition had been both rapid and most satisfactory.

Dr. Snow thought that in the cancer case the good result had been effected by local oxidation.

Dr. Curtis, in reply to questions from the chairman, said that the case of cancer to which reference had been made was one involving the breast. Seven operations had already been done, and the breast was at the time a large, foul, ulcerating mass. The odor had almost immediately disappeared, and within three weeks the disease had entirely disappeared. In the case of diabetes mellitus, the diet had not been in any way changed, and no other treatment than electric ozonization had been employed. Dr. Curtis then exhibited the case of torticollis that he had reported in his paper as having been so greatly improved.

NEW YORK ACADEMY OF MEDICINE.

SECTION OF SURGERY.

Stated Meeting, October 14, 1901.

John B. Walker, M.D., Chairman.

Trephining for Traumatic Epilepsy.—Dr. Charles H. Peck presented a young man whose skull he had trephined to relieve a traumatic epilepsy. A bullet had been found imbedded in the outer table of the skull, but not affecting the inner table. Recovery had been uneventful, and he had been up and around in a few days. The wound had been entirely healed after four weeks. No convulsions had followed the operation until a week ago, or nine weeks afterward, and then the seizure had been a mild one.

Fractures of Both Forearms.—Dr. Carl Beck presented a laborer who had received a severe crush, resulting in fracture of the radius and ulna in each forearm. He had been treated in a hospital for three months, but on leaving there had had paralysis and loss of sensation in the affected parts. He had then come under Dr. Beck's care. The first Röntgen-ray picture had shown a considerable overlapping of the fragments on both sides. On August 4, he had cut down upon the parts, overcome the overlapping, and fastened the fragments with silver wire. The parts had been easily and fully exposed by means of a semilunar incision. The case was not presented to show a good result, but the difficulties

and the assistance rendered by the Rontgen rays in showing surgeons their errors

Removal of Fractured External Condyle of the Humerus. Dr. Beck also presented a boy of five years who had fallen from the second story of a house. After the case had been treated for some time in a hospital, it had come to him. Examination showed an inability to bend the arm and a small fragment of bone on a level with the lower end of the humerus. Under the guidance of the Rontgen rays, this piece of bone, the external condyle, had been removed, and immediately thereafter the arm could be bent, although this had been impossible previously. The case was now doing well.

Skiagraph of Traumatic Lung Abscess.—Dr. Beck presented a young man, a rough rider, who had been stabbed in the back during the Spanish-American War. He had been treated in the Montclair Hospital, and Dr. Newton had informed him that an operation for resection of rib had been done there.

Fracture of the Anatomical Neck of the Humerus.—A boy was also shown who had sustained a fracture of the anatomical neck of the humerus. The case had been successfully treated by a new principle, *i. e.* upward lifting of the whole arm.

Fractures of the Lower End of the Radius.—Dr. Beck said that it was generally considered that the typical displacement of Colles' fracture was the "silver-fork" displacement. A skiagraph of a typical case of this fracture was exhibited showing not a dorsal, but a lateral displacement. The force had not been great enough to fracture the ulna, the boy being young and the bone soft. A skiagraph was then shown of an old lady with this fracture. It had presented no outer deformity at the time of injury, only an inability to bend the hand. Every attempt at passive motion had been followed by pain and great swelling, and finally the lady had refused to allow her physician to continue the treatment. A Rontgen-ray picture had revealed a displacement of the ulna with a ragged edge of bone. The parts should either be laid to rest and thus secure ankylosis, or, if a better functional result were aimed at, the irregular piece of bone should be chiseled off. Another boy was shown with fracture of the lower end of the radius. The diagnosis had been made by the great pain and the false point of motion, although crepitus had been absent. The first skiagraph taken of this case had failed to show any evidence of a fracture, but being sure of the existence of a fracture, a second skiagraph had been taken from the side, and in this the fracture had been made very evident.

An Improvised Urethral Sound.—Dr. A. V. Moschcowitz presented a man, twenty-eight years of age, a tailor by occupation. At birth it had been found that the urine was voided from an orifice on the inferior surface of the urethra. He had been operated upon at St. Luke's Hospital for hypospadias, and after a number of operations this condition had been cured with the exception of a small opening at the base of the glans penis. Nine years ago he had had gonorrhœa, and this had lasted for three years. About twelve weeks ago, during the absence of his physician, it had become necessary to pass a sound, and the patient had improvised one out of a bone pen-holder. Very naturally, the instrument had slipped from his grasp and had passed into the bladder. Dr. Moschcowitz removed it by suprapubic cystotomy.

Trephining for Epilepsy; Healing by Blood Clot.—Dr. Robert T. Morris presented a boy who had sustained a depressed fracture of the skull three years ago, and had been operated upon at the time by some surgeon. The wound had suppurated, and an abscess had formed. The boy had subsequently developed convulsive seizures, apparently dependent upon reflex irritation from the scar. Dr. Morris said that he had chiseled out the entire area of the scar, and in doing so had found it necessary to remove a considerable portion of brain tissue. The wound being very deep, it had seemed to him that there would be great difficulty in adjusting either gutta percha or foil, hence he had allowed the wound to fill with blood clot in the hope of securing a soft scar. The day following the operation there had been marked hemiplegia, but he had pretty well recovered from this. There had been two epileptic seizures before the operation, but none since then. This, of course, did not necessarily possess any great significance.

Dr. S. Lloyd said that he had had considerable experience with fractures at the elbow joint, and this had taught him that it was better to resect a portion than to attempt to replace it. After the union had been fairly complete, it had been almost impossible to chisel the small fragment away and secure a permanently good result. Another difficulty had been the increased amount of callus thrown out after operations for replacing fragments. A partial resection of the joint causes less discomfort and gives a better result. For this reason he could only commend the method pursued by Dr. Beck.

Dr. A. Ernest Gallant said that in a case of fracture of the inner condyle he had tried the experiment of keeping the arm moving all the time, and subjecting it to massage. At the end of a week, the arm could be used well, and the man had been able to go to work after three weeks. Motion had then been limited by the callus. He had hoped by this treatment to prevent the formation of this callus. This was the first case of the kind that he had treated without immobilization.

Dr. R. T. Morris said that last winter he had used in two cases of abscess of the lung Murphy's method of injecting nitrogen into the pleural cavity under pressure. It had seemed to him to assist the healing.

Foreign Body in the Bladder.—Dr. John A. Hartwell presented a foreign body removed from the bladder of a woman in the Colored Hospital. She had been admitted to the hospital for an inguinal adenitis, and while being prepared for operation it had been noted that the urine was very foul. This had led him to examine the bladder, with the result that he had discovered a stone. Through a suprapubic incision he had exposed a large calculus attached to a metal catheter. He had learned subsequently that the catheter had been there for two years. A rubber catheter was inserted, according to Dr. Gibson's method, and the bladder had been kept open for drainage from the time of the operation on July 6 until August 2. She had left the hospital on August 10. Under close questioning, the woman stated that two years or more ago she had had a miscarriage, and that it had become necessary to catheterize her. The physician who did this in some way lost the catheter in the bladder. He at once told her that an operation for its removal was necessary, but she would not consent to this.

Practical Results in One Thousand Cases of Nitrous-Oxide and Ether Narcosis.—Dr. H. W. Carter read a paper with this title. He said it was of the greatest importance in administering nitrous oxide to keep close watch upon the respiration, and to admit air on the first sign of suffocation. Certain individuals, particularly women and children, could be easily asphyxiated with a small quantity of this gas, even the small quantity used preparatory to ether narcosis. Plethoric and alcoholic patients, on the other hand, often require considerably more than the average quantity of gas. He seldom found it necessary to allow more than a slight degree of cyanosis to develop in these cases. Respiration is almost always interrupted if ether is turned on before unconsciousness supervenes. In cigarette-smokers, or others, having hyperæsthesia of the larynx, it was often necessary to proceed with the greatest caution In the first and second stages of narcosis, the heart beats quietly, fully, and regularly, but as the anæsthesia grows more profound, and the respiration becomes stertorous, the pulse becomes small, hard, and slightly accelerated. The blood

pressure is somewhat lowered, chiefly due to dilatation of the superficial capillaries. During profound anæsthesia, the renal vessels are contracted, and the secretion of urine diminished. The main advantages of nitrous oxide, as a preliminary to ether, were its almost perfect safety and its rapid and pleasant action. By using first nitrous oxide-gas and then ether, full surgical narcosis is secured almost immediately, and can be maintained with a very small quantity of each of these agents. Upon the respiratory center, ether acts as a powerful stimulant, but if carried too far it arrests respiration by paralyzing the respiratory center. It also powerfully stimulates the heart, and, unlike chloroform, when the heart begins to fail, it does so slowly, and gives ample warning. Vasomotor shock and reflex inhibition of the heart's action constitute an element of great danger at all times under incomplete chloroform anæsthesia. While ether is an irritant to the kidneys, it exerts but little effect on these organs if they are healthy and the ether is administered skilfully. Water should be given freely, both before and after etherization, unless it causes nausea and vomiting. Nephritis following the administration of ether is, in the author's opinion, more often due to exposure during the operation, or to the unskilful use of the anæsthetic than to the inherent effect of the ether. In view of the fact that chloroform is a powerful protoplasm poison, and in equal quantity far more irritating to the kidneys than the ether, it seemed to him not improbable that if the necessary quantity of ether could be reduced nearly to that required in the case of chloroform, it would be better than the latter in cases of albuminuria and nephritis to use ether rather than chloroform. In valvular disease of the heart, provided there is good compensation, nitrous oxide and ether can be administered with perfect safety. Old people take gas and ether particularly well, but special care should be exercised in such cases, and its use should be avoided in all cases of arterial degeneration.

An Adjustable Automatic Mouth Gag.—Dr. Carter then exhibited this gag, which had been primarily designed by him to aid the anæsthetist in cases in which there was some mechanical obstruction to respiration. With the mouth gags commonly in use, it was very difficult properly to apply the face mask. To obviate these difficulties, he had devised a gag which, while in use, would lie perfectly flat against the cheeks. In order that the instrument could be adjusted to the individual face, a hinge joint is used, and to secure the requisite rigidity, a cogwheel and lever are so arranged that they form an automatic catch. As each side of the instrument is independent of the other, it is easy to adjust it to any irregularities in the mouth. He thought the instrument would prove very useful to dentists, and also in operations for the removal of the tonsils.

Dr. W. B. de Garmo said that the reader of the paper had administered the gas and ether for him over two hundred times. Among these cases there had been a number of very bad subjects, not only because of their general build, but because of the existence of various heart lesions. There could be no doubt that the after-effects were nothing like so severe as after ether alone. This was to be expected, because of the comparatively small quantity of ether employed by the combined method. So far as he had observed these cases there had been absolute freedom from complications.

Dr. Eugene Fuller said that he had seen one patient badly asphyxiated from the use of nitrous oxide-gas in the hands of an unskilful anæsthetist. In that case the prolonged use of artificial respiration had been required in order to resuscitate the person. In cases of operation upon an infected genito-urinary tract, it was probable that suppression of urine was likely to occur with any form of anæsthesia. He was not afraid with ether in such cases, provided the patient was not overwhelmed with the anæsthetic by the anæsthetizer. The speaker referred to a case which he had seen in which the administration of chloroform had resulted in the complete failure of respiration five to ten minutes before the cessation of the heart's action.

Dr. S. Lloyd said that he was very glad that at last in this country the importance of having skilled anæsthetists was recognized. Eighteen years ago he had written a paper on the effect of ether on the kidneys, and that paper had been suggested by seeing a series of cases in which nephritis had been apparently induced by ether anæsthesia. The reader of the paper this evening had struck the keynote of the question when he had said that the effect of ether on the kidneys depended very largely upon the mode of administering it. At one time he had been of the opinion that ether was better than chloroform in cases of disease of the kidney. Subsequent clinical experience had shown him, however, that irritation of the kidneys was not uncommon after the administration of chloroform by the junior members of the hospital house-staff. By slight irritation he did not necessarily mean that albuminuria developed, but that the urine contained casts of various kinds. Dr. Lloyd said that for many years he had made it a custom to precede anæsthesia by the administration of $\frac{1}{4}$ gr. of morphine and $\frac{1}{100}$ gr. of atropine, and in cases of bronchorrhœa it was his rule to give an additional dose.

Dr. A. Ernest Gallant said that the position of the head had much to do with the development of excessive secretion in the throat. The trouble was that the pillow was often put under the shoulders, and the head allowed to fall back. By a careful adjustment of the position of the head on the pillow in each case one was able to avoid much of this trouble from secretion in the throat, and at the same time reduce the quantity of ether administered. He recalled one case in which, while giving ether, the heart's action had suddenly ceased while the respiration had continued, and vigorous efforts at resuscitation had been demanded. The speaker said that he had used nitrous-oxide gas a good deal for the past seven or eight years, but he would say that he felt sure that he could, in the average case, anæsthetize with as small a quantity of ether alone as most anæsthetists use in connection with nitrous oxide. One great objection to the combined gas-and-ether method was the necessity for using a complicated and expensive apparatus. This was a decided disadvantage in country districts, particularly under our unfortunate system of turning out graduates in medicine and sending them out over all the country without any practical instruction in the administration of anæsthetics.

Dr. Carter, in closing the discussion, said that his experience had been that the nitrous-oxide cyanosis clears up almost immediately after the patient has fully come under the influence of the anæsthetic, and a sufficient quantity of air can be admitted. During the remainder of the administration the patient is not only free from cyanosis, but often has a heightened color. He did not think the nitrous oxide tended to increase the bronchial secretions. Occasionally, one met with cases in which the bronchial secretion is so troublesome that it seems advisable to change to chloroform. His experience had been that there is almost always a diminished secretion of urine in the first twenty-four hours after anæsthesia; but this he believed was dependent upon diminished ingestion of fluid, increased diaphoresis, and perhaps other factors not directly connected with the anæsthetic.

An Island for Lepers in the Philippines.—The *Army and Navy Register* states that the island of Barri, to the north of Luzon, has been recommended for the segregation of Philippine lepers. The board of officers appointed to investigate the matter reported as follows: The island is uninhabited, is two miles long by one wide, near Luzon, and is suitable so far as water supply, climate, etc., are concerned. Its disadvantages are its nearness to the island of Fuga and the frequency of typhoons.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, October 21 1901.

PARKER SYMS, M.D., PRESIDENT.

A New Percussion Mallet.—Dr. HEINRICH STERN, in presenting this new instrument, said that a percussion hammer should be permanently attached to the pleximeter, and the strokes should be uniform in force and duration. The action of the instrument reminded one of the spring mallet used by dentists. To its distal end is attached a disk, which serves as a pleximeter. The use of the instrument on a patient was demonstrated.

A Retractor for Use in Prostatectomy.—Dr. J. W. S. GOULEY presented an instrument for use as a retractor during the enucleation of the diseased prostate. It was intended to take the place of the finger. It is introduced into the urethra through the perineal cut, the parts having been sufficiently dilated to admit the index finger. The instrument is introduced with the point of the beak looking upward, and on reaching the bladder it is reversed. It is then out of the way of the operator.

Fibroid Tumor of the Fallopian Tube.—Dr. J. RIDDLE GOFFE presented this specimen. The tumor had been located about three-fourths of an inch from the horn of the uterus on the left tube, and although not occluding the latter, had completely surrounded it. Jacobs of Brussels had reported one similar case, the first one in his experience. This was the only other case that Dr. Goffe had found recorded. The tumor had been taken from a young woman who had suffered all her life from dysmenorrhœa, and who had been an invalid for four years previous to coming under his observation. He had operated to restore the displaced uterus, doing the operation through the anterior fornix of the vagina. On the opposite tube was a cyst of Morgagni. The fimbriated extremity of this tube was open sufficiently to admit the thumb, and the cyst protruded from this opening. Both ovaries and the right Fallopian tube had been allowed to remain.

Dr. A. PALMER DUDLEY said that he had seen but one case of fibroid tumor of the Fallopian tube in an experience of twenty-seven years, nor had he been able to find any other case on record than the one alluded to by Dr. Goffe It seemed to him probable that the same conditions which produce fibromas in the fundus of the uterus should give rise to a fibroma of the tube itself, although probably many would not be willing to accept this suggestion. The history of the case reported seemed to point to a chronic congestion of the structure of the tube, and this would be favorable to the development of a fibroid. These cases were just as apt to occur in the young woman as in one near the menopause.

Dr. FREDERICK HOLME WIGGIN said the rarity of such cases was evident from the fact that he had not met with a single one in a rather large experience.

Dr. A. BROTHERS said that he, too, had not met with a fibroid of the tube. He had, however, met with two cases of fibroid of the ovary. One of these tumors had been as large as a cocoanut.

Spasmodic Affections of the Larynx.—Dr. EMIL MAYER read a paper on this subject. He said that among children spasm of the larynx was not of rare occurrence, and it might occur in the adult. Several cases were on record in which laryngeal spasm had existed in the newly born infant. In one of these cases it had been evident that the spasm had been excited by an embryonic state of the epiglottis. Rickets stood at the head of the list of etiological factors, but dentition, large and caseous glands, inflammation of the air passages, digestive disturbances, and the presence of an excessive quantity of lymphoid tissue were other common causes. The suddenness of onset, absence of increased temperature, and the results of bacteriological examination made the differential diagnosis from diphtheria not very difficult Unless the attack were due to direct cerebral irritation the prognosis was good. Death might occur either from asphyxia, suffocation, cardiac exhaustion, or cerebral compression might arise from transudation between the cerebral membrane and the vessels. The treatment should consist in rest, regulation of the diet, the ingestion of small quantities of food at a time, and the keeping of the child outdoors in good weather. Chloral and the bromides were useful in the treatment of the attack. Laryngeal spasm in the adult was much less frequent than in children. It might occur in hysteria, chorea, and epilepsy, and in connection with tetanus, hydrophobia, and tabes. It had been noted as an extremely early symptom of tuberculosis. The spasm might be of three kinds, *i.e.* of phonation, deglutition, and respiration. The differential diagnosis was readily made with the laryngoscope. A most interesting form of spasm was that known as laryngeal vertigo, or laryngeal epilepsy. Asthma and excessive smoking, combined with hypertrophy of the nasal mucosa, elongation of the uvula, hypertrophy of the lingual tonsil, tabes, and bulbar paralysis were among the causes. Almost all of the cases reported had occurred in males between forty and forty-five years of age. The attack is caused by some irritation of the superior laryngeal nerve. It simulates an epileptic attack; but there are few, if any, muscular spasms, the tongue is not bitten, there is no involuntary defecation, and no headache. Few maladies to which flesh is heir cause so much unhappiness as stammering. The speaker looked upon stuttering as a prodrome of stammering. Stammering is the incoördination of the three mechanisms of speech, *i.e.* the respiratory, the vocal, and the aural. In the medulla oblongata lay the nerve-center concerned—the basal phonic center. Fully 95 per cent. of stammerers are males, though the reason for this has never been explained. Under proper care, physiological voice-sounds should be persistently taught, the extrinsic muscles brought into proper play, and their psychological as well as physiological action brought into use. No force should be used, but gentle and persistent efforts, and with these a cure could be effected in the majority of cases.

Dr. FRANCIS J. QUINLAN thought from 75 to 85 per cent. of the spasmodic affections of the air passages occur in children. It was known that catarrhal disturbances play a very important part in their causation. He did not think that intestinal irritation played as important a part in the etiology as the textbooks would have us believe. In all cases of laryngeal spasm the effort should be made to discover any abnormalities in the air passages, such as accumulations of lymphoid tissue, or the presence of greatly hypertrophied tonsils. The lymphoid tissue at the base of the tongue created no end of trouble, and often gave rise to glottic spasm. The most important thing to remember in connection with these affections was the need for treating the upper air passages.

Dr. WILLIAM M. LESZYNSKY said that spasmodic affections of the larynx were common in chorea, hysteria epilepsy, and locomotor ataxia. The type seen by the neurologist was usually due to some form of irritation of the pneumogastric nerve, or the recurrent laryngeal branch. Reflex spasm was always bilateral. Spasm of the glotti in children was closely related to tetany, a condition intimately associated with rachitis. A subcutaneous injection of apomorphine generally proved successful in relieving the spasm. In patients suffering from chorea, there was often a barking cough which had sometimes been incorrectly described as chorea of the larynx. The initial cough, which often ushers in an epileptic attack, was due to momentary spasm of the larynx. Laryngeal vertigo was a very rare condition. It was a reflex neurosis, and had a good prognosis. A small percentage of patients suffering from tabes suffer from laryngeal crises. The paroxysms vary greatly in character, and may resemble whooping-cough or laryn-

gismus stridulus. He had seen two cases of tabes in which the diagnosis had been whooping-cough because of the existence of this paroxysmal cough. Death had occurred from such spasm, but was extremely rare from this cause. He could not agree with the reader of the paper in classifying stammering as an affection *per se* of the larynx. As a rule, it should be looked upon as merely a form of incoördination, and its cure is entirely dependent upon suitable and persistent systematic training.

Dr. J. H. Woodward said that it was only in children that one meets with that peculiar affection known as laryngismus stridulus. It occurs especially in rachitis, and the treatment should not be by bromides, but by supporting measures and improved hygiene. In the adult, laryngeal spasm occurred from reflex disturbance, the result of hyperæsthesia.

Dr. Charles E. Quimby said that some had considered the nocturnal spasm occurring in persons who had been drinking to excess as a spasmodic affection of the larynx, but he was inclined to look upon it as dependent upon an exhausted condition of the heart.

Dr. A. D. Way of Wyoming County said that on two occasions when he had been called upon at night to treat a case of croup, and had not happened to have the usual remedies with him, he had injected nitroglycerin and with good result.

Dr. D. S. Dougherty said that he had been collecting statistics as to the existence of adenoids in children subject to croup, and had been astounded at the very large percentage of croupy children in whom accumulations of pharyngeal adenoids had been found. He cited a case in which a very severe spasmodic laryngitis had occurred in a young girl. It had already passed through the hands of two specialists before coming to him. After thorough cocainization of the larynx, he had succeeded in examining the larynx with the laryngoscope, and had discovered a medal wedged in tightly between the arytenoids and the epiglottis.

Dr. M. E. Varney of Saratoga Springs said that he had observed marked relief following the administration of nitroglycerin in spasmodic laryngitis.

Dr. Frank A. Bryant said that he could not look upon stammering as a laryngeal affection solely, because he had seen it associated with spasms in other parts of the body.

Dr. Henry W. Berg said that he had used bromide of potassium as he would in epilepsy in cases of laryngismus stridulus, and had been delighted to observe its marked controlling influence.

Dr. Mayer said that he had also found bromide of potassium exceedingly useful in this class of cases. He did not wish to be understood as considering stammering an affection of the larynx alone; it was merely an interesting neurosis to study in connection with the subject under discussion.

Report of the Committee on Vaccination.—Dr. Frederic W. Loughran, chairman of this committee, presented the report. It declared that the State of New York was almost the only State in which vaccination could not be enforced during an epidemic of smallpox. The following were the principal recommendations of the committee: All boards of health of cities and towns should furnish the means for vaccination and revaccination, and the State Board of Health should have authority to enforce vaccination during the prevalence of an epidemic of smallpox. No child should be admitted to any school who has not been vaccinated within a period of five years. Inmates of State asylums should be vaccinated on entrance, and members of the National Guard should be required to be vaccinated. All corporations or firms employing more than ten persons should be compelled to employ only persons who had been successfully vaccinated, or who presented a certificate from a reputable physician stating that they had been twice vaccinated, and that vaccinal insusceptibility exists. The penalty for violation of such laws regarding vaccination should be a fine of from $50 to $100, or an equivalent term of imprisonment, this penalty not to stand in lieu of vaccination.

The report was received, and the committee requested to continue its labors and to confer with the Committee on Public Health.

Surgical Suggestions.

Observations in Intra-Nasal Operations.—Charles M. Robertson (*Medical Age*, August 25, 1901) concludes: (1) The utter uselessness of treating a growth of organized tissue in the nostril by the application of sprays and the galvanocautery. (2) Where such growths exist, treat as you would an overgrowth elsewhere. (3) Save all the venous sinus tissue possible and still secure breathing space enough. (4) The advantage of the suprarenal capsule in nasal surgery. (5) The absence of danger of synechiæ forming, as they often do, after the use of the galvanocautery or caustic. (6) The use of dry pledgets of cotton and the disuse of all fluids. (7) The great advantage of the greased gauze as a surgical dressing in the nose over old methods. (8) The danger in the use of cocaine lessened by the use of the suprarenal capsule extract. (9) The disappearance of nasopharyngitis after the nose becomes ventilated.

Treatment of Cervical Adenitis.—(1) The cause of tuberculous adenitis of the cervical region is almost always local, and takes place through the buccal cavity. (2) The glandular manifestation, when it progresses, and especially when it is followed by suppuration, indicates a damaged and usually useless, often dangerous, gland. (3) The removal of such a gland *in toto* and promptly is neither difficult nor dangerous, and is the treatment indicated. (4) Nature will probably provide a new and equally perfect protection in the place of the one that is lost. (5) Multiple enlarged glands indicate a constitutional tendency which will not be benefited by removal, except when local discomforts and dangers indicate it. (6) Small groups or single slowly growing glands are subject to the same indication.—*H. H. Grant.*

Treatment of Sprains.—Van H. Coles (*Southern Practitioner*, September, 1901) says: If a case is seen immediately, that is in the first hour or two, it should be plunged into very hot or very cold water and there allowed to remain about thirty minutes, or until the blood vessels have thoroughly contracted, and by this first treatment we prevent much of the swelling, effusion, and inflammation. Then, the limb should be elevated and bandaged from below upward, and after twenty-four hours a plaster-of-Paris or other snug and immovable dressing should be applied, but renewed as the swelling subsides. At the end of two or three weeks, passive movement of the joint should be begun, but the direction of the movement is important, so as not to interfere with the strained and ruptured ligaments. After the removal of the plaster-of-Paris bandage, a leather support with lateral hinges, so as to allow flexion and extension and yet control any lateral or abnormal movement, is of great service. I will state, just here, that in cases of much laceration great care should be had that the joint is not used too early, as this is often responsible for the permanent weakness.

Surgical Hints.—The ether of chloride-of-ethyl spray will sometimes prove quite useful in stopping severe bleeding from cancerous or other ulcerations in which the hemorrhage is rather of an interstitial than an arterial character.

Never give an emetic, in order to recover a foreign body that has passed into the stomach. If it is small enough, it will always be passed in the course of a few days, while, if too large for this, vomiting would be a dangerous and useless thing to bring about.

An attack of hysteria simulating unconsciousness in a woman may be aborted by the surgeon taking up a pair of scissors and regretfully announcing that he will have to cut all the patient's hair off, in order to make applications to her head. It is doubtful whether this bluff has ever been known to fail.

When feeling for fluctuation in any part of the body that is covered by heavy muscular structures, place the hands along the long axis of the muscular fibers, and never across them. The latter position would certainly deceive the observer into thinking that fluctuation is present, as may easily be seen in the case of the large anterior muscles of the thigh.

In furuncles and carbuncles of the upper lip it is especially important to operate promptly, usually by thorough excision under an anæsthetic. The location of the disease, in such cases, makes them peculiarly dangerous, owing to the possibility of the occurrence of rapid thrombosis of the facial veins, extending to the cerebral sinuses. This, in turn, is apt to cause fatal pyæmia.—*International Journal of Surgery*, July 1, 1901.

Surgical Suggestions.—Sprains are treated satisfactorily and are rapidly cured by massage with a roller connected so as to furnish static electricity.

In incised wounds about the angles of the eyes and the mouth, it is often better to use adhesive plaster instead of stitching; the constant motion is apt to irritate the parts or tear out the stitches.

It is good practice in all surgical cases to eliminate bacterial and metabolic products by increasing the secretion and excretion of the kidneys, intestines, and skin.

When the steam bath is indicated in country practice, it is easily and satisfactorily given by boiling a dozen or more ears of corn, taking them from the water while boiling, wrapping in cloths moistened in hot water, and packing them as close to the patient as possible. Keep him closely covered, and a few moments will bring the most profuse perspiration you ever saw.

Under certain conditions and in certain localities, pus sinuses and fistulas may be healed by thorough antiseptic washing, followed by packing the sinus with good drainage material, and binding the parts so that the walls of the sinus are held in close apposition. The gauze is shortened from time to time as the granulations coalesce behind. This method is most suitably applicable to recent cases, but is occasionally successful in even inveterate cases.

In tetanus of quick incubation, with known lesion, the antitoxin treatment yields the best results; in cases of unknown incubation, without discoverable lesion, the antispasmodic treatment is best.

Both the A, C, E, and the Schleich mixture are dangerous anæsthetics in the hands of those without extended experience. It is better for the ordinary practitioner to stick to his old favorites until some more certain knowledge is obtained regarding the limitations of the newer anæsthetics.

In case of a severely bleeding vessel, do not waste too much time in trying to ligate. Compress with fingers, packing, bandage, or tourniquet till assistance arrives. It matters not whether the vessel be vein or artery.

In the selection of a styptic, use only one which will hasten or assist the natural process of healing. Alum is the least objectionable of the chemical astringents; it may be applied in warm solution on any kind of aseptic compress. As it cools under pressure, it deposits aseptic crystals about the vascular orifices.—*Southern Clinic*, September, 1901

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 2, 1901:

	Cases.	Deaths.
Measles	152	4
Diphtheria and croup	226	2
Scarlet fever	153	6
Smallpox	5	4
Chickenpox	17	..
Tuberculosis	245	134
Typhoid fever	57	20
Cerebrospinal meningitis	..	4

National Types Changing.—*Chambers's Journal*, a British periodical especially given to dealing with matters of curious interest, has in a recent issue an article bearing upon the fact that the physiognomy of highly civilized races has been and is undergoing a change. The writer of the contribution in question first treats of the undoubted alteration in physique and appearance of the British, French, and Germans, giving his views as to the cause thereof, and then goes on to say: "But, perhaps, the most extraordinary metamorphosis of all is taking place under our eyes among two nations as widely separated in origin and history as it is possible for any civilized countries to be—America and Japan. The American physiognomy is as completely marked as that of any race under the sun, as Anthony Trollope remarked, 'bred in and in for centuries.' Yet, as the same traveler pointed out, the American owns a more mixed blood than any other race known. His chief stock is English, and with this are mixed the bloods of Ireland, Holland, France, Germany, Scandinavia, Italy, and Slavonic Austria. 'All this has been done within a few years, so that the American may be said to have no claim to any national type of face. Nevertheless, no man has a type of face so clearly national as the American. The lantern jaws, the thin, lithe body, the dry face, the thick hair and thin lips, the intelligent eyes, the voice not altogether harsh, though sharp and nasal. All these traits are acknowledged all over the Continent of Europe. Yet, perhaps, Trollope was mistaken in attributing the formation of this type to 'hot-air pipes and dollar worship,' although not altogether wrong in supposing the American countenance to be modified by his 'special aspirations.'"

Illiterate Immigrants.—The percentage of illiteracy, says the New York *Tribune*, October 27, is increasing yearly, according to the report of the Commissioner of Immigration of the Port of New York, recently made public. The increase is startling. Last year, of the 341,712 immigrants who passed through the portals of Ellis Island into this country, 79,988 over fourteen years of age, or 23.41 per cent., were unable to read or write their own language. This year, 107,323 of the 388,031 immigrants, or 27.60 per cent., were of this class. One of the causes given for this increase of more than 4 per cent. is the growing immigration from countries where the percentage of illiteracy is high. Nearly one-half of the steerage immigrants present an illiteracy of from 40 to 50 per cent. The nation sending the highest percentage was Russia. Among the 5,032 Ruthenians who came here from South Russia last year, 2,554, or 50.75 per cent., were illiterates. The nation which followed next, Italy, was close upon the heels of Russia. That country sent more immigrants than any other. Out of the 111,208 immigrants from Southern Italy, 56,104, or 50.40 per cent., had not the intellectual qualifications of an elector. North Italy sent 20,360 immigrants, of whom 12.45 per cent. were illiterates. The countries from which immigrants came in the order of their percentage of illiteracy are as follows: Scandinavia, Finland, Bohemia,

England, Scotland, and Wales, Ireland, France, and Germany, under 5 per cent.; Hungary and North Italy, under 15 per cent.; Hebrews, under 20 per cent.; Spain and Greece, under 25 per cent.; Slovak, under 30 per cent.; Croatia, Poland, and Dalmatia, under 35 per cent.; Armenia and Syria, under 40 per cent.; Lithuania and Portugal, under 50 per cent., and South Italy and Ruthenia, under 55 per cent.

Force and Frequency of the Respiratory Movements in High Altitudes.—Dr. William Bullock Workman and his wife have recently published a book, giving an account of their experiences of mountain climbing in the Himalayas. Their observations as regards respiration at high altitudes may be summarized as follows: "At about 15,000 feet an increase in the force and frequency of the respiratory movements is first noticed. The climber must now slacken his pace, and hold himself well in hand. At 17,000 feet to 18,000 feet, the change in the condition becomes decided, and from this altitude all movements must be made with deliberation. So long as the movements are slow and measured, no disagreeable symptoms should be felt, and Dr. Workman states that he has not noticed any marked increase in the severity of the quickened respiration between 17,000 feet and 21,000 feet. His pulse and respiration when resting at three different altitudes were as follows: 16,200 feet, pulse, 76; respiration, 17; 17,375 feet, pulse, 76; respiration, 18; 17,900 feet, pulse, 78, respiration, 18. From this it will be seen that an altitude of 17,000, together with the exertion necessary to attain such a height, had little or no effect on the pulse and respiration.

The Consumption of Sugar in the United States.—The total consumption of sugar in the United States last year was 2,219,847 tons, and based on the average increase of 6.34 per cent. during the past nineteen years, the consumption this year should be 2,360,585 tons. Of this quantity 1,000,000 tons in round figures will come from American sources, say Louisiana being able to produce 350,000 tons, United States beet factories 150,000, Hawaii 350,000, and Porto Rico 150,000, all being free of duty, leaving 1,360,585 tons to come from other sources, and on which duty is paid. The average duty assessed is $36 per ton, or a total of $48,981,060. The price of all the sugar consumed, however, being enhanced to the extent of the duty of $36 per ton, or a total of $84,981,060, it is evident that $36,000,000 additional is paid by the people in order to provide, the Government with $49,000,000 for revenue, of which the Government is not now in need. If the duty is taken off Cuba sugar, the benefit of $85,000,000 goes to the people. On October 8, the quotation for Cuba centrifugal sugar 96° test, free on board Cuba, was 1.96c. per lb., duty on same amounts to 1.685c.—equivalent to 86 per cent. ad valorem.

The Ameer of Afghanistan.—Much is being written in British journals and periodicals concerning the late despotic and fierce but able ruler of Afghanistan. The *Lancet*, October 12, has an article from the pen of Dr. Gray, who, in 1890, attended the deceased monarch. It appears that at the time the Afghan ruler was suffering from a particularly aggravated attack of gout, so serious did Dr. Gray consider his condition, that, although by the help of the English physician's treatment the disease was temporarily controlled, he estimated the duration of his patient's life at no longer than two years. Dr. Gray also relates some of the troubles which are almost sure to happen to the medical attendant upon an Eastern potentate. An Englishwoman, by name Hamilton, acted as chief medical adviser to the Ameer up to, and for several years before, his death. The lady is also said to have possessed a considerable amount of influence over the self-willed and bloodthirsty monarch.

Birds as Surgeons.—A well-known London lay weekly journal contains the following: "Certain birds are said to possess a wonderful knowledge of the principles of surgery. The woodcock, the partridge, and some others, we are told, are able to dress their wounds with considerable skill. A French naturalist says that on several occasions he has killed woodcock that were, when shot, convalescing from wounds previously received. In every instance he found the old injury neatly dressed with down plucked from the stem of feathers and skilfully arranged over the wound, evidently by the long beak of the bird. In some cases a solid plaster was thus formed, and in others ligatures had been applied to wounded or broken limbs. If true, this is very interesting, and would go far to prove Mr. Ernest Seton Thompson's contention that animals and birds are gifted with greater reasoning powers than the majority of persons imagine."

The Hæmaturia of Pregnancy.—Umberto Chiaventone reports the case of a woman in good health, and without family taint, or any lesion of importance, who suffered from hæmaturia which was probably of renal origin, which made its appearance about the middle of pregnancy and disappeared after labor. There was no discoverable lesion of bladder, ureters, or kidneys, no lithiasis, no hæmophilia, no parasites, no neoplastic degeneration, and no retention. The case undoubtedly belongs to the rare type (only eight have been described) in which pregnancy, and pregnancy alone, is the etiological factor. It can therefore logically be called the "hæmaturia of pregnancy." As to the cause, it may be congestion, but only secondarily. It is more likely that the pathogenesis of this condition consists in a toxæmia from hepato-renal insufficiency.—*Annales de Gynécologie et d'Obstétrique.*

A Malformation of the Female Genitalia.—S. Monsiorski describes a case remarkable not so much for the actual deformity, as for the accompanying conditions. The patient was a woman of twenty-three years who complained of dyspareunia, coitus always being followed by hæmaturia. Examination showed a septum completely occluding the vagina, and perforated by a very small orifice which could be found only after considerable searching. The urethra was easily dilatable, and admitted the index finger, and it was through this that coitus regularly took place, but in spite of this relaxation, no incontinence of urine was present. On incising the occluding septum, which was one-fourth of an inch in thickness, the vagina was found very much constricted, admitting only a single finger.—*Centralblatt für Gynäkologie.*

Albuminuria for Sixteen Years, Without Perceptible Impairment of Health.—P. Maxwell Foshay reports the case of a perfectly healthy man in whom albuminuria has occurred at least intermittently for over fifteen years. The lesson to be drawn from the case is the necessity for extreme care in studying cases of albuminuria before coming to definite conclusions as to the permanence or evanescence of the condition. A three months' observation of such a case should determine its future course with fair accuracy. If the albumin is intermittent and of small proportion, if no casts, or only a few hyaline ones, occur at times, and if the vascular system at no time during the period exhibits any abnormality, a good prognosis may be given without hesitation.—*The Medical Examiner and Practitioner.*

The Absorbing Power of the Large Intestine.—Guido Barbiani concludes, from the results of his experimentation, that the large intestines have decided absorbing powers, less rapid, but quite as intense, as those of the stomach. These are greatest near the ileo-cæcal valve, less at the rectum, and least in the middle portion. The power of absorption can be increased by artificial means, either by the mechanical action of fluids projected by means of a syringe, or by chemical action of a liquid (sodium sulphate solution) which comes in contact with the mucosa. The intestines absorb medicinal substances much more readily than nutritive substances, even when the latter are predigested. Nutritive enemata are merely a temporary means of artificially prolonging life, but as such are useful. —*Il Policlinico.*

To Distinguish Between Smallpox and Chickenpox.—A writer in the *Lancet*, October 12, referring to the prevalence of smallpox in London and the difficulty sometimes in mild cases of differentiating between this disease and chickenpox, calls attention to a well-known method by which this object can be attained. The vesicles in chickenpox are unilocular, while in smallpox they are multilocular, the practical result of this pathological fact being that if a chickenpox vesicle be pricked with a needle, its contents can be completely evacuated, and the cell will collapse; whereas in smallpox, if you make twenty pricks with a needle, the vesicle will not collapse, because, being multilocular, it is impossible to empty it.

Hydrophobia and St. Hubert.—It is well known that St. Hubert (died A. D. 727) was reputed to cure hydrophobia by touch, as kings cured the "king's evil." The saint was a father before he was a saint, and left a son from whom descend a family—the Lavernots—still flourishing in Picardy. This family claims (and the claim is admitted throughout Picardy) to have inherited the magical powers of the saint, and exercises them regularly to this day. The neighbors still prefer their treatment to that of the Pasteur Institute.—*New York Sun.*

The Mother of Thirty-Seven.—The individual birth record, says *Tit-Bits*, must surely go to the wife of a farmer near Salzburg, in Austria. She has presented her loving, if perhaps astonished, husband with twins eight times in succession. As if this were not enough, she "went one better," and for three successive times brought forth triplets. Then there was a retrogression, the woman lapsing into twins for four times in succession, and afterward further injured her reputation by giving birth to singles on four occasions.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended November 2, 1901:

		CASES.	DEATHS.
SMALLPOX, UNITED STATES			
California, San Francisco	Oct. 13-20	2	
Indiana, Evansville	Oct. 19-26	7	
Kentucky, Lexington	Oct. 19-26	1	
Massachusetts, Cambridge	Oct. 19-26	1	
Minnesota, Minneapolis	Oct. 19-26	1	
New Jersey, Newark	Oct. 21-28	15	1
New York, New York	Oct. 19-26	8	3
North Dakota, Bottineau Co.	Sep. 15-Oct. 15	10	
Cass Co.	Sep. 15-Oct. 15	1	
Edmond Co.	Sep. 15-Oct. 15	6	
Mayville	Oct. 18-25	1	
Pennsylvania, Morristown	Oct. 19-26	5	
Rhode Island, Newport	Oct. 19-26	7	
Wisconsin, Green Bay	Oct 19-27	4	
SMALLPOX, FOREIGN.			
Belgium, Antwerp	Sep. 28-Oct. 5	3	2
Ghent	Oct. 5-12		2
Brazil, Rio de Janeiro	Sep. 1-15		109
Canada, Halifax	Oct. 5-12	7	1
St. John	Oct. 19-26	6	
Colombia, Cartagena	Sep. 29-Oct. 6		2
Panama	Oct. 14-21	125	
France, Paris	Oct. 5-12		3
Great Britain, London	Oct. 5-12	175	6
India, Bombay	Sep. 17-Oct. 1		2
Calcutta	Sep. 14-28		2
Madras	Sep. 14-27		
Italy, Naples	Oct. 5-12	54	5
Mexico, City of Mexico	Oct. 6-13		1
Russia, Moscow	Sep. 28-Oct. 5	5	1
Odessa	Oct. 5-12	2	
St. Petersburg	Sep. 28-Oct. 12	5	
PLAGUE, UNITED STATES.			
California, San Francisco	Oct. 13-21	1	1
PLAGUE, INSULAR.			
Philippines, Manila	Aug. 31-Sep. 7	6	3
PLAGUE, FOREIGN.			
Brazil, Rio de Janeiro	Sep. 1-15		13
China, Hong Kong	Sep. 7-14	11	11
India, Bombay	Sep. 18-Oct. 1		454
Calcutta	Sep. 18-21		27
Karachi	Sep. 15-22	15	8
Italy, Naples	Oct. 5-12	2	2
Turkey, Smyrna	Sep. 28	1	
YELLOW FEVER.			
Brazil, Rio de Janeiro	Sep. 1-15		9
Colombia, Bocas del Toro	Oct. 28	1	
Cuba, Havana	Oct. 5-12	1	
Trinidad	Sep. 30	1	
Mexico, Progreso	Sep. 28-Oct. 5		1
Vera Cruz	Oct. 12-19	20	7
West Indies, Curaçao	Sep. 28-Oct. 6	2	1
CHOLERA.			
India, Bombay	Sep. 17-Oct. 1		7
Calcutta	Sep. 15-28		19
Madras	Sep. 14-27		99
Japan, Yokohama	Sep. 23-30	1	1
Java, Soerabaya	Aug. 1-31	1,500	1,400
Samarang	Aug. 1-31	1,950	600

Therapeutic Hints.

Cod Liver Oil is invaluable in sciatica, lumbago, neuralgia, chronic rheumatism, advanced syphilis, as well as in tuberculous conditions.

Formaldehyde has been used with success in the treatment of ringworm.

Sulphuric acid, in minute doses, has long been regarded in Europe as a most efficient remedy for controlling persistent hiccough.

Nitroglycerin in 1-per-cent. solution (Spiritus glonoini) one drop t. i. d. increased to physiological effect is worth trying in sciatica.—*Pennsylvania Medical Journal*, August, 1901.

Prevention of Abortion.—Peter Horrocks (*Medical Press*, August 21, 1901) advises:

Avoid overstrain, shock, and fright. Operations not to be performed unless needful, especially extraction of teeth.

Avoid using instruments about uterus and cervix, and also avoid syringing. Pessaries should not be worn after the fourth month.

Purging should be avoided, and enemata, specially with turpentine or glycerin. Constipation should be avoided. Pelvic tumors may be pushed up into the abdomen or even removed. Endometritis must be cured. Cessation from coitus often permits of gestation progressing to term. Uterine displacements must be remedied. Avoid tight lacing.

Certain ecbolic drugs must not be given, such as ergot, savin, digitalis and quinine, lead.

Syphilis should be treated in both father and mother, and very often it is useful to give small quantities of mercury throughout pregnancy. General diseases must be treated with the appropriate remedies. Over-suckling should be avoided.

Trachelorrhaphy sometimes enables the ovum to remain in the uterus.

Alcohol should not be taken to excess, and in most cases should be avoided altogether.

High pyrexia from any cause should be brought down by cold baths, etc.

Hints to Dyspeptics.—Eat slowly, masticating the food very thoroughly, even more so if possible than is required in health. The more time the food spends in the mouth, the less it will spend in the stomach. Avoid drinking at meals; at most take a few sips of warm drink at the close of the meal, if the food is very dry in character. In general, dyspeptic stomachs manage dry food better than that containing much fluid. Eat neither very hot nor cold food. The best temperature is about that of the body. Avoid exposure to cold after eating. Be careful to avoid excess in eating. Eat no more than the wants of the system require. Sometimes less than is really needed must be taken when digestion is very weak. Strength depends not on what is eaten, but on what is digested. Never take violent exercise of any sort, either mental or physical, either just before or just after a meal. It is not good to sleep immediately after eating, nor within four hours of a meal. Never eat more than three times a day, and make the last meal very light. For many dyspeptics, two meals are better than more. Never eat a morsel of any sort between meals. Never eat when very tired, whether exhausted from mental or physical labor. Never eat when the mind is worried or the temper ruffled, if possible to avoid doing so. Eat only food that is easy of digestion, avoiding complicated and indigestible dishes, and taking but one to three kinds at a meal. Most persons will be benefited by the use of oatmeal, wheat meal, cracked wheat, and other whole-grain preparations, though many will find it necessary to avoid vegetables, especially when fruits are taken.—*Public Health Journal.*

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PATHOLOGY AND TREATMENT OF MIGRAINE.*

BY WILLIAM H. THOMSON, M.D., LL.D.,
NEW YORK CITY.

IT is particularly in functional nervous diseases that the subject of etiology is of such practical importance. In the case of migraine it is not too much to say that the line of treatment will be determined mainly by the answer given to the question, whether the affection be due to a nervous disease or to a toxæmia. We will, therefore, discuss this question first, for there is little need to refer to its symptoms or accompaniments when these have been better detailed than might be expected for any other malady, owing to the fact that so many eminent medical men have had full occasion to observe them in their own persons, and have described them accordingly.

In favor of migraine being due to a specific derangement of some part of the nervous system, the predominance of purely nervous symptoms is cited. The severity of the pain; the peculiar derangements of vision; the common limitation of the headache to one side, as if its chief seat were in one cerebral hemisphere; the mental sluggishness which accompanies it; and the frequent radiation from the head to the extremities of various sensory disorders, analogous to like symptoms in affections of the central nervous system, have led many authors to regard it as the manifestation of a faulty nervous organization. The undoubted fact that migraine is more distinctly hereditary than any other nervous disease, or, in fact, than almost any disease, is held to be strongly corroborative of the supposition that it is caused by an original constitutional defect in nerve nutrition. The primary seat of this defect is variously surmised, though, owing to the numerous signs of vasomotor derangements during the attack, many writers hold that it is the sympathetic nervous system which is chiefly involved.

The treatment for migraine, which such theories of its nature and pathology suggest, is sufficiently illustrated in the following recommendations to be found in one of the latest publications on the subject.[1]

"It is difficult for most sedentary persons to accumulate that measure of bodily vigor which is necessary to combat the returning attacks of migraine. In the next place, dietetic and medicinal rules should be adopted which may favor the development of more robust health. Careful regulation of the diet, so as to avoid the errors of feeding which are so common among the classes above specified, and the adoption of a dietary containing nutritious and easily assimilated food will do much to lessen the frequency of the attacks. Medicines, such as quinine, iron, nux vomica, nitrate of silver, will be found beneficial mainly for their tonic properties. Any tendency to constipation should be corrected. For those patients in whom the attacks recur with great frequency, and for those in whom the 'status hemicranialis' is established, it is often necessary to employ remedies to give the patient some immediate relief. For this purpose, nerve sedatives, judiciously administered, are beneficial, and of these I have found the bromides, particularly the bromide of ammonia, most beneficial. In extreme cases, the drug should be pushed until slight persistent drowsiness is produced. The patient not only sleeps better, but the attacks often disappear under its use. Then, after a week or two, the employment of tonic medicines and hygienic regulations lead usually to satisfactory results. When the more severe attacks are impending, no remedies appear to be of any avail, whether in stopping the attack or lessening its severity. Frequently, however, the milder attacks may be cut short by this remedy or that, and the most efficacious of these is found in the class of drugs represented by phenacetin and antipyrin. Among other remedies which have also been found beneficial in modifying an attack of migraine are caffein, guarana, cannabis indica, and salicylate of sodium. When the pain is so severe as to be almost unbearable, relief can only be obtained by the judicious use of such exceptional and occasional means as inhalation of chloroform vapor or the subcutaneous administration of morphine."

What such a scheme of treatment amounts to, is some good advice that the patient should observe the laws of health, take "tonics," if needed, and, when he has sick headache, try an empirical list of sedatives. It shows no guiding principle based upon the cause and nature of the malady, and it would prove totally inadequate for really severe cases; yet, it is only severe cases which should be chosen to furnish the test of the efficacy of any form of treatment, for the great majority of the sufferers from migraine have their attacks but now and then, and but for one day. The recovery is complete and apparently spontaneous, and but for these occasional relapses they, as a class, lead active and enjoyable lives.

Very different is the experience of others whose lives become burdensome with repeated recurrences of the worst kinds of suffering, accompanied with a variety of distressing symptoms and with deathly prostration, from which they scarcely recover and begin to resume their daily occupations before the dread visitation is on them again. Not infrequently the general health becomes deteriorated, and they become both emaciated and anæmic. Such patients are the despair of their medical advisers, for all varieties of drugs and of prescriptions are tried and abandoned in turn, just so long as the conception of the disease being a neurosis continues to be held by the physician.

We would, therefore, approach the subject of the

*Paper read before the New York State Medical Society, October 16, 1901.

[1]Article on Migraine in "Allbutt's System of Medicine," by Dr. James McKenzie.

pathology of migraine from quite a different standpoint.

In the first place, it cannot be ranked among the class of nervous diseases to which the term degenerative can be applied, like a trigeminal neuralgia which comes on late in life; for migraine is not only a disease of youth and of the prime of life, but it actually declines and generally ceases after fifty. Nor can its victims be called degenerates compared with their fellows. Gowers enumerates among its sufferers, and who made it a study, the celebrated Dr. Fothergill, Marmontel, Haller, Wollaston, Du Bois Raymond, Wheatstone, Sir John Herschell, Sir George Airy and his son, Sir Hubert Airy, who gave a very interesting account of his ocular symptoms in the "Transactions of the Royal Society."

On the other hand, there are whole classes of people who never have migraine. They may furnish their proportionate quota to other nervous derangements, but not to migraine. Why not, is a question which must be studied, because migraine itself is a class disease; that is, just as one class of persons do not have migraine, so we find that others suffer from migraine in a common proportion. They may differ in everything else, but in liability to migraine they are all alike. There must be some explanation for this contrast, and that explanation we shall find to come very close to the root of the matter.

Those who do not have migraine are sailors, agriculturists, miners, truckmen, carpenters, and all outdoor laborers without exception. Those who do have migraine are clergymen, students, professional men, brain and not muscle workers, housewives, shop girls, needlewomen, and indoor people generally, and, therefore, more commonly women.

There is certainly no accounting for two such opposing lists by class differences in cerebral organization or in their sympathetic ganglia. But there is a great class difference which is as unmistakable as it is significant, viz., in the physical habits of life; or, to be more precise, in those physical habits which most affect the portal circulation.

This portal circulation is necessarily the weakest in its share of the propulsive power of the heart of any department of circulation of the body, and the most dependent, therefore, on adjuvants external to itself. It constitutes a current great in volume, at all times equal to about one-fourth of the mass of the blood, but intercalated, not upon the direct arterial, but upon the returning venous current, and delayed further by having to course through a second capillary system in the virtually noncontractile tissue of the liver. Moreover, its vessels, including its accompanying lymphatics, are the most tortuous in the body. By far its most important adjuvant is the powerful mechanism of the muscles of respiration, especially the diaphragm and the abdominal muscles. No better illustration of this fact is found than in the secretion of bile, a fluid of markedly low specific gravity, about equal in its daily amount to that of the urine, but secreted at so low a pressure that it might almost be compared to a simple leakage, as we find that the most moderate obstruction in its channels, such as catarrhal swelling of the mucous membrane of the bile ducts, suffices to cause jaundice.

Now, it has been experimentally demonstrated that the active movements of the over-arching diaphragm alternating with the active contraction of the abdominal walls, especially in deep breathing, greatly increase the flow of the biliary secretion—a fact also illustrated by the serious results of phrenic paralysis in disease on the whole abdominal circulation. Now, add to this that both the pulse force and the frequency of the general circulation fall at once in a sedentary compared with a standing posture, let alone the greater change still from general exercise, and there cannot but be the most material difference between the portal circulation of the farm laborer, strongly compressing and relaxing all his abdominal muscles in deep breathing while at work, and the relative total inaction of the same muscular apparatus in the brain worker at his desk, or the needlewoman at her sewing. Biliary stasis accounts for the statistics of our post-mortem tables, that after fifty one woman out of every four has gallstones. But stasis in the liver involves stasis also in the entire gastro-intestinal tract, and that, in turn, implies both imperfect digestion and chronic constipation.

If, however, imperfect digestion were all that chronic portal stasis implies, it would have but little bearing upon our present subject. Rather, we may say that modern research is increasingly demonstrating the poisonous properties of the products of imperfect digestion, and, what is more, has experimentally proven that some of these products are exclusively nerve poisons. There are many observations which also go to show that one of the great functions of the liver itself is to neutralize gastro-intestinal nerve poisons, so that, when its functions are experimentally interfered with, prompt poisoning with distinctively nervous symptoms follows. In short, there is not a headache, nor a neuralgia, nor a vasomotor derangement, familiar to us, among the symptoms of migraine which cannot be produced by poisons manufactured in our laboratories out of the elements of our daily food by subjecting those foods to conditions similar to those present in abnormal digestion in the alimentary canal.

What the actual poison is which may be the agent that produces migraine, we are not yet able to demonstrate. Analogy with the facts of drug poisoning indicates that it may be but minute in amount. I have seen in susceptible persons, especially in women subject to migraine, a small dose of morphine produce intense headache, total suspension of digestion, nausea, vomiting, and extreme prostration, besides marked vasomotor disturbances. Hence the whole contention, that the varied nervous symptoms of migraine point to it as being a nervous malady, falls to the ground when confronted with the familiar facts of toxæmia induced by our long-known nerve poisons. There is also no one fact better established about ordinary drug poisons than their peculiarly selective action. Not one of them acts on all nervous functions, but rather picks out one or more of them so definitely that we recognize their presence in the blood by the special symptoms which they cause. In other words, each of them, while acting, produces a special nervous malady, with its own characteristic sequence of disturbance of nerve functions, precisely as we note a characteristic sequence and grouping of symptoms in migraine itself.

The fact that migraine is notably a hereditary, or, in other words, a family, complaint is accounted for easily on the toxæmia hypothesis by the parallel fact that there is nothing so hereditary as peculiarities of digestion and of indigestion. Even some acquired derangements of metabolism, such as gout, which practically is a disease prevailing only where fermented liquors, in distinction from spirits, are used, become in time as hereditary as migraine.

On the other hand, it is in the case of blood poisons alone that we have any analogy to the

striking intermittency of migraine. A true nervous disease may remit, but it never intermits. Its presence can always be detected if carefully looked for. But the most experienced neurologist would be unable to foretell that the vivacious guest next him at dinner will in two days be utterly prostrated with a return of an old migraine. And in the case of more than one well-known blood poison much the same thing happens. The poison of gout may be circulating in the veins for days, and yet not until some midnight hour explode in an attack of gouty asthma. A sudden attack of uræmic convulsions always implies a uræmia long antecedent to that unexpected nervous derangement, and a like explanation of the cumulative process of a blood poison in migraine is far more probable than Liveing's fanciful theory of a nerve storm.

Views of pathology, however, are only of academic interest so long as they do not supply data for practical applications. I hold that therapeutics is a test of pathology. If a theory does not bear fruit in suggesting lines of successful treatment, by so much is it discredited. It is because I feel that I have been justified by results in the management of severe, and not of ordinary, cases that I would close with a brief outline of what I may term the antitoxic treatment of migraine.

In the first place, all disorders that are due to contravention of physiological laws must be treated by a return to obedience to those laws. Migraine is one of the penalties exacted for neglect of the means provided by nature to assist the portal circulation, and to keep it free and active. If the persons so affected will continue to lead such sedentary lives that practically half of nature's apparatus for that end is left unused, they must pay the penalty in feeble and imperfect digestion with consequent clouding and suffering of the nervous system from chronic poisoning. But how to meet this indication for securing habitual activity of the portal system is often practically one of the most difficult undertakings for many patients under the conditions of modern civilization; and it must be left to each physician to devise his measures for each individual case.

We are, therefore, most commonly obliged to have resort to medicinal means and regimen for prevention of the attacks in the first instance, and then for the alleviation of them when they do occur.

First, therefore, as to prophylaxis. All severe cases, without exception, are chronic dyspeptics, and of this one of the commonest symptoms is chronic constipation. A mercurial laxative, such as a five-grain blue pill at night, with a saline in the morning to secure its action, is a weekly prescription of mine which I strongly insist upon in every case, to be kept up for months together. I am sure that we do not possess a more certain intestinal antiseptic than a mercurial cathartic, and I never feel satisfied when a patient for any reason declines to persevere in its employment. As a further systematic measure for this purpose I prescribe from one to two drachms of the sulphate of soda, with ten grains of sodium salicylate in a tumbler of *hot* water, to be sipped down every morning on rising. With some, however, the sodium phosphate is preferred, though I do not think it is as effective as the sulphate. Then, half an hour before each meal, a pill is prescribed of one-twentieth of a grain of bichromate of potash, with three grains of bismuth subcarbonate. Half an hour after meals and at night full doses of intestinal antiseptics in the form of ten grains of phenol bismuth or naphthol bismuth, with ten grains of ammonium benzoate or sodium benzoate, are given in two capsules.

While the benzoates are among our best intestinal antiseptics, yet our prescriptions of that nature ought to vary in different cases or at different times in the same case.

Thus, not uncommonly, the signs of intestinal derangement include diarrhœa instead of constipation, and a brief recital from a case in my notes illustrates both how our prescriptions may be varied, and how extensively distributed may be the toxic nervous symptoms of a bad case of migraine.

Mrs. C., aged thirty-five years, came in June, 1899, for early morning diarrhœa of four years' standing. She was frail looking, anæmic, and emaciated. Has a great deal of nausea and fears going about alone on account of "spells," when her jaw drops and she becomes unconscious, often for twenty minutes or half an hour, without any twitching; and when she recovers consciousness she feels as if her whole body had lost sensation, except the joints, which all seem to ache together. At other times, she has strange feelings come on, with a tight sensation in the jaw which drops, and she has then to sit down at once. She has cramps in the left muscles of the neck, in the right arm and the left leg, with much nocturnal aching in all the extremities. With every one of these attacks she has flashes of rainbow colors till she becomes quite blind; at other times she has for hours a scotoma before the right eye and a distressing dizziness. Her attacks of unconsciousness come on about every three weeks, but the nausea and headaches occur between times so often that she rarely passes a well day. She was ordered to abstain altogether from red meats, to take a blue pill twice a week, a pill of one-twentieth grain kal. bichromat. with bismuth before meals, with two drachms of sodium phosphate and ten grains sodium salicylate in hot water on rising, and an hour after meals ten grains each of phenol bismuth and sodium benzoate. In a few weeks she wrote that the last-named capsules made her nauseated. A prescription of

℞ Salol . . . . . ʒij.
Bismuth subgallate . . . . . ʒj.
In 24 powders,

one-half hour before meals and at night, was substituted, with a dessert spoon of pancreatic emulsion half an hour after meals for her diarrhœa.

The note on August 23 was that she was improved in all respects, with subsidence of all her nervous symptoms. Had only one attack of feeling nervous since last report, and has gained in weight and in color. The last note is February 27, 1900. Looks very well, has no headaches nor any of her old symptoms, but finds that she cannot long omit the blue pill, and she likes to resort frequently to a prescription of October 15, which was

℞ Salicine . . . . . ʒij.
Ac. benzoini . . . . . ℥ss.
Bismuth. subcarb . . . . . ʒvss.
In forty-eight capsules. Two t. i. d.

Now, this case might easily have been mistaken for epilepsy, but the accompanying symptoms were those of a migrainous toxæmia, and she recovered without taking any bromide. The blue pill, instead of increasing her diarrhœa, seemed to check it, and she always felt better in her general state after it.

One aggravated patient referred to me from an inland city found, during last summer, her attacks much diminished both in frequency and severity (they usually prostrated her for three days), and she gained fifteen pounds in weight; but this September she had two sharp attacks. I changed

from the phenol bismuth and benzoate to Dr. M. Allen Starr's prescription of

℞ Sodium sulphocarbol . . . . . gr. v,
Kal. permangan. . . . . gr. j,
Betanaphthol . . . . . gr. j,
One after meals and at night,

the capsules being shellac-covered to prevent their solution in the stomach. As she suffers from chronic constipation, she took

℞ Sodium sulphate . . . . . ʒj,
Sodium phosphate . . . . . ℥iij,
Sodium salicyl. . . . . ʒij.
Divided into twelve powders,

one taken in a full tumbler of water as hot as she could sip it on rising. She took, besides, fifteen grains of the glycerophosphate of soda after meals. I have just received word from her that she feels much improved, and she still particularly praises the effect of the blue pill.

Prophylaxis is the main indication in the treatment of this complaint; but for the attacks themselves, when severe, the fluid extract of ergot given in drachm doses with a drachm of elix. cinchona in water, by stomach or by rectum, is the most certain agent in my experience to cut the attack short. The patient should lie perfectly still after taking it till all pain passes off, and in some cases the dose may be repeated after two or three hours.

In those who cannot take the ergot without vomiting, I rely on ten grains of lactophenin with two grains of caffeine citrate, repeated every two hours until relief occurs; or fifteen grains of antipyrin, always taken with a teaspoon of aromatic spirits of ammonia.

Diet is a matter of great importance, because I believe that in every severe case the red meats should be abstained from altogether, or, at least, never taken at night. In other respects the digestive abilities and inabilities of each patient must be individually studied, as all experienced practitioners well know. Whatever is indigestible for any person is by that person to be avoided, but I find no general rule for this purpose except one, and that is that if any article either of food or of drink is tasted again in an eructation from the stomach, it is a notice from the stomach that it does not want any more of that stuff, and that as a finality.

All nervous functional diseases have their exciting causes as well as their permanent causes. The exciting causes should never be confounded with the permanent causes, as they often are, as if all that we have to do is to prevent them, and then the disease will cease. Now, the commonest exciting cause of migraine is overtaxation of the nervous system, whether by thinking or by feeling, and likewise by undue exertion of the voluntary muscles. On this account, migraine belongs to the worrying and restless periods of life, and then declines with the greater repose of old age. I have been struck in cases of persistence of migraine in elderly persons that it seems always connected with continuance of causes of mental anxiety and depression. It is in them that we have to fear the development of melancholia, and against that dread malady in turn I know of no better prophylactic than the measures for intestinal antisepsis which have been outlined for the treatment of migraine.

23 East Forty-seventh Street.

Medical Mortality in South Africa.—Six medical officers have been killed, nine have died of disease, twelve have been wounded, three civil surgeons have been killed, eleven have died of disease, and five have been wounded. Of all branches, including orderlies and nurses, nearly four hundred medical helpers have fallen victims to their labors.

THE PRESENT POSITION OF OPHTHALMIC SCIENCE AND ART.*

By D. B. ST. JOHN ROOSA, M.D.,
NEW YORK.

Ophthalmology is one of the oldest of the specialties of our science and art. That it is properly so, has been almost unanimously acknowledged by the profession from the beginning of the time when surgeon oculists began to exist, which may be said to be, in round numbers, perhaps one hundred years ago. Since then, and especially in the last fifty years, ophthalmology has grown so luxuriantly in its various fields, that it has become subdivided, in some few instances, as a specialty. Here and there, members of the profession have devoted themselves almost exclusively to the correction of defective vision by the adjustment of glasses, while inflammatory conditions, or infections, and those requiring operation, have been passed on to others, who, in their turn, paid relatively little attention to optical defects. An attempt has also been made by some manufacturing opticians in various parts of the world, without an education in general medicine, to assume the care of all the conditions of the eye requiring glasses. In this State they have sought legislation to constitute a separate professional class, and yet this class of opticians has never contributed anything at all essential to our knowledge of the conditions of the eye requiring glasses, or to that pertaining to the character of lenses to be used. Such a subdivision, either in the profession or out of it, if generally made, would be detrimental to the interests of the public, and, on this ground, should never become a system of practice. The specialties in medicine have reached, perhaps, their utmost limit. There will be always a large rank and file of all-round men of the first order, and those who are at work in special departments should be able, when necessity occur, to become fair general practitioners. Our ideal practitioner is not one who knows a great deal of one thing and nothing at all of others; but, rather, one who knows a great deal of many things, and who must devote himself to some special investigations for the greatest good of the greatest number.

But I may not dwell on this interesting inquiry of how far "specialism" is beneficial to the human race, and what limits should be put to it. I pass on to the subject of the hour, and I propose to inquire with you, How stands now ophthalmic science and art, since its great masters—those who placed it in the van of the progress of medicine—are gone? Mackenzie, Sichel, Donders, Graefe, Arlt, Jaeger, Horner, Desmarres, Bowman, Critchett, Wilde; in our own country, the two Williamses, Agnew, Loring, Noyes, and many others, an enumeration of whose names is a recognition of their great service to the race. How have they left the field, has all the needful work been done by them, and have we reached a point where we simply cultivate plants, already well grounded in a soil well prepared by our predecessors? Our answer to all this must be qualified. There are certain departments of ophthalmology in which no essential advance or discovery has been made in the last twenty-five years. After Helmholtz gave us the ophthalmoscope, if we had stopped with his plane mirror, difficult to manage, and not to compare with the simple instrument of Liebrech and his contemporaries, we should have been handicapped with an imperfect method of examination. All that Helmholtz did—but what a mighty *all*—was to provide us a means—imperfect it is true, but a means—for doing that which was hitherto impossible—of examining

*Read before the Medical Society of the State of New York, October 16, 1901.

with tolerable but not complete ease the retina, the choroid, the vitreous, the lens, and the optic papilla.

Until this time, while here and there were even exhibitions of luminous eyes, no one found out the means of making them so, and the principle of optics upon which this illumination depended. One of our own number, Edward G. Loring, gave us the final contribution to ophthalmoscopy—an instrument by which we could thoroughly and easily determine the refraction of the eye. The tilting mirror, suggested by Wadsworth of Boston, made a perfect instrument, as it remains to this day. If no modifications had ever been made since these two men gave us the perfected instrument, ophthalmology would have lost nothing of importance which may be revealed by an ophthalmic mirror. Yet, no sooner was Loring's ophthalmoscope announced and described. than modifications and alterations, chiefly of a trivial character, began, and none but the tilting mirror was important.

Helmholtz also invented the instrument for measuring the radius of the cornea—the ophthalmometer. Helmholtz first did the thing, and gave us the instrument by which an expert in a laboratory, with plenty of time at his disposal, could make a corneal measurement. Valuable results came from the use of this ophthalmometer, or keratometer. as perhaps it should be called. One of our own members, Knapp, with Donders, was the first to avail himself of the instrument as then presented, as well as Dyer, in this country.

But these arduous labors were scarcely ever repeated, and the ophthalmometer of Helmholtz passed into the limbo of unused inventions until, after many years of research and trial, Javal, a French Alsatian, and Schiotz, his Norwegian assistant, at the Sorbonne in 1881. gave us an instrument by which an ordinary practitioner, after a few hours of experience, under a teacher, may, in two or three minutes, accurately determine the vertical, horizontal, or oblique radius of curvature of the human cornea. Here, also, the work of modification immediately began. But, as after Loring the ophthalmoscope was invented, so the ophthalmometer, as left by Javal, remains entirely satisfactory for its important purposes. The general use of the ophthalmometer is rapidly simplifying our methods of determining the proper glasses to be worn by those who have marked optical defects. I say "marked" advisedly, because we have learned that many departures from a so-called normal condition may exist. without any necessity for the wearing of glasses. The ophthalmometer does its great work because, on the very threshold of our investigations of the refraction of the eye, it quickly determines that which was formerly difficult but always important to learn—the presence or absence of corneal astigmatism of any degree, high or low.

If we consider the present condition of inflammatory affections of the conjunctiva and cornea, while it is not at all certain that a greater number of cases are cured than under the old methods, which still retain their usefulness, certainly our knowledge has become much more exact since the discoveries of Lister and Koch and Weeks, and we have learned of aseptics and antiseptics and bacilli, and we know why we use silver nitrate and copper sulphate, and so on. We had been using antiseptic remedies without knowing exactly in what specific way they acted, if, indeed. we are now sure. As has been intimated, nitrate of silver, sulphate of copper, alum for the conjunctiva, and carbolic acid for the cornea were used long before the present supposed principle of their action was known probably with as great success. The ophthalmia of the new-born, however, now receives immediate and rational treatment. and the frequency of the continuation of the infection has been very much diminished by Credé's investigations.

In trachoma, the mechanical treatment has made a great advance in our means of relief. We have also learned the contagiousness of all conjunctival affections, as we did not know it before. A United States examining surgeon will now send back a European immigrant affected with trachoma, realizing, as he does, the importance of not spreading this condition, so likely to be destructive to sight. The writer of this discourse actually encountered, on a vessel going to Liverpool, through the courtesy of the ship's doctor, two Finns, who had been wisely rejected by our authorities as not being proper immigrants to enter this country, because they were affected with trachoma, which, to the credit of the American examining officer be it said, could not be detected except by a thorough turning over of the upper lid by a little manipulation not always easily accomplished, except by an expert.

A great advance has been made in the treatment of myopia of a high degree by the invention of the method of lessening the refraction of the eye by removal of the lens. Very high degrees of myopia, as is well known, are so disabling as to be worthy of relief in this manner. From my own observation, in Swiss and German hospitals, I judge there are more cases in those countries of such degrees of myopia than in France, England, or our own country.

In the matter of strabismus, advance has been slow, and not widely spread. We are not yet fully in the open. This, I am inclined to think, is due, in some part, to the excessive zeal and enthusiasm exercised by those, especially in our own country, who were led astray by the astonishing revelations of the value of glasses in hypermetropia and astigmatism. A large class of people, up to the time of Donders, were, except in isolated cases, left without aid to their vision, although the means of relief were actually at their side, though unseen. These enthusiasts, going very far beyond the masters, beside the cure of headaches and defective eyesight, found in errors of refraction the source of epilepsy, idiocy, chorea, and a great number of diseases of the nervous system. They claimed that "difficulties attending the functions of accommodation and adjusting the eyes in the acts of vision, or irritations arising from the nerves involved in the process, are among the most prolific sources of nervous disturbances." Driven from their untenable position by the exact observations of those who followed them, they took refuge in a position in which they are still in some force. Again, I say, *especially* in this country. The claim now made in certain quarters is that in the want of exact equilibrium of the eyes, very often latent and only to be determined by a measurement of the power of given muscles, at certain times, is to be found the source of a large class of diseases, whose origin has been hitherto unsuspected. This later theory of the great importance of a latent defect has been much disturbed by measurements of people in good health, without asthenopia, who were found to have exactly the same conditions that were supposed to do so much harm. But the results of the practice of division and partial division of the ocular muscles for the relief of these conditions, which were often unsuspected by the patient, and only with difficulty to be determined by the observer, soon excited grave doubts as to whether, after all, the whole human economy depends on the question of the action of the muscles of the eyeball. And all this, as I have intimated, led to a neglect of the study of a positive condition, strabismus, a deformity which

leads not only to blunting of the vision of one of the eyes, as now may, I think, be safely said, but also produces a marked deformity, which gives rise to great mental trouble to many of those affected with it, and gives them a distressing appearance to the observer. But in our time this is being studied, and we are moving toward positive rules of action, although much diversity of sentiment exists as to the proper methods of operating.

Javal and Panas in Paris, and their followers in this country, have done very much to rescue this subject from the field of mistaken conclusions in which it was left by Graefe, and which were increased a thousand-fold by mistaken zealots in this country. The study of so-called "latent squint," and of concealed irregularities and deficiencies in the action of the ocular muscles, has delayed very much what is, I hope, before us for its relief, in Javal's methods of obviating the necessity for operations in many cases, and Panas's rational operations when necessary. We are now much more sure of what we can do, and that is to restore the normal position of the eyes, and, in rare cases, to secure binocular single vision.

The mistaken conclusions of Dieffenbach, who first proposed operative means for the relief of strabismus about fifty-five years ago, led to sanguine hopes which could not be realized, for the deformity was supposed to depend upon something morbid in the muscle. This, at the most, we now know to be a spastic condition, while the origin of strabismus, as Donders endeavored to show, is found in fixed conditions of the eyeball.

In senile cataract, we have made most satisfactory advance. Formerly operators, as distinguished and skilful as Graefe, Arlt, Desmarres, Agnew, and Williams, might perform ideal removals of the lens, in the best technique of the time, and yet suppuration and destruction of the eye result. After the general introduction of Graefe's narrow knife, instead of the old broad instrument, the percentage of losses was sensibly diminished. But, until aseptic treatment was fully understood and practised, and a local anæsthetic, cocaine, provided by Koller, the most bitter disappointment often befell the most skilful operators. Now, that the instruments can be so cleansed that they are incapable of carrying infectious disease, and the dressings made absolutely aseptic, and the eye made perfectly insensible to the pain of the operation, the cases of suppuration have diminished to such an extent that a patient in fair health, with cataract, has better chances of a good result, with an operator of average skill, who is exact in his aseptic technique, than he formerly had in the hands of the most renowned operators of the world, when the causes of failure to heal the wound by "first intention" were utterly unknown, and when the patient might ruin his eye by his own movement during the operation, or in the vomiting from the effects of the ether.

In the matter of after-treatment of the capsule, and of iridectomy coincidental with the corneal sections, much of interest remains to be said to specialists. Here the most diverse opinions are still held. No common ground has been reached, and much remains to be done before we are agreed on all these points. But this we may say, that the chances of good vision in our time have been raised from, say, 60 per cent. to 90 per cent., by cocaine, the narrow knife, and aseptic treatment of the dressings, the instruments, and the eye.

We are also in an advanced position in the matter of operative procedures for the removal of iron and steel foreign bodies. The use of the magnet, first, the smaller ones, and, finally, the great one, invented by Haab of Zurich, have greatly facilitated these removals. In what proportion of cases, after the thorough removal of the septic body, it may still destroy the eye, remains to be shown. For the entrance of a foreign body into the eyeball, through the ciliary region, in spite of its thorough removal, will generally involve the loss of the eye as complete as that of a plate of glass when broken by a stone. But the removal of the foreign body, without great damage to the tissues in the process, gives us hope that we may lessen the cases of complete loss, and, better still, perhaps, of sympathetic iridochoroiditis.

The questions of the complete or partial enucleation of the eye for cosmetic purposes, or the prevention of sympathetic inflammation, the use of glass balls, and the like, as a substitute for the vitreous humor, are still widely discussed; but there exists no doubt in any mind that the eyeball must be, as to its principal part, promptly removed, should it be in danger of exciting sympathetic inflammation. The discovery, by Bonnet, of the method of enucleation of one eye for the relief of the other, however it may be done, still has the complete sanction of the profession. This, of itself, has been a tremendous advance.

In acute glaucoma, the same triumphs are achieved to-day as when Graefe first operated on the Berlin shoemaker. But when we come to speak of chronic glaucoma, we have a disease which may be mitigated, and whose advance may be delayed, but whose cure, as yet, remains usually impossible. While thousands of patients have testified by their rescue from blindness to the value of iridectomy in the acute form, yet it is only a few years since a New York surgical teacher considered the removal of a piece of iris, for glaucoma, as senseless an operation as would be the removal of a part of the peritoneum for peritonitis. It is only with a patient with an insidious narrowing field of vision, intermittent attacks of increased tension without pain, that we are tossed on a sea of doubt, in spite of the value of iridectomy in acute disease. It is possible that much remains to be done in the classification of what may be called "non-inflammatory glaucoma," and the new operation of removing the cervical ganglion of the sympathetic nerve is worthy of a fair trial.

Thanks to the thousands of investigators, and the excellent drawings of many of them, our knowledge of interior ocular accidents and infections—retinitis hæmorrhagica, retinitis syphilitica, optic neuritis, choroiditis, atrophy of the optic nerves—becomes more and more exact. But this knowledge does not, in every case, lead to hopes of cure. Detachment of the retina, probably always, except in traumatic cases, preceded by diseases of the choroid and vitreous, remains disastrous and incurable. Advance here must be looked for in prevention of the condition which makes detachment possible.

It is useless to hope that all disease is to be cured, or, as I should rather say, prevented in our time, whatever future ages may have in store for the human race. But we all admit that an exact and thorough diagnosis mitigates much of even incurable disease, and ultimately leads to better results. Certain it is, that in no department of our science and art are there more brilliant results of cure and relief by mechanical and operative interference than in what is known as ophthalmology.

With advantages much less than those to be obtained on the Continent of Europe, we, in this country, have made a good showing in the progress of the last fifty years. Could there be secured to us in the large cities better facilities for more exact and thorough observations, without regard to the pressing claims of private practice, much more would be achieved in American laboratories, hospitals, and infirmaries.

THE OFFICIAL RELATION OF THE MEDICAL PROFESSION TO PRIVATE CHARITABLE INSTITUTIONS.*

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It is not generally or fully appreciated that the relation of the medical profession to the systems of public aid and private charitable effort of this commonwealth is a very direct one, differing in some essential particulars from any other. This is due to the fact that a large proportion of such effort is of an eleemosynary character, involving a fixed establishment or so-called "institution." It is to this special field that the considerations of this article are directed.

The term "public charity" is a misnomer, and, being frequently employed, in reference to public aid, not only proves misleading, but tends, at times, to throw discredit upon true charitable effort. Charity is a matter of sentiment largely, and belongs to the individual. The aid given by society to its indigent or defective members is a matter of business policy almost entirely, the small degree of sentiment connected therewith being merely humanitarian.

The body social has learned that the indigent become discontented and dissatisfied, and that it is but a short step from a discontented condition to one of more or less violent demonstration against established regulations regarding property or individual rights.

The relation, therefore, of the medical profession to systems of public aid is different from its relation to private charitable institutions—the former presenting a business aspect, while the latter are, or should be, almost exclusively altruistic or eleemosynary in character.

It is not the purpose of this article to discuss the relation of the profession to State or municipal establishments for aid, since this is reasonably well defined from the fact that professional services rendered in this connection involve a pecuniary consideration. But to private charitable efforts the relation of the profession is very different, from the fact that the initiatory movement is from sentiment, and the element of compensation rarely enters into it.

The eleemosynary feature of medical service is a prominent one and may be traced in all epochs of man's progress in civilization. Probably in no period of history has altruistic effort been so universal in society, among the most advanced nations, as at the present time. It is a question of importance, therefore, to consider whether the elements concerned in such effort, and which render it effective, are rightly directed and are proceeding along proper lines.

Another somewhat misleading term in this connection is what is denominated "medical charity," it being applied to that class of institutions, or of organized effort, which is based upon aid extended to the indigent or unfortunate, who may stand in need of medical or surgical services, either to relieve temporary disability which prevents self-maintenance, or that of the family, or may be required by those who are in a chronic condition of disability and dependence.

In the first class would be included hospitals for acute diseases and surgical cases, and "out-patient departments," or dispensaries.

The second class would embrace the large number of institutions for the protracted care of the so-called incurable or chronic cases, the permanent homes for the aged and the enfeebled, for children and adolescents; the latter class including, also, correctional institutions.

The relation of the medical profession to each of these classes is a vitally important one, from the fact that professional service is the fundamental idea in their establishment and maintenance.

The question is often mooted whether it would not be better to have all institutions, both those established by the State and municipality and those conducted by private effort, included in one group, and all maintained by funds raised by a general tax, the whole being under properly qualified State supervision.

Viewing this question from an economic or a purely financial point of view, one might be led to acquiesce in such a proposition; but experience and reflection lead to the conclusion that such a plan would tend to destroy individual interest, effort, and responsibility, which are, so to speak, the centers from which are sent forth the altruistic motor impulses by which existing charitable efforts are initiated and maintained.

The time limit of this article is such as to forbid an extended presentation of this portion of the subject; if, therefore, it is granted that the conclusions reached are correct, it is proposed to consider briefly the character of the relation of the medical profession to the class of institutions referred to, and inquire whether such relation is fully and generally recognized by those organizing such effort, and whether among the members of the profession itself such obligations are appreciated and met.

The relation under consideration presents a twofold aspect: (1) A general or scientific, and (2) a special or individual one.

The first includes the collection and tabulation of important scientific facts and observations, and generalization thereupon; the second involves a personal service to individuals in a careful and conscientious effort to secure for them everything which may be necessary for their relief or improvement, and coresponsibility with the general management.

With few exceptions, private charitable institutions are originated and organized by persons outside of the medical profession, who become incorporators, and, later, their trustees and managers. Although such institutions may be medical or surgical in character, and dependent for continuance and success upon a medical staff, yet in a majority of instances the medical officers have no representations in the boards of trustees, and hence in the formulation of certain important parts of the policy of the institution.

It is true that this dual management, in many instances, renders acceptable service and proceeds without serious friction; yet it is evident that many of the difficulties encountered in institutions of this character have their origin in this condition of organization. This may be most easily stated by referring to the difficulties or faults which appear in a careful study of this class of institutions.

The writer has stated that the relation of the medical profession to such institutions is both a scientific and a personal one, and this becomes apparent in those cases where the medical corps constitute, so to speak, the institution. This is, however, applicable to but a small proportion of cases.

Let us start with the postulate that the primary and sole object of any institution is to provide the necessary care for its inmates, in other words, that the institution is established for the inmate and not the inmate for the institution. Is this fact kept constantly in sight in every department of its management and administration? Rarely! In far too large a number of cases the interests of the institution outweigh the claims of the inmate.

This is due to an ambition on the part of the

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managers to build up an imposing establishment, and their pride in the institution detracts from their interest in its inmates and their care. If it be medical in character, it is sufficient for such trustees that a reputable or distinguished staff is connected with it and meets ordinary needs. Are meetings for consultation on lines of policy between boards of trustees and managers and their medical officers common or even considered essential? Again we say, rarely.

With the exception of institutions originated and organized by members of the profession, all private, charitable, eleemosynary, and correctional institutions have their origin among a small number of persons who, from sentiment and humanitarian impulses, rather than from any well-defined business policy, attempt the care of certain classes of defectives, dependents, or delinquents.

An institution is the central idea, and, as the effort proceeds, the development of the institution becomes all-absorbing.

As all such institutions require more or less medical and surgical service, the profession is called upon to render such aid gratuitously, as far as pecuniary return is concerned. It is granted that professional reputation may be gained or enhanced by such connection, but this is a consideration for the physician rendering such gratuitous service, and forms no part of the object of the originators of the institution in establishing it. Until comparatively recently, the incorporation and establishment of such institutions have been a matter of little difficulty, but their unnecessary and unwise multiplication has led to the enactment of legislation since the revision of the constitution of this State, which will materially aid the effort now being made to limit their number.

So large is the present number of private institutions for all purposes of the care of the dependent, defective, and delinquent that we are not to expect any considerable addition to this list for some time to come, and, hence, it is incumbent upon us to improve and correct existing establishments.

The medical profession, by a general effort, can do much to achieve this important result. In the seven hundred private, charitable, eleemosynary, and correctional institutions of the State are gathered about 35,000 inmates, presenting an extended field for classification and study. Herein lies the scientific relation of the profession to such institutions, and that it is by the medical officers alone that such observation, classification, and generalization can be accomplished. Is there any systematic effort to secure this valuable knowledge on the part of those connected with these institutions as medical officers, and to place it in form where it is available, not only for the medical profession, but for the students of sociology who are, at the present time, pushing eager inquiries into the causes of the existence of so many dependents, defectives, and delinquents in any community? Here and there an earnest worker appears, but such effort is individual and limited, and is rarely connected with that of others. With such a wealth of material for observation, and with a well organized and connected effort, much could be gathered and carefully analyzed. Such analysis would furnish invaluable data.

A careful inquiry into the antecedents and life-history of each inmate of our several classes of private institutions; a thorough examination as to physical and mental conditions and peculiarities; systematic records, so planned as to be easily generalized, if uniformly maintained by the medical officers of such institutions, would place at our disposal a fund of information which now largely goes to waste and is lost.

In a limited degree the State Board of Charities is able to secure some small portion of this information, but its efforts are necessarily confined to certain channels, while those specially open to the medical profession remain uncultivated. Its experience, however, leads that body to recognize the extent and importance of that field, and any systematic effort on the part of the members of the profession connected with such institutions to gain such ungathered information would receive such encouragement and aid as lie within its supervisory province.

A large number of the private charitable institutions of this State are established for the care of defective children. The relation of the physician to these institutions is, therefore, a most important one, since among these thousands of inmates we find, beside the normally developed child, the feeble-minded, the epileptic, the wayward, and those suffering with bodily infirmity of various forms. This large collection of defective humanity offers for proper classification and study an amount of material capable of returning important contributions to our knowledge. It is not the study of defective conditions and a search for their causes which are the sole demand upon the medical officer. The temporary remedial measure is not the only requirement. The abnormal condition being recognized, and its causes, possibly, being traced out, means of development and improvement, supplementary to purely medical or surgical resources are demanded. The education of the senses and perceptions is often the all-important therapeutic resort.

Recent scientific studies of cerebral function and development have demonstrated the fact that, under proper training, the cerebral centers themselves are capable of modification, and the mental and intellectual functions dependent upon the nutrition and other conditions of such centers are consequently capable of equivalent modification or development. In State and similar institutions these ideas have been put into practical form by the incorporation into the methods and systems of treatment and instruction of the inmates of institutions for the care of certain classes of defectives of such forms of developmental treatment, instruction, and teaching as shall awaken dormant mental and intellectual capacities by calling into activity cerebral areas previously inactive from lack of a proper stimulus.

In many private institutions, children are retained for considerable periods of time, and courses of instruction of some character, usually simple, are established by the managers. These consist, with few exceptions, of a limited amount of instruction in the rudimentary elements of common-school education, little reference, if any, being had, to special developmental considerations for certain cases of defectives.

In this part of the conduct of the institution the attending physician is rarely called upon to participate, yet here is met one of the most important opportunities for the application of his physiological knowledge.

The object of this article is to call attention of the profession to the responsibility of medical officers in formulating and establishing well-adjusted systems of education and training for those institutions which have for their inmates the young and adolescent, and with which they may be connected.

In our private institutions, the introduction and extension of such important factors in the education of the defective and delinquent can easily come through the medical profession. One accustomed to visit such institutions, if possessed of a medical training, soon becomes impressed with the fact that many of the so-called feeble-minded are not such in reality, but are the victims of an early environment

lacking in those elements essential for mental development which the child of more fortunate circumstances has secured.

It is the object of the writer, in this brief presentation, to call attention, first, to a vast field of observation which is now but slightly cultivated, and which, under systematic and combined effort, is capable of yielding a most valuable harvest of knowledge; and, second, to the fact that it is through the medical profession almost exclusively that this can become available. If interest in this important matter is awakened and results follow, the purpose of this article will be achieved.

NASAL OBSTRUCTION AND EAR DISEASE.

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The investigation of ear disease conducted in a scientific manner is of comparatively recent date, and careful observation and bacteriological research have placed it on the same footing as any other surgical condition. With the knowledge that the ear can be operated upon with comparative impunity, came the demand for a more thorough knowledge of its anatomy, together with its relationship to neighboring parts; this led to the discovery that the ear, throat, and nose are more intimately connected than was formerly supposed, and displaced the old idea that the ear is a distinct organ and must be treated as such.

Until recently, a person having chronic otitis, with its accompanying deafness, tinnitus, and discharge, was regarded as incurable. This was from want of knowledge respecting the true condition, the difficulty attending its treatment, and the frequent relapses. These recurrences discouraged both physician and patient, and usually led to discontinuance of treatment, when the tendency of the trouble was to become progressively worse.

We now believe that most ear troubles are secondary to an involvement of the nose or throat. It naturally follows that the careful study of the ear, nose, and throat, with their interdependence upon one another, both in health and in disease, is a necessary preliminary to the proper understanding of most affections of the ear. It is obvious that if the nasal trouble were effectively removed, the more lasting and serious disease in the ear would be prevented. Well-marked ear disease, dependent upon a nasal obstruction, rarely is permanently relieved until the nasal lesion has been cured, after which we seldom fail, even in the most chronic and seemingly intractable cases, to effect come degree of improvement.

The mucous membrane of the nose, eustachian tubes, and middle-ear is continuous, and through this channel commonly travels the disease process which precedes most ear troubles. The membrane of the middle-ear is so abundant that it lies in folds; and, like other mucous membranes, it secretes mucus which escapes into the nose.

The eustachian tube is a necessary adjunct to the ear; it ventilates the tympanic chamber and adjusts the tension of the drum; it also drains the mucus from the middle-ear and permits of the escape of superabundant sound vibrations. Though normally closed, the tubes open in swallowing and in yawning: phenomena instinctively taken advantage of whenever the air pressure in the ear is altered and needs to be equalized. When the tubes are narrowed or closed, and fail to renew the air and likewise to drain off the mucus, the middle-ear is converted into a closed space with a congested membrane; the beginning of a more serious affection.

A nasal obstruction may exert its pernicious influence upon the ear in one or more of the following ways: By the extension of a catarrhal or other inflammatory affection along the tubes, or by the actual passage of disease germs. By causing a swelling of the walls of the tubes or by obstructing their orifice. By interfering with the action of the tubal muscles, either from paresis, or thickening of the tubal membrane. By impeding the venous return from the middle-ear, or by the passage into the ear of inflammatory or septic matter by means of the blood or lymph vessels.

Ear troubles in children are mostly caused by adenoids in the nasopharynx. All children have a normal pharyngeal tonsil, which diminishes in size as the child grows older and may entirely disappear at puberty. When not enlarged, it gives rise to no symptoms whatever; but when diseased, it acts as an impediment to the various functions of the nose and ear, besides retarding the general development; the disturbance being in accordance with the size and situation of the growth.

Children are born with a healthy nose; but as their gland life is very active, and their absorbent capacity great, they are extremely susceptible to injurious influences. The growth of adenoids is favored by atmospheric changes and unhygienic surroundings; another frequent cause is the common mistake of mothers to clothe a child too warm, rendering the infant uncomfortable and making it sensitive to slight atmospheric changes. Improper feeding is another important factor in the development of adenoids; the intestinal canal becomes deranged, and the inflammation that results from the acid fermentation extends upward and becomes located in the pharynx, where the conditions are favorable for disease.

A large cushion of adenoids in the center of the pharynx may not occasion much annoyance, while small masses laterally placed may obstruct the tubes. It follows that an infant with a small pharynx may be troubled even by a small mass of adenoids, while the same amount in a child with a roomy pharynx will give rise to little or no discomfort.

Adenoids may induce ear disease in sundry ways. They may directly block the tubal opening by being forced upward by the palate in swallowing, or the inflammation that is generated by their presence may extend along the tubes, or may reach the ear by way of the blood or lymph vessels; then, again, the venous return from the middle-ear may be interrupted, and a congestion established that is injurious to the ears.

A child with adenoids presents a physiognomy that is quite characteristic, and which is due to impairment of the organs of hearing and of breathing; deafness being accountable for the child's inattention and apparent backwardness. With every cold in the head, hearing becomes worse, and attacks of ear-ache are of frequent occurrence, and in many instances terminate in discharge.

A frequent sequel to adenoids is purulent rhinitis or snuffles. During the active stage of this disease the bacteria may migrate to the ear and set up a similar affection, which terminates in discharge from the ear, often continuing unabated until the cause of the malady is cured.

Enlarged tonsils are frequently associated with, and are often indicative of, the presence of adenoids; if enlarged, they are diseased, and by virtue of their size and position interfere with the functions of the nose and ears.

In young children, the peculiar anatomical con-

struction of the nose is accountable for much ear disease. The nasal chambers and eustachian tubes form an almost continuous channel, and at the same time the pharynx is small, so that disease in the nose is readily conveyed to the ears.

While in children nasal obstruction and its accompanying evils are generally traceable to adenoids, obstruction in adults is usually caused either by hypertrophic rhinitis or its frequent associate, malformation of the nasal septum.

In this variable climate catarrhal disorders in the head are exceedingly common; besides the influence of the weather, our manner of living and of clothing has much to do with their prevalence. The impaired hearing that follows a cold is caused, not alone by thickening of the tubal membrane, but also by a venous congestion in the ear that corresponds to a similar state in the nose. Ear troubles follow nasal catarrh oftener than is generally supposed; even a moderate degree of obstruction may cause enfeebled hearing by acting as an irritant.

In chronic nasal catarrh the whole or a portion of the turbinate bodies may be so enlarged as to constitute an obstruction, causing great temporary discomfort and exerting a most depressing influence upon the sufferer. The vigorous blowing of the nose that is resorted to may injure the drum, or force septic matter into the ear. Then, again, the disease, by creating a constant tendency to clear the throat by hawking, causes the air to be sucked out of the tubes without being subsequently replaced.

A most important factor in the production of nasal obstruction is deformity of the nasal septum. Its method of development is mainly mechanical. During childhood the cartilages of the nose are soft and pliable, and their attachments incomplete, which makes the yielding septum particularly subject to distortion or deflection. When a child has a fall, or is struck in play, the blow is usually received upon the most exposed feature—the nose. In most cases the accident gives rise to no noticeable distress and the mishap is forgotten; the consequence is that nature throws out a mass of callus along the line of injury and forms a spur or a ridge; if the septum does not return to its original position, a deflection may result, which, as the child grows older, correspondingly increases in size. An enlarged turbinate by pressing upon the yielding septum may cause it to be deflected, or it may assist in the formation of a spur. A pronounced septal deflection or a large spur will obstruct breathing and prevent the entrance of air into the ear, while a slight deflection or a small spur might effect the ear indirectly by irritating and congesting the nasal membrane.

Enlargement of the posterior part or tip of the turbinate is frequently met in connection with ear disease, and commonly overlooked by physicians because of its obscure situation in the post-nasal space. Because of its size and position, it often obstructs the nose and the mouth of the tube, which is directly behind it. These growths give much annoyance at night; first, one side of the nose and then the other being occluded.

Atrophic rhinitis, or dry catarrh, is another malady that is the forerunner of ear disease. Residue is deposited about the mouth of the tubes, which acts both as an irritant and as an obstruction. The disease may also spread and induce a like affection in the ear. Dry catarrh is the outcome of an uncured purulent rhinitis, which destroys the delicate nasal membrane. Nature replaces this with a glandless structure which becomes the seat of a dry catarrh. The forcible blowing to dislodge the crusts may injure the drum, or force foreign matter into the ear.

Enlarged middle turbinals, sinus disease, polyps, and other forms of nasal trouble may be injurious to the ears, either by acting as obstructants, or by causing disease of the nasal membrane. In hospitals, we treat many ear complaints induced by the use of the nasal douche. The fluid enters the nose under pressure and is unable to escape past the swollen membrane; it becomes confined in the postnasal space, and soon makes its way to the ear often carrying with it pathogenic organisms. If the nasal chambers are not perfectly clear, or if ear trouble be present, it is safer to use an atomizer than a douche; for while the spray does not cleanse the nostrils so well, its use is unattended with danger to the ears.

The promiscuous use of nasal sprays, douches, and washes is to be deprecated; they irritate and inflame the delicate nasal membrane.

The eustachian tubes may be abnormally closed, and their acting impeded by cicatricial bands which follow the healing of diphtheritic, syphilitic, or other ulcers in the vicinity of the tubes, or by the misuse of instruments. Then, again, they may be forcibly opened and permit the entrance of septic matter. This, in a measure, accounts for the frequency with which purulent otitis follows such infectious diseases as typhoid fever, scarlet fever, diphtheria, etc. In tuberculosis the first tissue in the body that is consumed is fat; the cushion of it that surrounds the mouth of each eustachian tube slowly wastes away and leaves a large aperture through which tubercle bacilli and other organisms may migrate to the ears, producing a peculiar painless suppuration which destroys the drum and escapes.

In the middle-ear as in all vascular spaces the volume of air is diminished whenever free communication with the external atmosphere is interrupted, and this occurs whenever the eustachian tubes are obstructed. The oxygen in the air enters into chemical combination with the blood in the membrane of the middle-ear and the amount of CO_2, given off by the blood, is insufficient to compensate for the loss of volume in air; thus the air is slowly absorbed and the pressure in the middle-ear is reduced, leading to congestion of the membrane and derangement of the delicate structures that constitute the organ of hearing. With the dilatation of the vessels comes transudation of serum, which furnishes a good culture medium for the multiplication of bacteria. If the eustachian tube is open, the serum will escape from the ear, and the condition will not get beyond the catarrhal stage. If, however, the fluid is confined, an abscess may result which usually ruptures the drum and escapes. The after-effect of an abscess may be short or long, and healing of the perforation in the drum may take place only to reopen with the next cold in the head, until finally the condition lapses into a chronic discharge.

A moderate degree of tubal obstruction may lead to partial strangulation of the veins and lymphatics that pass from the middle-ear to the nose; or it may assist in the spread of the catarrhal disease. In either case, the pressure in the middle-ear is diminished and the free exchange of air interrupted. The drum is retracted, and the ossicles displaced in proportion as the air pressure is lowered and the tubes obstructed.

After an attack of scarlet fever, diphtheria, or other infectious disease, the mucous membrane in the various cavities in the head secretes very actively. The mucus from the middle-ear is drained off by the tube if the amount is not too large and the tube is open. If the tube is obstructed, the mucus accumulates in the ear, and finally, by its pressure, bursts through the drum and escapes. No effort should be made to close this opening in the drum until the active discharge has ceased, or else the fluid will collect and

become purulent. The pressure of confined pus in the middle-ear is often intense, and unless it receives vent through the drum, it will extend into the interior of the bone and possibly invade the brain. That the latter course is a common one is proved by statistics, which show that most brain abscesses have their origin in the ear: lack of drainage having forced the confined pus to seek an avenue of escape at the place of least resistance, which in these cases is in the brain cavity.

Treatment.—In the cure of disease, removal of the cause is the first principle. In the intelligent treatment of ear disease, we must first seek the conditions that have led up to the disorder and eliminate them as far as possible, for only on such procedure can we base our conclusions and formulate a line of treatment. One reason for failure to cure ear disease is neglect to remove the cause. This is so generally recognized by modern specialists that instead of treating the diseased ear at once, the nose and throat are first put in order; that done, in many instances the ear trouble will subside without further attention.

In former years, children with running ears and deafness received very little medical attention because of the unsatisfactory results attending treatment. Usually, mothers were quieted with the statement that the infant would outgrow the affection, this, however, is seldom the case, for these ailments rarely improve without treatment.

The advantages attending the removal of nasal obstructions have been so apparent that the correction of the same is warranted if any other condition is present that is likely to be influenced by it. The benefits obtained by securing permanent openings in the nasal passages are manifold; the results are partly derived by the relief of the catarrhal congestion, and partly from the better supply of air.

The restoration of a diseased ear is brought about in one of the following ways: Removal of cause, cleanliness of the parts, astringents, and constitutional treatment. The first object, then, is to put the nose and throat in a healthy state. This is generally attained by mechanical and surgical means, aided by the judicious use of cocaine and suprarenal extract.

Those cases of ear disease that are benefited by tubal inflation are usually assisted by a nasal operation; in the others the infirmity is certainly retarded, and increasing deafness prevented.

In conjunction with local treatment, internal medication is often desirable. The patient should likewise receive advice respecting food, clothing, baths, and other hygienic measures, in order to resist the harmful influences of atmospheric changes which conduce to the development of most ear troubles.

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BUTYRIC AND ACETIC ACIDS IN THE CONTENTS OF THE STOMACH AND TESTS FOR THEIR DETECTION.

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Butyric and acetic acids are known to be present in the contents of the stomach under certain conditions. But the detection of these acids involves a procedure not very eagerly nor pleasantly undertaken. The reason for this is very obvious, as the method given is very cumbersome. It also requires skill in chemistry, and its technique requires apparatus and time, and, if but a little quantity of chyme is at our disposal, only a very skilled chemist might discover it. And yet the knowledge of its presence is of very great importance. Of so much importance, indeed, is this knowledge, that more than once did it transform a diagnosis of a "nervous, functional disorder of the stomach" into a disease, having a more "tangible, substantial" cause, which was quickly and easily cured. How often does one read of the diagnosis of hyperchlorhydria, made and based solely and only upon the depth of the blue color of the congo paper; nay, not even taking the trouble to substantiate this by titration! We read it, and while abroad I have seen it done by authorities. It is just the very deep blue color of the congo paper that ought at once to make one suspicious, no matter how high or how low the free acidity has been found to be. If one observes this blue tinge more scrutinizingly, he will note that this blue merges into a grayish hue. This grayish-blue color has so far proven to me to indicate the presence of other free acids besides HCl, and only recently have I been fortunate to demonstrate the identity of some of these acids—butyric and acetic acids. How many cases, reported in literature as hyperchlorhydria and based upon the usual method of titration, have been real cases of hyperchlorhydria, instead of cases of *organacidia gastrica?* I want to introduce this last term as a condition of the stomach, a disease due to the presence in the stomach of large quantities of organic acids. Fermentative gastritis is used to designate such a condition, but there is objection to that term. First, organic acids may be present without being the product of fermentation, or causing fermentation; and secondly, fermentation does not necessarily at once produce a gastritis. I have quite often seen fermentation without gastritis, and undoubtedly other observers have had the same experience. Furthermore, organacidia produces definite and distinct symptoms, which I shall describe in a subsequent article. I should like to state here in parenthesis that I have *all the reason* for not looking upon the terms of hyperchlorhydria, hyperacidity, and organacidia as synonyms. These three terms represent conditions caused by distinctly different agencies—they are severally and individually distinct from one another—which I shall soon demonstrate. Thus, we see that the ready finding of butyric acid and of acetic acid is of very great value for the diagnosis, of even greater value than the finding of lactic acid, which latter, authorities agree, is present in the initial stages of digestion.

Of very great importance will certainly be the valuable discovery I fortunately made of the behavior of butyric acid, and of the monocalcium phosphate upon congo paper and upon the dimethylamidoazobenzol. Butyric acid, neither dilute nor concentrated, reacts on congo, but does react on dimethylamidoazobenzol. Monocalcium phosphate reacts on both—congo and dimethylamidoazobenzol; monopotassium phosphate and the monosodium phosphate do not so react. In the light of this discovery, how much can be relied upon all the literature bearing on the question of hyperchlorhydria? One involuntarily shrinks back from thinking of it.

Butyric and acetic acids are products of fermentation, and their presence in the gastric contents, unless introduced as such, means fermentation, hence the very great importance of their detection. The present method to prove the presence of these acids in the chyme is by the very cumbersome process of distillation. No other method is mentioned in the latest editions of Hammarsten, Neumeister, Riegel, and others. Distillation is criticised above, and is certainly not an elective method.

The test which I am to describe now is very simple. It requires only one glass apparatus, a separatory funnel, and but a few minutes' time to execute. The

reagents necessary are. A 10-per-cent. solution of ferric perchloride and ether. This test is made in the same way as described in my test for lactic acid (*New York Medical Journal*, August 10, 1901), only the color of the ring at the line of junction, between the ether and the iron solution, differs—the color of the ring in the lactic-acid test is sulphur-yellow, the color of the ring in butyric acid is a reddish-orange color. The mode of procedure is the following:

One c.c. of the filtered gastric contents is extracted with about 5 c.c. of ether in a glass separatory funnel. The ether with the filtered chyme is shaken up a few times, and then allowed to stand for a short while to allow the ether to separate from the underlying stratum. In the meanwhile, a solution of the iron is made in the following way: One drop of a 10-per-cent. solution of iron perchloride is dropped into 2 c.c. of distilled water in a narrow test tube. Now, the lower stratum in the separatory funnel is allowed to escape by opening the stop-cock and the remaining clear ether extract is floated on the clear iron solution. At the line of junction of the two clear fluids an orange-colored ring appears if it is butyric acid, and a rather rusty-colored ring if it is acetic acid. A few drops of alcohol will increase the intensity of the color of the ring. To differentiate between the two—butyric and acetic—acids, a little more alcohol is added, the finger placed on the test tube, and the test tube shaken a few times by inverting it. If it is butyric acid, the ether layer will be colored a beautiful orange; but if it is acetic acid, the ether layer remains clear. Acetone and aldehyde respond to the same method of testing, but the color of the ring formed is different. Acetone and aldehyde give a light ochre-yellow color, shading somewhat into a light green. The ring in aldehyde is very distinct, the line between it and the ether being very sharp, looking almost black; acetone gives the same color, but is not so distinctly and sharply marked off. A sheet of white paper held back of the test tube, our back turned to the source of light, will make us better appreciate the colors.

In the following experiments I floated on the iron solution mentioned above butyric acid in varying strengths, and for comparison used, once, lactic acid:

1. 1 drop lactic acid in 5 c.c. ether, beautiful sulphur-yellow ring.
2. 1 drop butyric acid in 5 c.c. ether, no reaction.
3. 5 drops butyric acid in 5 c.c. ether, no reaction.
4. 10 drops butyric acid in 5 c.c. ether, no reaction.
5. 20 drops butyric acid in 5 c.c. ether, no reaction.
6. 30 drops butyric acid in 5 c.c. ether, no reaction.
7. 50 drops butyric acid in 5 c.c. ether, faint reaction.

However, after the test tube (3) had stood for over two hours, the characteristic color appeared. A mixture of one drop of lactic acid, plus 15 drops of butyric acid, gave the sulphur-yellow ring only. One drop of lactic acid plus 40 drops of butyric acid plus ether up to 5 c.c., shaken up together and floated on the iron solution, gave the sulphur-yellow ring only.

These experiments show that it requires quite a large quantity of butyric acid to give its reaction, consequently that, when the reaction is positive, a considerable quantity may at once be suspected. Of course, it may yet be demonstrated that other agencies present, together with butyric acid, may enhance the reaction for the butyric acid, but this has yet to be demonstrated.

For the following experiments the following solutions were used:

"A," 1 c.c. glacial acetic acid plus 4 c.c. ether.
"B," 1 c.c. butyric acid plus 4 c.c. ether.
"L," 1 c.c. lactic acid plus 4 c.c. ether.

In the performing of the tests a little less than 1 c.c. of the solutions "A", "B," "L" were floated on the iron solution mentioned above. If, instead of but one drop of the 10-per-cent. iron solution, two or three drops were added to the distilled water, the reaction was more pronounced. I prefer, however, but one drop of the iron solution, because then the solution is practically colorless.

"A," floated on the iron solution, gave an orange ring. When 0.4 c.c. alcohol (95 per cent.) was added and the test tube shaken, the ether column diminished in height, but remained perfectly clear; the iron solution did not change its color. On the further addition of alcohol (from a 1 c.c. pipette, graduated to measure $\frac{1}{100}$ c.c.) and the shaking of the test tube, the ether column kept on diminishing in height, and the lower iron solution became lighter in color. When the alcohol was added up to 1 c.c., the ether column disappeared entirely, and the test tube then presented one homogeneous, light-orange, clear solution. The orange color was best seen when looking down on the surface of the solution.

"B," floated on the iron solution, showed a narrow orange ring which became much more distinct on the addition of 0.5 c.c. alcohol. Now, shaking the test tube, the ether column was colored a beautiful orange. On the further addition of alcohol up to 1 c.c. and shaking the test tube, the ether column disappeared entirely, and a slight cloudy ring could be seen midway. After standing for a little while, the entire solution became faintly milky.

"B," floated on the iron solution, and the test tube shaken, without the addition of alcohol, the ether column became milky and the iron solution a somewhat deeper color. Without the addition of the alcohol the ether column did not become orange colored.

About 1 c.c. of a mixture of equal parts of "A" and "B" was floated on the iron solution. Two rings appeared: A narrow colorless ring, rather faintly milky, immediately below the ether column, and below this the orange ring.

About 1 c.c. of a mixture of equal parts of "A" and "L" was floated on the iron solution. The result was a reddish orange ring immediately below the ether column, and below this a sulphur-yellow ring. On shaking the test tube, the sulphur-yellow ring disappeared, the ether column remained colorless, and the iron solution got the acetic-acid reaction, *i. e.* faint rusty red. The addition of alcohol did not change this reaction.

About 1 c.c. of a mixture of equal parts of "B" and "L" was floated on the iron solution. The result was a sulphur-yellow ring. On shaking, however, the sulphur-yellow color diffused in the iron solution, and the ether column became milky. On the addition of 0.4 c.c. alcohol and shaking the test tube, the lower column got lighter in color and the ether column became orange colored.

About 1 c.c. of a mixture of equal parts of "A," "B," and "L" was floated on the iron solution. Two rings appeared. A pronounced orange ring immediately below the ether column, and below this a sulphur-yellow ring. On shaking, the iron solution got the color of olive oil—a greenish yellow—but the orange ring remained. The addition of 0.4 c.c. alcohol increased the intensity of the orange color. On shaking the test tube, the iron solution got a light amber color and the ether column remained clear.

The ether extracts of acetone and aldehyde were floated on the iron solution. Each gave a light ochre-yellow ring. But the ring of the aldehyde was much more sharply marked off from the supernatant ether extract, and its color ran into a shade of sulphur yellow, although the ochre yellow predomi-

nated. I have not yet been able to find more exact means of differentiation between aldehyde and acetone, unless it be the different odor of each. Aldehyde gives a rather sweet odor, while the odor of acetone resembles that of chloroform.

In concluding, I will give two illustrations—one of organacidia and one of hyperacidity. Both of these cases presented symptoms that go with these conditions of the stomach, and which symptoms are heretofore interpreted as diagnostic of a "functional gastric disorder," as a "neurosis of the stomach," as "nervous dyspepsia," etc. The first case was one that would ordinarily go as a case of hyperchlorhydria. It gave a general acidity of 120 and free acids 80, just double of the maximum normal limit. My test for butyric acid was positive, lactic acid was absent. (At the time of making this test, I had not yet known the tests for acetic acid, nor for aldehyde, nor for acetone, nor did I know of the behavior of the monobasic calcium phosphate.) The filtered, gastric contents were extracted with ether in a large pear-shaped separatory funnel. The lower part in the funnel, the chyme, was then run into a beaker and left standing for some time, in order to permit the ether, which was still in the chyme, fully to evaporate. Now, this ether-extracted chyme was again titrated (dimethylamidoazobenzol for free acids and phenol-phthalein for the general acidity). This titration gave general acidity 76 and free acids 48. I must admit here, that I have not attempted to go to the full limit of the ether extraction, as it would have required much more ether. I was satisfied with the result obtained, and put this case down as one of "organacidia."

The other case was also one, usually pushed into the category of "idiosyncrasy," "nervousness," "hysteria," "neurasthenia," and had a general acidity of 56, while the free acids gave the value of but 10. What a disparity between the two values! There was no lactic, nor butyric, nor acetic acid present in this case, but there were present alcohol, aldehyde, and possibly some acetone. This case I consider as a case of hyperacidity—the presence of a low value for the free acids associated with the maximum normal limit of the general acidity.

I might add, in conclusion, that I doubt very much if an excess of hydrochloric acid—if such be proven beyond any doubt—*per se*, ever gives any symptoms at all. From my past experience with a great number of such cases, I came to the conclusion that the symptoms of *organacidia gastrica*, which, as mentioned above, I shall describe in a subsequent article, are due to the presence of the volatile organic acids. The symptoms of hyperacidity are due to the presence of acid combinations together with volatile media, such as alcohol, aldehyde, and acetone.

All the chemicals used in these experiments should be chemically pure.

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Fever; a Symptom.—Hedley Williamson believes that it is the bacteriologist who will finally give us accurate knowledge of this subject. Fever is both a normal and a pathologic function. It would be bad for the patient if his temperature did not rise during the course of a disease. The writer believes that a reduction of temperature interferes with the course of the disease. In cases of smallpox, where he has kept the temperature very low, the length of time of the eruption was greatly increased. As to the bath treatment of typhoid, although he admits its beneficial results, he looks forward to the discovery of some remedy which is directly antagonistic to the development of the bacilli causing the intestinal abscesses. He anticipates the discovery of something antagonistic to the development of disease.—*The Physician and Surgeon.*

GANGRENE FOLLOWING THE USE OF CARBOLIC ACID.

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James W., coachman, aged thirty-seven, colored, came to Cook County Hospital March 11, 1901 complaining that his left foot was "cold and dead," and that it was very painful. Eight days previous to entering the hospital, he noticed a "sore" on one of his right toes. He consulted his employer, who was a physician, and was given a dilute solution of carbolic acid with instructions to use it on the affected member. While preparing to follow directions, he accidentally spilled some of the carbolic solution on his left foot. This frightened him, and he neglected to apply any of the medicine to his right foot, which he had intended to treat. All went well for five days, and then the left foot began to feel "numb." The numbness increased; and, on the seventh and eighth days, the foot had become "dead and painful."

Examination showed a well-developed, well-nourished adult of medium size. The left toes and foot—as far as the mediotarsal joint—presented the appearance of dry gangrene. The tissues, about the ankle, were swollen and œdematous and showed beginning gangrene in places. No definite line of demarkation could be made out. The remainder of the examination was negative. Pulse 100, temperature 99.8° F., respiration 19. The heart and blood vessels were normal. Uranalysis was negative, no sugar and no albumin being found after repeated examinations. There was no evidence of syphilis, no glandular enlargements. The lungs, liver, and spleen were normal; as were also the reflexes, eyes, and nervous system. The patient had malaria ten years ago; but had suffered from no other sickness. He denied having had any venereal diseases. The family history was negative, and the man denied the possibility of intoxication from chemicals or food materials.

Amputation was done at the middle of the leg. The fatty tissue at the site of the incision seemed œdematous and slightly more yellow than normal, otherwise the tissues appeared healthy. It was noticed, however, that after the larger vessels had been tied, and the constrictor removed, no bleeding occurred from the stump. The wound did not suppurate, but the patient's pulse remained rapid and his temperature varied from 99° to 102° F. The gangrene extended, being now of the moist type, and in two days reached the knee. Sixty hours after the first operation was performed, a second amputation was done at the junction of the middle with the upper third of the thigh. The wound healed rapidly, except the opening made for drainage, which discharged pus, containing staphylococci, for about ten days. The temperature and pulse gradually became normal, the pain disappeared, and the patient made a rapid and uneventful recovery.

The stump from the first amputation was lost, and no examinations of it were made. Slides and cultures made from the incision of the second amputation gave negative results. Examination of the amputated stump showed no gas in the tissues. The soft parts were moist, œdematous, and discolored, no pus was found, and no definite line of demarkation was made out. The vessels and nerves appeared normal above the site of the gangrene. Slides from the gangrenous parts showed no organisms except a small straight bacillus, which had no characteristic arrangement, and which stained with the ordinary stains and decolorized with Gram's method. The bacillus grew rapidly on the ordinary media—white

circular colonies on agar—but ceased to grow after four or five days, and seemed to die in about a week. No motility could be observed. Two cubic centimeters of twenty-four and forty-eight hour bouillon cultures injected into the subcutaneous tissue of guinea-pigs gave negative results, except for a slight swelling at the site of injection which disappeared in three or four days.

Cases of gangrene following the local use of carbolic acid, though not common, are reported frequently enough, and are of sufficient gravity to warn the surgeon of the danger of using the drug, especially in cases in which the acid is applied in such a manner that evaporation is impossible. Harrington (*American Journal of the Medical Sciences*, June, 1900) reports having found records of one-hundred and thirty-two cases. In eighteen of these the lesions were grave enough to require amputation. The others varied in severity from slight necrosis of the skin to extensive losses of tissue.

The explanation of the occurrence of carbolic-acid gangrene cannot at present be satisfactorily given. It is not known why gangrene should occur in one case, and no injury to tissue take place in another individual treated in an identical manner. It is probable that the idiosyncrasy of the patient and the surrounding conditions play an important part in each case. It has been noted, however, that gangrene is more apt to occur in cases in which the acid is applied in such a manner that it cannot evaporate quickly. Also, that while gangrene may follow the use of any strength of solution, it occurs more often in cases in which dilute solutions are applied. Levi's explanation for this is that the strong solutions produce an eschar at the site of application, which prevents further absorption of the acid. This explanation is not entirely satisfactory. Carbolic acid has the same action on albumin as has alcohol. The tissues are not precipitated, but are rendered insoluble and the drug continues to be absorbed through the eschar.

Another point, on which there is some difference of opinion, is the primary pathological change—in the parts affected—on which the gangrene depends. Carbolic acid is a general protoplasm poison, and it would seem probable that the gangrene is due to the direct destruction of all the tissues acted upon by it. This is Levi's theory. He does not see why any chemical, such as nitric acid, might not produce gangrene in the same way. The action of the carbolic acid is not the same as is that of most other escharotics. Nitric acid, the example quoted, is a protoplasm poison, but it precipitates the proteids, forming a firm coagulum. It also has a special affinity for globulins. Not all authors agree that gangrene is due to all of the tissues being equally affected. Frankenburger, from his experiments on animals in 1890, believes that the gangrene is due to the action of the carbolic acid on the blood vessels producing blood stasis and anæmic necrosis of the parts involved. Krotum believes that the gangrene results from some specific action of the acid on the nerves. Nothing was found, in examining the specimen from the case I treated, to indicate that the nerves or arteries were more affected than were the other tissues in the gangrenous part. In fact, the nerves seemed less affected than did any other soft tissue. The clinical history of the case herewith reported favors the theory that the gangrene is due to the direct destruction of all of the tissues brought in contact with the acid. No cases are reported in which the gangrene was limited to the distribution of an artery or a nerve.

There is one point in the clinical history of cases of carbolic-acid gangrene about which I wish to say a few words. I refer to the spreading of the gangrene. It is stated that the gangrene comes on in about ten or twelve hours, and Levi says that it is limited to the area brought in contact with the acid. If the gangrene, in the case herewith reported, was due to carbolic acid—and I can see no other reasonable explanation for it—Levi's statement no longer holds good. But it does not seem possible to me that such extensive progressive gangrene could result from the application of so small an amount of carbolic acid. But I have nothing better to offer—no infection atrium, no sufficiently virulent organism, and no general condition—to explain the loss of the limb.

In the treatment of carbolic-acid gangrene, prophylaxis is most important. However, if the acid is used, it should never be applied unless the conditions for its evaporation are suitable. When gangrene has occurred, the treatment, of course, depends on the amount of tissue destroyed. Porter saved a finger by skin grafting. Amputation has been resorted to in eighteen cases besides the one I report. Radical measures must be employed if progressive and spreading cases are found to occur.

FOOD AS AN ETIOLOGICAL FACTOR IN DISEASE.

By GEORGIA MERRIMAN, M.D.,
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Ever since the original episode of eating "forbidden fruit" in the Garden of Eden, man has been troubled by what he ate; thus giving the patent-medicine man, proprietary pharmacies, and quacks the field of stomach and kidney specialists.

Is it not time that the whole medical fraternity, from center to circumference, attempt to recover the legitimate ground by scientific investigations along these lines of inquiry?

If the amount of strength, heat, and power, mental or physical, to be developed from a certain amount of food can be measured in the chemical laboratory, may not the dosage for food become as exact as the dosage for medicine?

Correct dietaries for the brainworker, the manual laborer, and the average citizen in good health have been accurately estimated by the scientific experts in government employ; but the perfectly adjusted diet for patients afflicted with gout, rheumatism, and allied diseases, caused by retention in the system of alloxuric bodies, intended to be either dissolved or eliminated, is still unknown to the average practitioner. One forbids the use of beef, cheese, and eggs, because of the xanthin and hyperxanthin developed in their metabolism; while another forbids all food which produces nucleo-proteids, or purin-nitrogen, and a still larger proportion permit all kinds of food to be ingested, depending upon drugs to aid in their rapid elimination.

The trend of hygienic thought to-day is toward preventive remedies. The etiological germ is fast disappearing under an antiseptic therapy, the laity have resorted to patent and secret remedies, and the general practitioner continues his old humdrum practice founded upon theories long since exploded.

Is not this the opportune moment for the physiological chemist to furnish some reliable data upon which each physician may construct a suitable diet for each patient, or groups of patients, if he have enough to group them? All honor to original investigators like Röhmann, Haig, Kossel, Salomon, Horbaczewski, Flatow, and others; but is not the dearth of general conclusions most manifest?

Is it wise to allow rheumatic patients or those suffering from uric-acid diathesis to continue consuming food which will certainly increase the amount

of colloid urates, while you are concentrating all your efforts upon their elimination? In other words, is it not reprehensible for any doctor to be ignorant of the preventative methods of treatment as well as the eliminative? The list of diseases caused by the continued use of indigestible foods is increasing daily. Some of the most-learned nasal and throat specialists are now advocating the theory that certain forms of nitrogen are present in lithæmia, gout, migraine, acute coryza, la grippe, and many, if not all, neuralgias. But as expressed by another:* "The average medical man clings to an old idea in pathology or treatment with a tenacity that blinds his eyes and deadens his ears to the heralding of a new theory, though born to point the way to the living truth, and if, perchance, it demolishes the images of a blind idolatry, lucky indeed is it if the very truth be not sacrificed upon the altar of conservatism, or crucified upon the cross of unbelief.

The point I wish to make is this, that in my opinion the time is ripe for an entire revolution in the administration of drugs. The proper digestion and the proper ingestion of food constitute the most successful field of therapy now known to man.

Then, why should not every well-informed physician write a prescription for food, which would exclude the articles of diet known to cause the conditions producing the disease he is trying to cure? I have found a *written dietary* almost indispensable in securing a change of food, and oftentimes order the exact quantities to be taken.

The fact that albumin from animal foods leaves a larger percentage of uric acid than albumin from vegetable sources need not necessarily make vegetarians of all, even though it does behoove those suffering from indigestible xanthin bodies to restrict their use of animal nitrogenous combines. The field of inquiry, in this direction, is so fertile that post-graduate courses in dietaries for every disease would be a boon to mankind.

Individual experimentation is slow and inaccurate. In the accurate Government experiments, under the direction of Professor O. A. Atwater, it was found that dietary idiosyncrasies played no essential part in the perfect nutrition of man as to quantitative analyses, but the digestive powers varied with the individual. Have we not overlooked this fact in trusting blindly to the use of drugs in latter-day therapeutics? The powerful alterative effect of medicine was highly esteemed by the old-time practitioner. Do we not seek the same end by alkaline treatment to-day? In my specialty of stomach diseases I have found that other diseases disappear under the wisely chosen diet and exact régime necessary to supplement the proper administration of drugs for the diseased organ. An exhibition of alkalies, such as sodium bicarbonate combined in tablet form with oil of gaultheria, is followed by decided relief of all symptoms of rheumatism, gout, acute coryza, la grippe, and asthma; and the general improvement continues if the diet is restricted to zwieback, or well-cooked, that is, twice cooked, wheat, barley, or oats, with nuts finely divided, and green watery vegetables. All bread, potato, and uncooked starch cells are excluded. Fruits and salads are used ad libitum. Dr. Conklin's ideas of the uses of fats in the system are sustained by results from their administration, and a logical sequence from his premise might be that the larger percentage of nitrogenous material, combined by nature with so great a proportion of fat, aids in the more perfect metabolism of the alloxuric bodies, thus rendering nut foods safer than an excess of meat or egg.

*Dr. A. B. Conklin.

What Regulations Are Most Advisable for the Control of Prostitution.—Felix Block says that most important of all is the elevation of the intellectual and ethical level of the people at large, together with the inculcation of respect for women on the part of the growing youth, the instruction of all ranks of society regarding the dangers of sexual diseases, and the better schooling of physicians in their treatment. These measures will work slowly, but will ultimately effect much more than any legal restrictions, though these, too, must be brought to bear on the question. The great disadvantage of most systems of legislation now in vogue is that they tend to restrict open prostitution, which could be kept under supervision, with comparative ease, by strict regulations, which serve only to scatter the evil and foster clandestine prostitution, which it is wholly impossible to control. Medical supervision should be made less of a police regulation and more in the nature of clinical treatment. All prostitutes regular in reporting themselves for examination at stated, say, biweekly, periods should be allowed to carry on their occupation unmolested, while others detected in evading the law should be stringently dealt with. The invasion of the homes of the poor by this class is particularly harmful, as tending to deprave the growing generation; but this is precisely what the attempt to rule fallen women off the streets results in. Men also should be kept under some sort of control, and it should be a penal offense for any one to have intercourse while suffering from a venereal disease in the infectious stage.—*Volkmann's klinische Vorträge.*

Pendulous Tubercles in the Peritoneum.—W. G. MacCallum reports the case of a white woman, aged thirty-eight, who died with symptoms of pulmonary tuberculosis. Autopsy revealed in the peritoneal cavity nodules lying just under the serous surface, over both parietal and visceral layers. They varied in size from 1 or 2 mm. to 2 cm. in diameter. Some were sessile and flattened, but most of them hung free, and were inclosed in a long blind tube. Some of the pedicles were from 10 to 12 cm. long. They all contained fluid. In one or two cases the tubular prolongations showed no caseous mass at the end. The intestinal mucosa was nearly normal. The abdominal lymph glands were apparently uninvolved, though the cervical and mediastinal lymph glands were almost entirely caseous. The spleen and liver were adherent to adjacent tissues by old adhesions containing caseous masses. The lungs were adherent to the costal pleura. There was a tuberculous leptomeningitis. The nodules in the liver, spleen, and lungs showed all the histological features of tubercles Tubercle bacilli were numerous in the peritoneal nodules. Dr. Welch suggests that the tubercle masses were formed, in part at least, in preëxistent loose adhesions and strands of vascular new-formed connective tissue, accepting at the same time the importance of gravity when the mass had grown to some size.—*Bulletin of the Johns Hopkins Hospital.*

Curetting the Uterus in Out-Patient Clinics.—F. B. Bucoemsky describes his experience in curetting the uterus in dispensary practice. His method is as follows: In recent cases of abortion, the operation is performed immediately after the arrival of the patient at the clinic, but in cases of endometritis, a strip of iodoform gauze is introduced into the uterus, and the operation is performed the next day. Both before tamponing and before curetting, the vagina, cervix, external genitals, upper portion of the thighs, and lower half of the abdomen are flushed for three minutes with tincture of green soap and a hot solution of formalin (1 to 500). After curetting, the uterus is washed out with the same hot formalin solution (3 to 4 quarts), and about 30 grains of solution of iodine is injected into the uterus, and, after the escape of this, the vagina only is packed with a feebly iodoformed strip of gauze, as it is not advisable to interfere with the con-

traction of the uterus; besides, the tamponing often causes great pains, and drainage of the uterus is necessary only in cases of infection. After curetting, the patient is removed to the bed, 0.5 to 1.0 ergot powder administered, and an ice bag placed over the lower half of the abdomen. Thus she remains resting for three hours, after which she rides home with the instructions to remain in bed for three or four days, and at the expiration of this time to present herself at the dispensary for examination. This the patient always does.—*Vratch.*

Some Aural Complications of Influenza.—S. MacCuen Smith says that hemorrhagic otitis is by many believed to be *the* distinguishing feature of otitic influenza. Mastoid implication or irritation is present in all severe cases. Meningitis, lateral sinus, thrombosis, intracranial and extradural abscesses are encountered more frequently with each succeeding epidemic. The virulence of an aural discharge cannot be judged by its odor, nor can the gravity of an otorrhœa be measured by its chronicity. An odorless discharge from the ear sometimes contains pathogenic micrococci, which may cause some of the most serious intracranial inflammatory lesions. Treatment must be prompt and energetic. Absolute rest in bed, free diuresis, and properly conducted diaphoresis are of the first importance. The external layer of the membrane tympani is composed of modified skin, and is influenced but little, if any, by medicated solutions. Solutions of cocaine, belladonna, etc., cannot be depended on to relieve pain, except from the caloric they impart. Blood-letting in front of the tragus is of service, but must be used at the beginning of the attack. Early incision of the membrane is the best conservative.—*Pennsylvania Medical Journal*

A New Method of Treatment of Cancrum Oris.—A. A. Kiel arrives at the following conclusions: (1) Noma in children may terminate in recovery in a large percentage of cases; (2) Curetting with sharp curette and subsequent washing of the ulcer with hot solution of potassium permanganate and rubbing in with iodoform powder greatly increase the chances of a favorable termination of the disease; (3) Energetic and persistent treatment must begin from the very first day of the disease, and at the arrival of such a patient at the hospital all the measures above mentioned must be taken at once; (4) The food must be very nutritious, and the hygienic conditions the best possible; (5) Regarding preventive measures, special care must be given to the food of those suffering from measles, and to the cleanliness of their oral cavity, especially when caries of the teeth is present; (6) Sometimes the disease assumes an endemic character; (7) Cases of noma vary greatly in intensity; (8) Sometimes in noma the gangrenous process ceases spontaneously; (9) In the majority of cases the disfigurement of the face after cicatrization is comparatively slight.—*Khyrurgia.*

Chappa.—Edward H. Read reports four cases of a disease which he has not seen described in any textbook, but which is called "chappa" by the Popo people in the western district of the colony of Lagos. It begins with severe pains in limbs, muscles, and joints, which after a few months decrease and give way to swelling. At the same time, nodules develop in different parts of the body, which, without abscess formation, are exposed by ulceration of the skin over them. They are usually multiple, are circular or oval in shape, with a fatty-looking base, and about the size of a pigeon's egg. The nodules are sometimes absorbed without proceeding to ulceration. The disease, after a time, attacks the bones, and the joints may become totally disorganized. The author believes that the disease is neither tuberculous nor syphilitic. Various forms of treatment have been tried with doubtful success.—*The Journal of Tropical Medicine.*

The Outdoor Treatment of Sick People.—George H. Carvette would place patients in the open air all the time, rain or shine, hot or cold, day or night, summer or winter, properly protected against changes in the weather, and having a trained nurse within call to put on or take off clothing as required. This plan can be carried out on a lawn, under the trees, on a veranda, or in a properly constructed tent. Patients suitable for this treatment are those suffering from debility, bronchitis, rheumatism, accidents, insanity, alcoholism, measles, diphtheria, Bright's disease, severe operations, pneumonia, typhoid fever, tuberculosis, and many other troubles. According to the writer's experience, cases of illness recover in about two-thirds of the time required under the old plan of treatment; the more healthy appearance of the patient under the influence of the wind and sun has an encouraging influence on the friends and visitors, and their remarks on this point again add hope and encouragement to the patient. In operation cases of all kinds there is less sickness after anæsthesia, and the time of recovery is shorter and pleasanter.—*Canadian Journal of Medicine and Surgery.*

The Hæmodiagnosis of Appendicitis.—M. Tuffier reports the case of a patient suffering from a tumor in the right iliac fossa, which had progressively increased in size for the past eight months, was hard and indolent, and closely connected with the iliac bone. A diagnosis of osteosarcoma was made, but the writer, not being altogether satisfied, had the blood of the patient examined. Dr. Milian made the following report: "Red globules, 5,637,000 per c.mm.; white globules, 49,600, of which 75 per cent. were multinuclear, 25 per cent. uninuclear, and no eosinophiles. Too many white globules for a sarcoma, too many red globules for epithelioma; therefore it must be an abscess." This diagnosis was amply confirmed by the operation. The abscess was probably due to an attack from which the patient had suffered nine months previously, and which she attributed to poisoning, but which was in reality an attack of appendicitis with the formation of periappendicular abscess, which subsequently opened into the sheath of the psoas.—*Medical Press and Circular.*

Raynaud's Phenomena.—Jonathan Hutchinson includes under this name a large group of maladies which differ widely in their etiology. Local syncope, local asphyxia, symmetrical gangrene of the extremities, and acrosphacelus are synonymous terms, and imply the malnutrition of the parts and the local symmetrical gangrene due to interference with the circulation of the extremities. Children of five years and upward are liable to the affection through the influence of the nervous system, and old people through the influence of the heart and circulation. Treatment must depend on the case. If the nervous system is very susceptible in a reflex manner to the influence of cold, we must protect the patient from the cold. Wintering in a warm climate may be recommended. The best drug is opium, three or four drops of the tincture being given three or four times a day, in combination with tonics.—*Medical Press and Circular.*

The Pathogenesis of Spinal Curvature in Syringomyelia.—S. Nablandov relates the facts revealed at the autopsy of a patient who died of syringomyelia with spinal curvature. All the cervical and dorsal vertebræ were remarkably soft, having lost their compactness, and offering very little resistance to the saw, while all the other vertebræ were normal. The great softness of the cervical and dorsal vertebræ, especially when contrasted with the lumbar vertebræ, clearly proved that this was a case of deep nutritive changes of the osseous tissue.—*Russki Arkhiv.*

Thorax in All Supposed Stomach Diseases.—H. B. Garner states that all gastric processes are much influenced by the condition of the circulation. He has had many patients who, complaining of impaired gastric digestion, were discovered to have an organic heart lesion. He examines the heart in all cases of supposed stomach diseases of obscure origin, and has found cardiac lesions in about 15 per cent.—*The Physician and Surgeon.*

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OÖPHORECTOMY AND MAMMARY CARCINOMA.

IN the *British Medical Journal* for October 19, 1901, there are two articles, one by Beatson and another by Herman, bearing upon the influence which removal of the ovaries has upon the growth of mammary cancer, and also giving a series of clinical observations on cases in which the operation has been done and in which the after-treatment has been supplemented by the use of thyroid extract.

The reported results are important enough to warrant attention and analysis, and to this end we may epitomize them. In his present article, Beatson describes a case in a woman of forty-four, who had all the signs of carcinoma of the breast. The growth was one which would ordinarily have been considered inoperable, and chiefly for this reason a decision was reached to see what could be done by removal of the ovaries, and the internal use of thyroid extract. Oöphorectomy was done, and at the same time a portion of the tumor was removed for examination with the microscope. The patient recovered promptly; the microscope showed unmistakable carcinoma, and six months afterward the tumor of the breast had disappeared, the breast was atrophic, and the axillary involvement was reduced to practically nothing.

Herman, in the *Lancet*, June 11, 1898, reports a very similar case with like result after seven months, in a woman of forty-six, on whom the operation was performed in the presence of an extensive recurrence, and in a later contribution, mentioned above, he gives a series of eight well-advanced cases in which the same treatment was carried out. Of these eight, one was alive and well after three years, one died after eighteen months, one was dying of the disease when the paper was written, one died after two years from internal metastases, one was in good condition and apparently free from disease a year after operation, and in the three remaining cases death occurred a few months after the oöphorectomy was done. In most of the cases, thyroid extract was used as an adjuvant to the operative treatment.

The well-known tendency of all untreated cases of mammary carcinoma to end fatally makes the experiences recorded in the histories of some of these patients very remarkable, and it would be apparently unjust to deny that the removal of the ovaries had not an important influence in determining the retrograde metamorphosis which occurred in some of the cases, about the diagnosis of which there can be no reasonable doubt. There is no question that there is a very close relationship between the physiological activities of the ovaries and those of the mammary glands, but it is not yet definitely established to what extent the ovaries control the neurotrophic conditions of the breasts, or in what way this control is brought about. Beatson's idea is that the ovarian tissue, when functionating normally, exercises some sort of inhibitory influence upon the mammary cells, which, however, keep their power of proliferating, and that when changes in the ovaries diminish the control, the proliferation is resumed in an abnormal way. He also thinks that his experiences furnish strong evidence against the theory that cancer is of parasitic origin, because obviously the growth of a parasite would not be influenced by the removal of the ovaries when the site of its activities was in the breast. So far Beatson has applied this plan of treatment only to what are ordinarily called inoperable cases, and he is at present considering the advisability of using it earlier in the course of the disease.

To claim that undoubted carcinoma in the breast can have its cellular activities suspended or metamorphosed by the removal of organs which can only be connected with it through the sympathetic system —admitting that carcinoma is a pathological entity, and only shows differences according to the kind of epithelium which is the seat of its growth—is to advance a theory which, though drawing some support from the experiences of Beatson and Herman, is not in accordance with generally accepted views on cancer, and does not explain the great number of cases of that disease which do not have any connection with ovarian activity on account of sex or location.

We do not, however, understand that these English observers are advancing a theory to explain the whole pathology of carcinoma, but are merely reporting interesting phenomena, the exact explanation of which is not at present clear. The ovary is the center of sexual activity in the woman, and variations in any of its physiological activities have a profound influence upon the other elements in the sexual microcosm, whether these are in a normal condition or not. The influence of normal ovarian activity upon the growth and physiology of the breasts is too well known to need comment, but it may be well to emphasize the fact that ovarian influence upon neoplasms in the breast is also often well marked. Not that any causative relationship can be proved between mammary neoplasms and the ovarian influence, but that evidences of increased vascularity and more rapid growth are evident in tumors at different times, notably the menstrual epochs, is well known. It is quite possible that this increase in vascularity is accompanied by a nervous influence which is not evident to the senses of the observer.

It is not easy to explain the disappearance of the growth in Beatson's case mentioned above by supposing a rapid atrophy, because as far as we know rapid atrophy has never been observed in a case of carcinoma, and, furthermore, the retrogression was more like the subsidence of an inflammatory process than the occurrence of atrophy. That there was some so far not understood nervous influence at work which in some way controlled and altered the metabolism of the carcinomatous cells is pretty certain, but that this influence cannot always be depended upon is also certain, and that it is not an influence which is effective against carcinoma *per se*, but only

against a certain type or class of cellular abnormality in the breast, seems to be the case. It would be a very extraordinary circumstance if it were shown that carcinoma in other parts of the female organism were in any way influenced by the removal of the ovaries, and we do not believe that there is any evidence that this is the case. That only growths in the breast are thus influenced is probably not due to any specific anticarcinomatous effect of oöphorectomy, but only to the general influence which the operation has on the whole feminine organism. The epithelium of the mammary glands happens to be that in the whole body, which is most sensitive to ovarian influences.

Observers so far have noted that the removal of the ovaries has no favorable influence upon secondary deposits in the liver or lungs, and we do not believe that women whose ovaries have been removed are afterward exempt from the development of carcinoma. The observations so far seem to show that certain forms of carcinoma are dependent for a part of their activity upon the sympathetic relation which exists between the ovaries and other parts of the body; and this, for us, tends to support the theory of the local epithelial origin of carcinoma, and to militate against the idea that the disease is parasitic.

The neurotic element in the etiology of cancer has often been discussed, but so far we have been unable to say anything very positive.

In those cases in which thyroid extract has been given, its administration has been thought desirable on account of its supposed effect upon the general metabolism of the body, and not for any specific action.

THE TUBERCULIN TEST OF PURE-BRED CATTLE.

Mr. D. E. Salmon, D.V.M., Chief of the Bureau of Animal Industry of the U. S. Department of Agriculture, has recently issued a pamphlet in which he demonstrates the necessity of guarding against the importation of disease by means of imported cattle, and upholds the present regulations to prevent such occurrences as proper and consistent. The chief danger to cattle arises from the prevalence of tuberculosis, which disease affects herds more widely and more disastrously than any other.

Even if the point urged by Professor Koch at the British Congress on Tuberculosis be granted, and it is allowed that the spread of tuberculosis by milk and meat is to be feared but to a slight extent, the fact must still be borne in mind that tuberculosis, in itself, is a decimating factor among cattle of immense importance.

Mr. Salmon shows that the United States has a very large export trade in cattle, and one that is continually increasing. He further points out that rigid restrictions are in force in many countries of the world to prevent tuberculous beasts from gaining an entrance into these territories; consequently, if we wish our cattle to enter these markets, they must not only be free from tuberculosis when they leave the farm, but also when they arrive in the foreign country. To effect this object, every effort must be put forth to keep out tuberculous cattle from this country, for a few thus diseased will quickly spread contagion far and wide.

The argument is therefore advanced that the tuberculin test, as now adopted, must be strictly enforced to guard against such a result. The contention is likewise made that the pure-bred breeds, mainly imported from Great Britain, are the chief menace in this respect, and that, if the tuberculin test were not stoutly adhered to, the blue-blooded immigrants from the United Kingdom would disseminate the germs of tuberculosis among cattle from one end of the country to the other.

Evidence in support of these conclusions is afforded by the reports of two Royal Commissions appointed in Great Britain to inquire into the matter, as well as by various reports bearing upon the tuberculin test of cattle, supplied from many sources in the same country during the past few years.

Mr. Salmon makes out a strong case against the British pure-bred cattle as vehicles of tubercular infection, and urges that no discriminating favor whatever should be exhibited toward them on account of their aristocratic lineage; but, rather for the very cause that they have been proved to be peculiarly liable to tubercular disease, that the tuberculin test should be used on them in every instance.

This sounds like common sense, and, proceeding from one of Mr. Salmon's wide and varied experience, should commend itself as such, not only to the farmers, but also to the inhabitants of the United States in general. No person, whether he believes that bovine tuberculosis is communicable to man or otherwise, but would prefer to eat the meat or drink the milk procured from an animal free from disease. It therefore appears entirely reasonable, and to the best interests of the population of the United States, that the regulations of the Department of Agriculture now in force should be continued.

THE DIAGNOSTIC VALUE OF THE BLOOD-SERUM REACTION IN CHILDREN.

Typhoid fever is apparently less common, and in general it pursues a milder course, and the possibility of error in diagnosis is therefore greater in children than in adults. The value of the agglutinating and sedimenting reaction of Gruber and Widal in the diagnosis of typhoid fever has been abundantly demonstrated, and the procedure is now one of the usual means of recognition and differentiation. It has been contended, however, that the test is not so trustworthy in the case of children as in that of adults; but with this view Dr. J. H. Thursfield (*British Medical Journal*, September 7, 1901, p. 596), on the basis of a considerable experience, does not agree. Of 100 cases presenting different disorders in children, a positive response was obtained in forty-two. As so much depends upon the technic employed, that, followed in these observations, may be described. A small quantity of blood in a sterile glass pipette is diluted with an equal quantity of sterile broth, and the pipette is placed in a centrifugal machine for the separation of the blood corpuscles. Then to one platinum-loopful of the diluted serum on a cover-slip are added fifteen loopfuls of a broth culture of typhoid bacilli, not more, and usually considerably less, than twenty-four hours old, prepared from a stock culture renewed from time to time from a trustworthy source. The cover-slip is secured to the slide by means of paraffin, in order to prevent evaporation, and is examined at intervals to the end of an hour. Should clumping not have occurred, the reaction is considered negative. To guard against possible

error, a control test may be made with the blood of a patient known to be suffering from typhoid fever, and which has previously yielded a positive reaction. A positive result was not obtained in any case in which the condition present was not at least more like typhoid fever than any other disease, while in no case that was clinically an example of typhoid fever did the reaction fail to appear. From these observations the conclusion is drawn that in disease in children a positive serum reaction is trustworthy evidence of the presence of typhoid fever; that a negative reaction later than the tenth day of an illness is strong, but not absolutely convincing, evidence of the absence of typhoid fever; that repeated negative reactions are trustworthy evidence that the disease is not typhoid fever at all. The test is, further, believed to be of greater value in the case of children than in that of adults, inasmuch as it is generally possible to exclude the occurrence of a previous attack in the former, while this cannot be done in the latter, and it may be a source of confusion, if not of error. In addition, it is thought that the reaction occurs earlier in children than in adults.

News of the Week.

Naval Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the Navy, week ending November 9, 1901: November 1—Surgeon F. Anderson, detached from the Naval Dispensary, Washington, D. C., November 7, and ordered to the *Alabama*, November 9, as relief of Surgeon E. H. Green. Surgeon E. H. Green, detached from the *Alabama* November 9, and ordered to duty as a member of the medical examining board, Washington Navy Yard, November 15, as relief of Surgeon A. C. H. Russell. November 2—Medical Director J. G. Ayers, retired from active service November 3, 1901, by operation of law, under the provisions of section 1444, Revised Statutes, upon which date he will have reached the age of sixty-two years; with rank and three-fourths the sea pay of the next higher grade, under the provisions of section 11, Navy personnel law. November 6—Assistant Surgeon R. M. Young, detached from the *Columbia* and ordered to the *Constellation* for temporary duty.

Buck's County (Pa.) Medical Society.—At the annual meeting held November 6th the following officers were elected for the ensuing year. *President*, Dr. Howard A. Hellyer of Penn's Park; *Vice-Presidents*, Drs. Henry Lovett of Langhorne and Alfred Fretz of Sellersville; *Secretary and Treasurer*, Dr. E. A. F. Myers of Blooming Glen.

Philadelphia Hospitals.—An appropriation for $963,381 has been asked for by the Bureau of Charities, for the year 1902, including $365,000 for new buildings, as follows: A pavilion for tuberculous patients, $80,000; a clinical amphitheater, $100,000; obstetrical and gynecological hospital, $85,000; pavilion for nervous diseases, $50,000; pavilion for general medicine, $50,000.

Elisha Kent Kane Medal.—Dr. A. Donaldson Smith of Philadelphia has been awarded the Elisha Kent Kane Medal by the Geographical Society of Philadelphia in recognition of his extensive explorations in the previously unknown region of the Upper Nile in the year 1900. Dr. Kane, the Arctic Explorer, left a fund to be distributed in medals for distinguished services in adding to the known geography of the world. Dr. Smith is the first recipient of the honor.

The Second International Congress of the Medical Press, which was to have been held in Brussels in 1901, has been postponed for a year because of the impossibility of arriving at a satisfactory decision concerning the constitution and by-laws of the proposed international association of the medical press.

A Fasting Woman, named Christiansen, has just completed a thirty-day fast in London. She lost twenty-six and one-half pounds in weight, but declared to the reporters that she was in good health and spirits. She threatens to inflict herself upon New York soon.

The End of the Proposed Skene Hospital.—Supreme Court Justice Maddox in Brooklyn has granted an order dissolving the Skene Hospital for Self-Supporting Women. The petition says that $300,000 was necessary to carry out the project and that only $23,000 was subscribed, of which only $3,261 was paid. The hospital was to be erected as a memorial to the late Dr. A. J. C. Skene. The order directs the distribution of the $3,261 among the contributors.

The South African Reconcentrados.—According to the official reports on the condition of the Boers in the concentration camps in South Africa, the mortality, chiefly among the children, is increasing at such a frightful rate as to threaten the prisoners with extinction. In June there was a total of 85,410 Boer reconcentrados, and the mortality was at the annual rate of 109 per thousand; in July there were 93,740 inmates of the camps and the mortality rose to 180 per thousand; in August, with 105,340 prisoners, the mortality rate was 214; in September it was at the annual rate of 264 per thousand in a reconcentrado population of 109,418. The *Daily News* of London, in commenting upon these figures, says: "The truth is that the death rate in the camps is incomparably worse than anything Africa or Asia can show. There is nothing to match it, even in the mortality figures of the Indian famine, where cholera and other epidemics have to be contended with."

A Pharmaceutical Association.—It is said that a number of the retail druggists in New York City are going to manufacture their own elixirs, emulsions, fluid extracts, etc., which heretofore they have purchased from manufacturers who make a specialty of such preparations. A coöperative organization, known as the Pharmacists' Manufacturing Company, has been formed and incorporated for this purpose.

A New Smallpox Hospital in Newark.—Two portable wards and an administration building have been contracted for by the Newark, N. J., Board of Health, and the work of erecting them was begun this week. It is expected that they will be ready for occupancy in a fortnight. The hospital is intended for smallpox patients, the number of which is daily increasing and already exceeds the capacity of the present small building used as an isolation hospital.

Dr. Hamilton Williams, the Coroner's physician who was recently removed by Coroner Zucca on charges of incompetency, neglect of duty, and unfitness to hold office, has been reinstated by the Supreme Court which holds that the power of trial and removal rests solely in the full board of coroners, and not in any individual member. The animus of the charges is said to have been political, and as Coroner Zucca was relegated to private life

at the recent election, the charges will perhaps not be pressed.

The State Hospital for Consumptives. Mr. Littauer has offered to present a tract of 160 acres of land at Forestport, Oneida County, for the location of the New York State Hospital for Incipient Tuberculosis. The land, which is said to be most suitable for sanatorium purposes, has been inspected by the State commission, but the report has not yet been published.

The St. Louis Academy of Medicine.—At the recently held annual meeting of this society, the following officers were elected: *President*, Dr. A. C. Bernays; *Vice-President*, Dr. J. W. Williamson; *Secretary*, Dr. Alfred Roulet; *Treasurer*, Dr. George Howard Thompson.

The Idaho State Medical Society.—At the annual meeting of this society, held at Pocatello, October 3 and 4, the following officers were elected: *President*, Dr. H. A. Castle of Pocatello; *Secretary*, Dr. E. E. Maxey of Caldwell; *Treasurer*, Dr. J. W. Givens of Blackfort. The next annual meeting will be held at Moscow, October 9 and 10, 1902.

An International Sanitary Congress will be held in Paris during the week of February 15-21, 1902. Among the subjects to be discussed will be the rôle of mosquitos in the spread of yellow fever, malaria, filariasis, quarantine, and the value of municipal sanitation in the prevention of epidemics.

Tunnel Ventilation.—The following remarks of *The Lancet* are of special interest to New Yorkers at the present time, when it is possible to gather from the experience of others the desirable ounce of prevention. Our contemporary says that the measures adopted on the Central London Railway for the ventilation of the "tube" are, in face of the enormous number of people daily traveling on the line, inadequate. "We pointed out some time ago that it is well known that the air of the 'tube' has not grown pleasanter as the popularity of the system has increased. Even on passing the booking offices of the stations or the lift exits, an unpleasant sickly whiff is experienced. Our remarks are now fully borne out by the results of a series of interesting experiments made by Mr. A. Wynter Blyth, the medical officer of health of St. Marylebone, and his son. It is found that the carbonic-acid gas at some stations was no less than 10.3 parts per 10,000, while between the stations—that is to say, in the tunnel—it reached 11.9. Now, since the average amount of carbonic-acid gas in the outer air seldom exceeds 4 parts per 10,000, and that, whenever the amount of carbonic-acid gas in the air of a room exceeds this amount by 2 parts per 10,000, it is not fresh, and has a stuffy smell, 6 parts per 10,000 has been fixed as the limit of impurity. The 'tube' air contains nearly twice this amount. We remarked long ago that it is nonsense to say that the mere passage of the trains through a tight-fitting tunnel is sufficient to insure satisfactory ventilation. Mr. Wynter Blyth's experiments clearly show that, where the ventilation depends entirely on the passage of the trains, although there is so much movement of air, and so much sucking in from above and blowing out from below, a good portion of the air must be driven backward and forward unchanged in the tube; in other words, the tunnel air is diluted, but the whole of it is never swept out. This has all along been our contention. The amount of carbonic-acid gas in the tunnels—and, be it remembered, this is very largely, if not entirely, of human origin—is more than double that of the outside air. It would be interesting to know what a bacteriological examination would reveal. As time goes on, unless additional and more effective ventilation by fans is adopted, the condition of the tunnel will go from bad to worse. These observations might usefully have been extended to the air of the cars; the results would probably have shown a greater pollution still."

The Craig Colony Prize of $200 has been awarded to Professor Carlo Ceni of Pavia, Italy, for an essay, entitled "Serotherapy in Epilepsy." The essay will be published shortly.

The Combat Against Tuberculosis in Ohio.—One hundred and fifty physicians, sanitarians, and business men of Ohio have united to form a society to be called the "Ohio Society for the Prevention of Tuberculosis." The first move of the society will be along educational lines. It will distribute pamphlets giving precautions that should be exercised to prevent transmission of the disease. There will be lectures in large shops, before teachers' meetings, and other public gatherings all over the State. The society will also aid in the establishment of a hospital for the treatment of all consumptives whose cases are regarded as curable, and also the establishment of hospitals for consumptives in all the larger cities of the State.

Spread of Scarlet Fever in a School.—During the past few weeks from ten to fifteen cases of scarlet fever have occurred each week among the four hundred children attending a public school in one of the city's suburbs. The first case was in a girl who was slightly ill for a few days, but the family had no physician, and did not know what the disease was. As soon as she became convalescent, she returned to the school, and her mates amused themselves by picking off the strips of desquamating epidermis.

Medical Department of the University of California.—Beginning with the academic year 1905-06 all students desiring to enter the first year of the medical course in this university and all new students seeking advanced standing must present evidence of having completed at least two full years of preliminary training in the undergraduate department of a college or university of recognized standing. Satisfactory evidence must also be presented that during these two years the applicant has completed courses in chemistry, physics, biology, English, German, and French.

The Virchow Hospital.—It was recently voted by the municipal authorities that the new public hospital in Berlin, now in course of erection, be called the "Virchow Krankenhaus." The hospital will have accommodations for 1,700 patients.

The Fourteenth International Medical Congress.—The committee on organization of the Madrid Congress, to be held April 23-30, 1903, announces that, in response to numerous requests from Spanish and foreign specialists, the following changes have been made in the constitution of the sections: Section 11, on Otology, Rhinology, and Laryngology, will be divided into two sections, viz.: 11a, Otology, and 11b, Rhino-Laryngology. These two sections will be independent one of the other, each having its own president and secretary. The sixteenth section, on legal medicines, will be entitled the Section on Legal Medicine and Toxicology. The dues for members of the Congress will be 30 pesetas ($6), and a novel condition of registration is that each member shall send to the Secretary-General of the Congress, either directly or through his

national committee, not only the fee, but also a note indicating precisely and legibly his full name and address, his titles and appointments, and his photograph. The official languages of the Congress will be Spanish, French, German, and English.

Money for Guy's Hospital.—A dispatch to the *Sun* states that Mr. J. Pierpont Morgan has promised to give £5,000 to Guy's Hospital on condition that the public will raise £100,000, which is required for the renovation and extension of the hospital.

A New Hospital in Manchester, N. H.—Under the will of Mrs. Emiline Balch of Manchester, N. H., the balance of the estate, after the payment of $25,000 in bequests to various charitable, religious, and educational institutions, is left to five trustees commissioned to establish a hospital to be known as the Balch Hospital, in Manchester. The amount available for this purpose is believed to be about half a million dollars.

Consumptives in Railway Cars.—The Travelers' Protective Association recently requested the members of the Western Passenger Association to provide separate coaches and sleeping-cars, or at least separate compartments in the sleepers, for tuberculous travelers. The protective association complained that the health and life of its many thousands of members were daily being placed in jeopardy through mingling on sleepers and coaches with consumptives. The same request is to be made of the Transcontinental Passenger Association, which meets soon. The railway men refused to take action, but passed a resolution that the problem and its solution belonged properly to the Pullman Company and not to any of the railroads over which the Pullman sleepers ran.

The Plague.—The period of incubation since the last case of plague in Glasgow expired last Saturday without any fresh cases being reported. The authorities consider that the disease has been stamped out. The crusade against rats continues, however, for it is believed that the outbreak of the plague was due to these animals. Those which were caught in the Central Station hotel, in which several persons suffering with the disease were discovered, were found to be infected. Germany has nevertheless established a quarantine against Glasgow, and an order has been issued forbidding the importation into or transport through Germany of body linen, old clothes, rags, or used bed linen from that city. An exception is made for luggage and a change of clothing, but these are liable to be disinfected. It is reported from Hull, England, that a death, thought to be from plague, has occurred on board a steamship there.

Obituary Notes.—Dr. Charles Magill Smith died at Franklin, La., on November 7, at the age of seventy-six years. He was born in Winchester, Va., was graduated from the Medical Department of the University of Pennsylvania in 1847, and began the practice of his profession in Louisiana the following year. He was for many years President of the Louisiana State Board of Health, and had been Coroner of St. Mary's Parish for twenty-two years.

Dr. Charles N. Spalter was accidentally shot and killed on November 7, while duck hunting with another physician on the Sound near New Rochelle, N. Y. Dr. Spalter was born in Keene, N. H., about twenty-seven years ago, and had just served a term of service on the house staff of the Woman's Hospital.

Dr. Harvey P. Tolman died at his home in East Onondaga, N. Y., on November 11. He was born in Pompey, N. Y., on July 12, 1823, and was graduated from the College of Physicians and Surgeons of this city in 1848.

OUR LONDON LETTER.

(From Our Special Correspondent.)

SMALLPOX—VACCINATION STORIES—SOCIETIES—ACUTE DILATATION OF THE STOMACH—"RESPONSIBILITY OF THE ORGANISM"—GLAUCOMA—LATERAL CURVATURE OF SPINE—ENTRIES AT THE SCHOOLS—OBITUARY NOTES.

London, October 25, 1901.

Smallpox continues to prevail with unpleasant persistency and a tendency to spread to other districts is noticeable. Yesterday eleven fresh cases were reported, bringing the number under treatment to 179. The type of the epidemic seems grave, and the mortality rather high. Eleven deaths from the disease were registered last week. This is the highest record for any week since the outbreak.

The middle and upper classes are being revaccinated on so extensive a scale that it is rare to meet any of them who have not taken the precaution. Large numbers of the working class are following the example, and the free vaccination stations are consequently crowded. The medical officers of health are doing all they can to promote revaccination. One instance of their activity comes to my notice in a circular from a public school saying that the officer in question had recommended parents to be informed that he considered it very desirable. The school authorities indorsed the hope that the precaution would be adopted. How different this attitude to the obstruction of the London School Board which I have mentioned to you before. Yesterday this board was again made ridiculous by one or two obstructives venting their indignation on a vaccination officer who, they declared, had bribed some of the children of a board school with boxes of chocolate to submit to the operation, which he actually told them did not hurt, and would prevent them from catching smallpox. Think of the dignity of the board entrusted with the supervision of London schools, and you will no doubt wonder at the temerity of any one giving a scholar a chocolate without permission first applied for! The board was actually thus prevented from circularizing the parents, and advising them to forbid their children to accept the chocolates. You see, it was absolutely necessary to devote most of the time of yesterday's meeting to the vindication of the dignity of the board. Another curious story is being made the most of by some of the newspapers. It seems that a circular was sent to the friends of the lunatics in one of the asylums asking if they had any objections to the patients being vaccinated. The list could not have been properly checked, for one of the circulars was to a relative who, a day or two previously, had been summoned to take farewell of a dying patient. Deathbed vaccination is too taking a paragraph for certain newspapers to omit it.

Mr. G. B. Shaw, whose name you may know as to theatrical matters, is not content to confine his criticisms to subjects he has deeply studied. He has been writing to the *Times* and other papers, and proving as a great statistician so far as to rebuke doctors for their ignorance of the statistics of vaccination. He tells us there is no science of medicine; but there is, of course, of statistics, since he has shed his light on figures. Better housing for the poor is one of his hobbies, and a very good one, too; but to hold it up as a protection against smallpox in place of vaccination is dangerous. Mr. Shaw assumes knowledge of so many subjects that the public is amused at his pretensions, and does not take him seriously; so his influence against vaccination is not great, especially as he protests that he is not an anti.

The Royal Medico-Chirurgical Society began the session with a paper on "Acute Dilatation of the Stomach," by Dr. Campbell Thomson. He described four cases of his own and six others, making ten that have been recorded. The first to describe it was Dr. Hilton Fagge, who recorded four of the ten. A summary of the symptoms and post-mortem appearances was given, but it would seem that quite half the cases presented other lesions sufficient to account for death. Dr. Thomson was inclined to regard the dilatation as due to some disturbance of the nervous supply of the stomach, paralyzing its walls and often setting up, as well, increased secretion.

Dr. T. R. Bradshaw thought the cases were obviously due to pyloric obstruction. If the walls were paralyzed, the stomach could not empty itself, and yet vomiting was prominent. In all the cases the intestines below the pylorus were collapsed, pointing to its obstruction.

Dr. Herringham pointed out that the stomach was probably distended by the gas described as present, and that might suffice to overcome the pressure of the abdominal walls.

Dr. A. Voelcker thought the presence of bile in the vomit, which had been observed in two of the cases, was against the view of pyloric obstruction.

The President (Dr. Pavy) did not believe that active

dilation could occur. He regarded the stomach as he did any other hollow viscus. It dilated when the pylorus was obstructed, as the bladder did when its contents could not be evacuated. Atony or paralysis of the walls combined with expansion by fluid or gas would distend any hollow organ. He referred to experiments on dogs in which both vagi had been divided. The lower end of the œsophagus thus paralyzed was found distended with any food taken shortly before death.

Dr. Thomson, in his reply, referred to the heart as a hollow viscus which dilated primarily without a previous necessary obstruction of the aorta.

Dr. Allchin, on taking the chair as the new President of the Medical Society of London, gave an address on what he termed the "Responsibility of the Organism" in disease, in which he dealt with the part taken by the individual, as distinct from the environment, in the manifestation of disease. The capacity of the organism to react to external agencies, however simple or however complicated these may be, certainly deserves attention, especially at this time, when so great an impetus has been given to the study of the environment. It is quite possible that too little attention may be given to the individual and the part he takes in the origination of disease, or, what is more important, the part he should be made to play in its prevention and treatment. In illustration of this, Dr. Allchin observed that the bodily states regarded as heritable are fewer than formerly supposed, and their transmissibility less potent than was thought; in other words, it was less the disease itself than a tendency toward it which required the conjunction of external conditions to develop it, though the predisposition was so strong as to assert itself in spite of the best environment. Prominent among conditions tending to recur in successive generations were longevity and the reverse, obesity and leanness, and a group in which nutritive disturbances were concerned, *e. g.* gout and diabetes. The undoubted influence of age and sex was further instanced. Dr. Allchin suggested that the society might undertake a collective investigation into undetermined questions in clinical medicine. He thought the society eminently fitted for such work, and reminded it that nearly a hundred years ago the Fellows had done something of the kind as to influenza.

The President of the Ophthalmological Society devoted his address to "Primary Chronic Glaucoma," for which he said the profession remained unanimous that iridectomy was the only cure. Following up the work of v. Graefe, others, whose researches he mentioned, had done much to elucidate the pathology of the disease and to establish the treatment. He was in favor of early operations.

Mr. Nettleship proposed a vote of thanks, and indorsed the president's views. Mr. Silcock seconded the motion, which was unanimously carried.

At the Orthopedic Society, Mr. Reeves showed five interesting cases, and Mr. Muirhead Little read a paper on the "Treatment of Lateral Curvature of the Spine," which was discussed by Messrs. Reeves, Keetley, and others.

There is a decrease in the entries of students, both in the London and Provincial schools. This is not pleasant for some of the teachers, but satisfactory to many hard-worked practitioners.

Two nonogenarians passed away on the 17th inst. One was Robert Hepburn, a prince in the dental profession, successful in London at an early age, a man of fine physique, with rich mental endowments. He was to the fore in every effort to raise the status of dentistry and promote its scientific progress. He took a leading part in founding the Dental Hospital, and has lived to see it become the Royal Dental Hospital of London. He was also to the front in establishing the Odontological Society of which he has served in the presidency. A very remarkable man also socially, and a generous philanthropist. He died in the house so long associated with his name and work in Portland Place, aged ninety-two years.

The other venerable gentleman who died on the same day was Charles Holding, F.R.C.S., Eng. He took the M.R.C.S. and L.S.A. as long ago as 1830, having studied in the old united school of Guy's and St. Thomas's and also at Edinburgh. He was made a Fellow of the College of Surgeons in 1855 and a licentiate of the Edinburgh College of Physicians in 1859. He reached the age of ninety-three years and nine months.

The death of Dr. James Foulis, M.D., F.R.C.P., Edin., at the comparatively early age of fifty-five, removes a notable and successful practitioner from the Scottish capital. He graduated in 1872, and was elected a Fellow of the Edinburgh College of Physicians in 1888. He was too busy to write much, but in the early part of his career he contributed to the Royal Society of Edinburgh an important research on the "Development of the Ova and the Structure of the Ovary in Man and Other Mammalia," a subject which he afterward followed with interest, especially in relation to ovarian disease.

Dr. E. H. Dickinson of Liverpool died on the 10th inst. For more than thirty years he was physician to the Northern Hospital, an appointment which he resigned last spring on account of failing health. He took his M.D., Edin., in 1876, and was elected F.R.C.P. in 1880. He graduated in Arts at Oxford. He wrote a treatise on the "Medicine of the Ancients," and contributed practical papers to the societies.

Other recent deaths are:

Surgeon-General W. A. Thomson, M.B., Hon. Phys. to the King, died on the 6th inst., aged seventy-one years He entered the army in 1851, and retired in 1892.

Dr. Aplin, on the 21st, Superintendent of Notts County Asylum, aged forty-seven years.

Dr. Bentham, formerly superintendent of London House Asylum, and since medical adviser of various charitable institutions in which he took great interest. He died on the 15th, aged eighty-one years.

The Rev. J. Dalzell, M.B., M.A., B.D., of the Gordon Memorial Mission in Natal, died on September 21, aged sixty years. He served as surgeon in the Zulu War, for which he had the medal.

Henry Duncalfe, M.R.C.S., who qualified in 1851, and long held a superior position in the Midlands, both as a medical man and a promotor of public works. He retired in 1874. He died suddenly on the 20th inst., aged seventy-three years.

James Livingstone, M.D., J.P. of Wishaw, on the 4th inst., aged sixty-seven years.

OUR PARIS LETTER.

(From our Special Correspondent.)

CHAUFFARD'S OPINION OF HAYCRAFT'S TEST—THE BUBONIC PLAGUE ON BOARD THE "SENEGAL"—THE PLAGUE AT NAPLES—CALCAREOUS STRICTURE OF THE URETHRA—SUPPOSED CASE OF DEATH FROM MEDULLAR COCAINIZATION—DR. CROSTI'S REMARKS ON BASSINI'S OPERATION—CONGRESS OF GYNECOLOGY AT NANTES—FOURTEENTH CONGRESS OF MEDICINE—DREYFUS-BRISSAC ON TREATMENT OF PNEUMONIA.

PARIS, October 18, 1901.

DR. CHAUFFARD, who is the best-known liver specialist in France since Hanot's death, has been investigating with Dr. F. X. Gouraud Haycraft's method of recognizing in urine the presence of minute quantities of biliary products. According to Chauffard, this test should be carried out on perfectly fresh urine, or urine that has been preserved from all fermentation by the use of a small amount of cyanide of mercury—for instance, five to six centimeters of a 2-per-cent. solution. The urine should be poured into a glass, and a small amount of powdered sulphur deposited very carefully on the surface of the liquid. If there is bile in the urine, a certain amount of sulphur falls to the bottom of the glass. The time limit should be, according to Chauffard, about five minutes. Haycraft's test reveals the presence of biliary salts or bilirubine, even when the solution is 1 in 50,000. Pettenkofer's test gives no result over 1 in 1,000. Clinical experiments were carried out on fifty samples of urine, and there was a positive reaction twenty times. This was found to be correct by the use of the spectroscope and of Salkowski's test, which is even more delicate. The *Revue Générale des Sciences* had organized a scientific excursion on board the steamer *Sénégal* which left Marseilles on the 14th of September for Asia Minor and Palestine. Two or three days after the departure, two cases of bubonic plague were discovered by the medical officer, and the steamer was obliged to put back to Frioul, the lazaretto of Marseilles. There were nineteen physicians on board, and among them Drs. Terrier Bucquoy, Chauffard, Richardière, Castex. All the passengers and crew, with the exception of thirteen, were inoculated. One of the two patients has already died. On the night of the 23d of September, the prefect of Naples notified the Minister of Interior at Rome that some suspicious cases of what seemed bubonic plague had broken out among the workmen employed at the Punto Franco. The necessary precautions were immediately taken.

It seems probable that at one of the next meetings of the Academy of Medicine there will be an "interpellation," according to parliamentary language, on the means employed at Frioul to insure complete disinfection.

There would seem to be a rumor current that, for instance, of the two openings in the "étuves" only one is used; that in one case of bubonic plague on board a steamer coming from Suez the passengers were landed eight days after their arrival, given a bath, and subjected to relative disinfection, and disembarked the next day at Marseilles. It would also seem that in case of hemor-

hage the physician in charge was obliged to borrow a solution of ergot from one of the physicians on board the ships stationed in the harbor. At a recent meeting of the Society of Surgery, Dr. Bazy spoke of a peculiar case which had been treated by Dr. Dupraz of Geneva. The patient, a mason, had injected limewater into his urethra as a means of curing gonorrhœa. He had continued this treatment for several months, and when Dr. Dupraz examined him, he found a stricture extending nearly the entire length of the urethra, and admitting only a No. 9 bougie. This stricture was the result of a chalky deposit. Curettage was found inefficient, and Dr. Dupraz used injections of a 1 per 1,000 solution of hydrochloric acid. This deposit had disappeared after twelve injections.

A few weeks ago, several political journals spoke of a case of death from medullar cocainization, which had taken place at the Beaujou Hospital. A woman, suffering from a wound of the foot, had been anæsthetized by Tuffier's method, and had died a few hours afterward. The facts presented in this manner seemed to be most serious. It would seem to be, however, as usual, what they call in French a "canard," showing once more the tendencies of the press to incriminate physicians when they can. The surgeon who had operated this patient, Dr. Lyot, wrote to the *Presse Médicale* and indicated in what manner death had taken place.

The patient showed symptoms of septicæmia, the third after the accident, the temperature being at 40°; the tongue is dry, there are diarrhœa and incontinence of urine. Before the operation, an injection of one and a half cubic centimeters of cocaine solution was made, and the astragalus was removed. The temperature remained at 40° after the operation, and death took place the next day. Dr. Lyot said that there were no symptoms of poisoning by cocaine, and that the autopsy revealed no lesion of the spinal cord.

Dr. Crosti, surgeon of the Hospitale Maggiore at Milan, has been performing some operations in Professor Reclus' service at the Laennec Hospital.

According to Dr. Crosti, one of the important points in Bassini's operation is overlooked by a certain number of operators, not only in Paris, but elsewhere. The latter is that by which the posterior wall of the new canal is formed by the union of the fibers of the rectus, transversalis, and minor obliquus to the deep part of Poupart's ligament. It is necessary to separate these fibers from the adponeurosis of the major obliquus and the subserous adipose tissue, so that there should be no tendency to pull on these tissues to bring them together. Dr. Crosti believes in using silk for these deep sutures, and in places, such as Perouse, Sienna, or Rome, silver wire is used.

At the Congress of Gynecology, Obstetrics, and Pediatrics, held recently at Nantes, a question which was very much discussed, and which was the subject of a long report by Drs. Olivier and Schmitt of Nantes, was "the defence of children." Dr. Olivier said it was necessary that a pregnant woman should have complete rest six weeks before and six weeks after delivery. An indemnity equal to two-thirds of the salary earned by the woman should be given her during that period. There is already a law in France, called the Roussel law, which provides for the medical supervision of all infants who are not cared for by their parents. The orator recommended that all infants during the first year should be examined and reported on medically every month during the winter, and every fifteen days during the summer. Professor Pinard made several remarks on the desirability of teaching children and young people some of the reasons why they should take care of their health for ultimate reasons. A rest of at least three months should be allowed women before parturition. Dr. Pinard said he did not believe in "crèches," as he thought it unwise to take the child away from its mother. Dr. Pizzi deprecated the tendency shown in schools to force the students to learn too much, so as to pass an examination at a certain stated time.

The following resolution was passed by the Congress: "All pregnant women should be placed in the best hygienic conditions during the last three months of their pregnancies, and the first month following delivery, and the public authorities are called upon to find the best methods of insuring the realization of this measure."

The preparatory work of the Fourteenth Congress of Medicine has already begun. The President will be Professor Julian Calleja y Sanchez. The General Secretary, Dr. Angel Fernandez Caro y Nouvilas, and the Treasurer, Dr. José Gomez y Ama. This congress will take place in Madrid in 1903, from the 23d to the 30th of April.

Dr. Dreyfus-Brissac, a well-known physician of the hospitals, treats pneumonia by ipecac when the stomach and heart do not show indications of advanced lesions. The patient is given every hour a soupspoonful of powdered ipecac 1 gram; julep, 120 grams. Care should be taken to avoid both vomiting and diarrhœa. When this preparation has been absorbed, some alcohol is given with sparteïn and caffeïn, if necessary. This treatment would seem to relieve the dyspnœa, increase the expectoration, and diminish the temperature.

THE DISADVANTAGES OF SULPHATE OF COPPER IN DISEASES OF THE EYE.

To the Editor of the Medical Record

Sir: Allow me a few words in rejoinder to the letter of Dr. Claiborne, Medical Record, October 26.

In my opinion it is my duty, as well as my privilege, to criticise a method of treatment which my experience has taught me is a bad one, or the use of a remedy which I believe to be pernicious in its effects. Hence, my criticism of Dr. Claiborne's paper. I hasten, however, to exculpate Dr. Claiborne in the matter of the treatment of the case of mixed infection cited by me. I regret very much that such an inference that I had referred to Dr. Claiborne might seem possible. I do not hold that atropine is indicated all the time in every case of trachoma. I say that it should be used in every case of conjunctival or corneal affection in which there is photophobia, ciliary spasm, or even excessive lachrymation, and those conditions are always present in trachoma with ulceration of the cornea. I cannot commend Dr. Claiborne's guess when he inclines to the opinion that the iritis in the case of mixed infection resulted from the perforation of the cornea. As a matter of fact, the iritis had existed for a long time before; and immediately began to improve when the anterior chamber was evacuated by the ulcer. Dr. Claiborne will pardon me when I remind him that such a result would be the thing to expect. The doctor's presumption is again at fault when he presumes that it was I who did the iridectomy in that case. The operation was well done by a better surgeon, and the resulting V. 5/200 was not in any way attributable to the operation. I, however, had the supervision of the after-treatment. I am very glad to hear that the type of trachoma in Berlin has been modified by Dr. Hirschberg's use of silver in its treatment there. I can well conceive such a thing possible. It is furthermore a most regrettable thing that New York does not possess more followers of that surgeon. I am familiar with the type of trachoma described by Dr. Claiborne, among the Hibernians and the Poles of New York, and for six years I touched them and saw them touched, *secundem artem*, with sulphate of copper. I was among them long enough to see some of them grow from youth to completed adolescence with their trachoma unchanged for the better; I make no manner of doubt but that Dr. Claiborne is treating some of those people yet, and that they come smiling up to the copper, a bit grizzled, alack! by these twenty-five years, but "used to it," . . . and finally inconvenienced almost to no extent;" but it doesn't speak well for copper. I am pleased that Dr. Claiborne should at least agree with Dr. Knapp and myself as to the culpability of those who fail to recognize and properly treat an iritis. However, the sentence following: "But Dr. Knapp has never suggested to treat a patient for iritis when there is none," would seem to be most irrelevant and not in the pleadings. I said nothing in my paper of Dr. Knapp's treatment or failure to treat an iritis. I am rather pleased at Dr. Claiborne's astonishment at the cases detailed by me, which must have been profound, or he would not have taken the liberty of misrepresenting what I had said. I did not say that the patient R. had been treated by "six or eight eminent surgeons," but that he had been treated by "six or eight men more or less eminent." (I think that the gentleman was not treated in New York, or I should not have called attention to the correction.) Further, I did not say that I had "cured this patient completely" in three months or in any other time, but that "under the treatment outlined above, he was immediately relieved and able in three weeks to return to his work, using the bichloride at home; in three months the eyes were practically well, and have remained so now twelve years."

The specific character of the disease did not again assert itself, and gradually the infiltration of the conjunctiva subsided. Dr. Claiborne will never see a "cure" of a trachoma effected in any other way, whatever the treatment used. I would not accuse Dr. Claiborne of "scientific untruth," but, in the interests of the younger men of the profession, I also would uncover a faulty method of treatment and indicate its perniciousness. Further, now, that Dr. Claiborne has rejoiced, I would add that I said essentially the same things before the Ophthalmological Section of the American Medical Association in 1893 that I have mentioned in my criticism of Dr. Claiborne's paper. I regret that the opportunity may not be mine of demonstrating to Dr. Claiborne, at first hand, the efficacy of the method of treating trachoma which has made such a shocking impression upon his mind; but if the doctor is

inclined to play fair and really is in earnest, I now ask him to give the plan an honest trial and report his results as honestly. If he declines this gambit, then I name him a slave to the copper jade, a victim of cuprous hemianopsia, and afflicted with psychic pseudo-scientific myopia, and that he keep his peace.

CORNELIUS WILLIAMS, M.D.
145 WEST FIFTH STREET, ST. PAUL.

TO GUARD AGAINST THE BITE OF THE MOSQUITO.

TO THE EDITOR OF THE MEDICAL RECORD:

MOBILE, ALA., October 29, 1901.

SIR: Referring to the transmissibility of malarial and yellow-fever infections by means of mosquitos, and the possibility of keeping these pests from biting by the use of the essential oils, I notice (*American Medicine*, October 2) F. A. H. recommends oil of cassia instead of oil of pennyroyal, as recommended by V. H. McKnight (MEDICAL RECORD from *Philadelphia Medical Journal*).

Dr. Walter Reed (MEDICAL RECORD, October 26, 1901) recommends the use of camphor, menthol, or pennyroyal to rub the exposed surfaces when visiting yellow-fever cases.

The interest taken in this subject is natural, since, if the mosquito does not bite one, *she* cannot convey infection. A prevention which I have used for some years when out fishing or hunting in swamps where mosquitos were prevalent, and in the evenings when sitting out-of-doors, and which I have found to be most excellent and efficient, is the oil of citronellæ (oil of verbena, Indian melissa oil). It has a very pleasant odor, and is not expensive. The oil should be rubbed into the exposed parts, and repeated occasionally, or the following is quite as efficient:

℞ Oil citronellæ ..... ʒj.
Alcohol ..... ʒj.

S. Apply freely to face, neck, hands, and ankles, to prevent mosquitos from biting.

Color this with something to make it slightly green, and you have the preparation known as "Skat Skeeter," "No Mosquit," etc., sold in the shops, and rather extensively used in some of our Southern cities.

W. P. MCINTOSH, M.D.,
(Surgeon M. H. S.).

ANTISEPTIC SURGERY IN THE PHILIPPINES.

TO THE EDITOR OF THE MEDICAL RECORD:

ORAS, SAMAR, P. I., Septemb. 14, 1901.

SIR: A short time ago I was landed with one company of infantry on the eastern coast of the Island of Samar, which is about as desolate a place as one could well find. The battalion which was sent to this island was divided into four parts, and each company sent to a different place, and widely separated. The medical property was likewise divided, each one being cut short, and my surgical equipment consisted of one small pocket case. The second day after landing, a native spy was shot by one of the soldiers on outpost, the bullet entering the posterior part of the thigh, near the junction of the middle and lower thirds, striking the femur and producing the most extensive comminuted fracture and laceration of soft parts I have ever seen. The anterior part of the thigh was laid open for a distance of six inches, and large pieces of shattered bone were plainly visible. The popliteal artery had escaped, but there was considerable hemorrhage from the smaller vessels. Amputation was the only thing like fair treatment for the unfortunate hombre, but what to do it with, was the question. The company cook said he had a butcher saw, but it was very rusty, so I told him to put it on to boil, and we would try it. I then got out my other instruments, consisting of two hemostatic forceps, a small scalpel, and two needles. The native was then placed on an old table, in the broiling hot sun, for we had no houses or shade, and the parts were washed up a bit. After getting the patient anæsthetized, I intrusted that part of the job to a big fellow, one of my assistants, and proceeded with the operation. While I was slowly cutting my way down to the bone with the little scalpel, I was interrupted by the anæsthetizer saying, "Sir, I believe he is dead." And sure enough he was, to all appearances, and it took some time of hard work to bring him around again. In the meantime, the cook had brought up the saw and placed it on the ground near the table, before I saw him. The saw was rusty and dirty, but it worked very nicely, and I soon had the bone off, the vessels secured, and the wound closed, the whole operation only lasting thirty minutes. We placed the hombre in a tent, and that night we had a hard storm, and the tent blew down. The next morning we pulled him out from under the wet canvas, and he didn't seem to mind it a bit, and wanted some rice. To make a long story short, at the end of ten days all the stitches had been removed, the wound closed, and I sent him off to an island some ten miles distant with some friendly natives, and not long ago he paddled over to see us. Two things of interest may be noted in this case—one, the absence of any pus or infection and the rapid recovery; and the other, the apparent internal explosive effect of high-velocity bullets at short range. The rifle was the Krag-Jörgensen.

ROBT. M. BLANCHARD, M.D.,
A. A. Surg., U. S. Army.

Progress of Medical Science.

Boston Medical and Surgical Journal, November 7, 1901.

Artificial Noses and Ears. Robert H. Upham prefers vulcanized rubber as the best material to use, and believes that they can be made so perfectly that the wearing of glasses or veils to hide poor workmanship is unnecessary.

On the Establishment of Medicolegal Diplomas.—Wyatt Johnston believes that there is urgent need for some scheme for reforming expert testimony, and that the best standard for the adoption of medicolegal diplomas is that recently accepted in France. This demands a full academic year (nine months), post-graduate study in legal medicine, including practical autopsy work, elementary toxicology, study of nervous diseases, medicolegal methods in examination of stains, questions of sex, etc., and a knowledge of medical law and responsibility. To these requirements should be added at least six months' practical training as assistant in medicolegal work of all candidates, and a practical training in the medicolegal study of disability after injury.

Medical and Sanitary Conditions in the Philippines.—W. P. Chamberlin writes that, though the archipelago lies within 5° and 15° north latitude, the average temperature between the hottest and coldest months ranges from 77° F. to 84° F. The average rainfall is 75 inches. The season of greatest rainfall varies in different parts of the islands, and may be escaped by judiciously moving about. The discomfort from heat is no worse than that which frequently has to be borne in New England. The natives live principally on rice through necessity, as meat is beyond their financial resources. The water supply is from muddy rivers and shallow wells, as a rule. The sewerage and drainage systems, even in Manila, are very incomplete and imperfect, and other towns are innocent of any attempt at sanitation. Much has been accomplished, however, in the way of municipal cleanliness by the Board of Health (composed of Army Medical Officers). Smallpox is everywhere epidemic, and beriberi is common and fatal. Lepers exceed 30,000 in number, and are not, as a rule, segregated. Colentura (a fever in most cases malarial) occurs very frequently among the natives. Malarial fevers are usually of the intermittent type. Pernicious malarial fever is confined to a few localities. In many cases the plasmodium is not found, and Widal's test fails to react. The author believes these belong to a class of fevers, the etiology of which has not yet been ascertained. Dysentery is found in two forms: One due to the *amœba dysenteriæ*, and the other (specific dysentery) to a short rod-like organism, the *bacillus dysenteriæ*. Both are occasioned, it is thought, by polluted water. Venereal diseases occur in 10 per cent. of the sick list among the soldiers. Syphilis occurs less frequently than at the home stations, but chancroidal disease is quite common among the Filipino prostitutes. Parasitic skin diseases prevail to a large extent among the natives. The author believes that the army ration, as used at present, furnishes a good and proper diet.

Journal of the American Medical Association, Nov. 9, 1901.

Typhoid Fever; Dietetic Treatment.—L. Fischer says that the vital points to be considered in the course of treatment of typhoid fever are: 1. Exhaustion from continued draining of the body, if a prolonged diarrhœa exists; thus large quantities of serum are lost, and the blood supply is weakened. 2. Continued fever means continued loss of fat and muscle and rapid emaciation. 3. Loss of strength from recumbent position, and from absence of normal substantial foods. 4. Toxæmia, showing its effect chiefly on the heart and circulating apparatus, demands careful noting when stimulation is demanded. 5. Résumé of foods successfully used in a series of cases of typhoid. 6. The value of salines, and especially the administration of saline infusion per rectum, and if coma prevails, its use by hypodermoclysis. 7. Albumin and salt administered subcutaneously. 8. Peptonization of foods; sterilization

and pasteurization; use of raw milk in this condition. 9. The administration of water with and without carbonic-acid gas. 10. If severe vomiting and gastric disturbance exist, feed per rectum and colon; if severe diarrhœa and tenesmus prevail, feed per stomach.

Treatment of Pneumonia.—De Lancy Rochester believes that the greatest success in the treatment of pneumonia will come from a recognition of its essentially toxic nature. He advocates eliminative and supportive measures, the details of which may be summarized as follows: 1. The sustaining of the metabolic processes of the individual by the administration of easily digested or predigested foods in small quantities at stated intervals, the administration of large amounts of pure water for eliminative purposes, and the administration of oxygen gas by inhalation whenever the absorbing surface of the pulmonary mucosa is involved to such an extent as to interfere with proper metabolic oxygenation. 2. Elimination (*a*) By the liver and bowel through the vigorous use of calomel and salts; (*b*) By the skin through sweats induced by external heat; (*c*) Through withdrawal of blood when indicated by right heart distention. 3. Stimulation of heart by strychnine, alcohol, or ammonium carbonate, and, in suitable cases, by the subcutaneous injection of normal salt solution. 4. The local treatment of the lung by leeching, wet cupping, or dry cupping. He reports 168 cases from hospital and private practice, with a mortality of 10½ per cent. The cases extended over a period of ten years, and represented all walks of life.

Strabismus; Its Treatment.—The conclusions presented by A. E. Davis are: 1. That it is desirable that we have a uniform or standard set of tests for the accurate measurements of strabismus. 2. A better understanding of the physiological action of the ocular muscles and of physiology in general than at present obtains should be had by those treating and operating on strabismus cases. 3. The amblyopia present in most cases of convergent strabismus is functional and acquired, and not congenital, except in rare cases. 4. The non-operative treatment of strabismus—atropine, the exclusion pad, and, in patients old enough, glasses, the stereoscope, and bar-reading—should be begun as soon as the squinting is observed; for, it is in the early cases that this form of treatment is capable of doing so much good. 5. About 30 per cent. of all cases of strabismus may be cured by non-operative treatment alone. 6. Just as soon as the non-operative method of treatment ceases to improve the condition of the squint, it is time to operate. Delay in operating after this is not only useless, but harmful, because the habit of suppressing the image in the squinting eye becomes fixed and the amblyopia worse. 7. After the eyes have been operated on, the use of the stereoscope, bar-reading, the pad, glasses, etc., are of the utmost use in completing the cure. 8. Panas' method of operating for strabismus by stretching the muscles before cutting them is to be recommended as safe in execution, quick in results, and efficient. It should never be performed while the patient's eyes are under the influence of a mydriatic.

New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery.—G. Kolischer and L. E. Schmidt call attention to the difficulty of representing the ureters on a plate on account of the delicate structure of these tubes. But, by the introduction of a suitable *x*-ray-absorbing material into these organs with a simultaneous skiagraph, results of the highest value may be obtained and diagnostic problems solved that hitherto have been obscure. The technique is as follows: For locating the ureteral openings in the bladder and sounding the ureters in most of the cases, they use Brenner's cystoscope; only in a few cases, where special peculiar conditions prevailed, they resorted to an improved modification of Casper's cystoscope. Extensive cadaver work convinced them that the most desirable material for the sounds is lead, blended with some antimony. This kind of lead wire is extremely flexible, so that the natural course of ureters would not be changed by introducing the sound. These sounds are soft, and their surface is polished up to perfect smoothness, so that injuries to the lining of the renal pelvis and of the ureter are not to be expected, and, in fact, are not to be observed, as careful examination in cadavers has proven. Several excellent skiagraphs illustrate the method described. It is claimed that the latter is free from danger, will determine the course of the ureters, location of renal pelves, diagnose dilatation of the latter, and determine the location of renal calculi. It is possible for the experimenter to determine the seat, and, to a certain extent, the nature of a ureteral obstruction; gallstones can be differentiated from renal stones, and dislocated and enlarged kidneys from non-renal neoplasms.

New York Medical Journal, November 9, 1901.

The Treatment of Cutaneous Epitheliomata.—The conclusions presented by C. W. Allen are: 1. Cutaneous cancer can be traced in almost all instances to preceding local irritation. 2. While other causes may be operative, it is not unreasonable to assume that infection may be one source of irritation occasioning cancer. 3. Benign epitheliomatous proliferations of infectious nature transmitted by contagion lend weight to this view. 4. Cancer is curable, but the disease may be allowed to progress until the patient no longer is. 5. No treatment short of the most radical measures should be tolerated. 6. In the application of caustic pastes and subsequent cauterizing dressings we possess a method not alone radical, but one which is in many conditions preferable to the knife. 7. The earlier treatment can be applied, the less likelihood is there of recurrence or of subsequent outbreaks in other parts due to cancerous tissue which has been left behind. 8. The *x*-ray as a means of treatment bids fair to prove quite as effective as caustic applications.

Social Aspects of Dermatology.—The topics discussed by Malcolm Morris in the ninth Lane Lecture are: Feigned eruptions, erythema, erythema multiforme, dermatitis herpetiformis, pemphigus, erythema nodosum, lupus erythematosus, rosacea, lichen, lichen ruber planus, lichen neuroticus, skin neuroses and mental disturbance, zona, eczema, the unknown pathological factor, the parasitic theory, and the nervous factor. Concerning the last-named disease, Morris' view briefly stated is that in a large proportion of cases eczema is predisposed to by disordered innervation of the skin, and that the diminished resistance thus caused opens the way to the invasion of microorganisms. Some regard eczema as contagious: the lesions certainly are spread on the patient's own skin by auto-inoculation, but the evidence that it can be communicated to another by contagion is very slight. Nurses sometimes have eczematous-looking eruptions on the hands, when treating children suffering from the disease; but there is a source of fallacy which may easily mislead the unwary in these cases, namely, the impetigo contagiosa not infrequently assumes the appearance of eczema. The inoculation of cultures of the various microorganisms which have been held responsible for the causation of eczema has seemed to me at most to have produced lesions of an eczematoid type, but not the disease which we call eczema.

Devitalized Air; Toxæmia, a Prime Cause of Tuberculosis.—Charles E. Dennison believes that toxæmia arises from stagnant unventilated air existing in the lungs themselves. It is not necessary to show that ventilation, though ample outside the body, may be very deficient within the lungs, because of disuse from insufficient exercise. The force of the argument increases as we go inward with the analysis of the air. The vitiated and fermenting combination of the unrenewed pulmonary air, increased by body heat, the outcoming carbonic acid, and the poisonous tissue detritus, is simply a tenfold intensification of devitalized air outside that body in an unventilated room. The living tissue that will stand this and not deteriorate must indeed be in prime condition. This devitalization, due to lack of ventilation, leads to the pale face, sallow skin, weak pulse, cold hands and feet, and sluggish bowels; the feeble powers of digestion, assimilation, and nerve energy—all of them proofs of flagging vitality. This lethargy is due to enfeebled and poisoned blood-corpuscles, and to a probable self-infection, but especially to deprivation of food for the blood—*i. e.* of oxygen from the air. In addition, the dead air, which marked deficiency of ventilation implies, compels inactivity and limited use of the lungs, and this, in turn, means the gradual clogging of out-of-the-way air-cells with the products of combustion. In this manner, carbonic-acid poisoning and a species of self-infection are more or less permanently established. The destructive influence of sunlight upon the tubercle bacillus is now generally admitted. If, in addition, the contention of Fränkel, that this bacillus is a facultative anaerobic germ, is sustained, then the assertion of a predisposing cause in defective ventilation is strengthened by the existence of favorable conditions furnished for such germination in the warm unventilated lung.

Medical News, November 9, 1901.

A Case of Raynaud's Disease.—W. A. Haley reports this case. The patient was fifty-five years old. There was an elevation of temperature either from the intensity of the pain or from some other cause. There was fever even before necrosis began. Nature seemed to make an effort to circumscribe the disease, but the process continued to involve new tissue. Within an hour after amputation of the leg, the cut ends of the arteries and veins had lost but little blood. The skin remained cyanotic, the large vessels retained their identity, while the small ones were lost in the tissue, which looked bruised. Blood clots, some of which were organized, were removed

from the long saphenous vein. This disease is not necessarily benign. In this case, heat relieved the pain somewhat, cold made it worse.

Philadelphia Medical Journal, November 9, 1901.

The Ultimate Results of Operation for Cancer of the Uterus.—Charles P. Noble concludes that the majority of patients with cancer of the uterus when they consult the surgeon are too far advanced to warrant the hope of a radical cure. At least 10 per cent. of the cases of cancer of the cervix operated upon remain free from the disease at the end of five years, and may be considered cured. The results of hysterectomy, whether vaginal or abdominal, for cancer of the corpus uteri are far more satisfactory. Abdominal radical hysterectomy for cancer of the uterus, involving the removal of the pelvic glands and the parametria along with the uterus, is still upon trial. Its primary mortality is probably double that of vaginal hysterectomy. The fallacy of the classical teaching concerning climacteric hemorrhages does more than anything else to prevent an early diagnosis of cancer.

Chronic Ulceration of the Stomach Simulating Cancerous Disease; Relation of a Case of Gastroenterostomy with the Murphy Button; Recovery.—James F. W. Ross and E. B. O'Reilly believe that early diagnosis in either chronic ulceration or cancerous disease of the stomach is yet almost impossible. The writers report the case of a woman of twenty-eight years. She was extremely emaciated; there was rigidity of the right rectus muscle, and an indefinite thickening could be felt in the epigastric region. The patient had been suffering for several years with this trouble. At the operation a large growth was found at the pyloric end of the stomach, the perigastric lymphatic glands were enlarged, and the whole stomach wall looked exactly as it does in cases of cancer. The case was thought to be hopeless, so the growth was not removed, but an anastomosis was effected between the stomach and duodenum. A large Murphy button was used. Eleven months later the patient weighed 140 pounds, and looked the picture of health. No mass could be felt, and there were no gastric symptoms.

The Surgery of Pulmonary Abscess; Gangrene and Bronchiectasis Following Pneumonia.—Daniel N. Eisendrath states that both acute and pulmonary abscess and gangrene following pneumonia may develop immediately, and chronic and simple putrid abscesses, with or without bronchiectasis, are more remote sequelæ of both croupous and influenzal pneumonia, especially the latter. The most valuable points in the history are the etiology and the sudden expectoration, after an apparent crisis, of pure non-odorous pus in the simple abscess cases, or of fetid pus in the gangrenous variety. In the chronic cases, there is usually a history of a pneumonia having preceded the condition at some considerable time previously, followed by expectoration of large quantities of pus, with exacerbations of fever, emaciation, often clubbed fingers, etc. Signs of cavity are seldom present. The moist râles, especially of large metallic character, are the most reliable physical signs. The character of the sputum, whether purulent or fetid, is also of great value. Elastic fibers are more often found in gangrene than in abscess. The x-ray is only of confirmatory importance. When it shows a shadow at the same point where the physical signs are present, it is of value. The prognosis of abscess and gangrene following pneumonia, medically treated, is not very favorable. Many cases of both varieties can be successfully treated in a surgical manner by pneumotomy.

American Medicine, November 9, 1901.

Appendix Vermiformis Passed in Stool.—W. L. Wallace gives the history of a young man of twenty-one years who had had several attacks of appendicitis. It was finally decided to operate, but twenty-four hours before the time appointed, the patient passed the appendix in a stool. It was three and one-half inches long, and consisted principally of the mucous and submucous coats. It was perforated near the distal extremity and contained several concretions, one of which protruded from the perforation. During the attacks the tumor was in the right inguinal region. The abscess probably broke into the cæcum, carrying the appendix into the head of the colon. This was a very acute appendicitis, with perforation of the appendix, abscess formation, and necrosis of the cæcum, a most dangerous condition which was cured by a fortunate operation of Nature.

The Nature of Internal Lesions in Death from Superficial Burns. John McCrae emphasizes these points: The entire pathological picture presents great similarity to the conditions found in the diseases characterized by the presence of toxins of bacterial origin in the blood. Damage to the lymphatic tissue is a constant feature, but is not necessarily focal, some cases presenting only diffuse degeneration. The patients who live but a few hours after infliction seem more likely to have a focal condition than those who live a longer time, as the condition interpreted as proliferation and phagocytosis is one which may rapidly disappear. The focal lesions are not a true necrosis, but rather a proliferation of the endothelial cells of the reticulum and the capillaries, and a phagocytosis by the leucocytes and endothelial cells, to which latter is due the fragmented, disintegrated appearance which suggests a true necrosis.

The Lancet, November 2, 1901.

Ague Contracted in a Non-Malarious District.—J. L. Stretton narrates the history of a woman with an ague which responded promptly to salicylate of quinine. The attack came on while she was at the seaside, where her brother was also staying. He had lately returned from India. While the patient was at the seaside, she was bitten by some insect on the forehead. It was thought possible by Stretton that the insect might have been itself inoculated by biting the brother (who had had ague in India) and then biting the sister.

Milk or Whey in Enteric Fever.—P. Selby says that milk should not be given as a diet to typhoid-fever patients, first, because milk in many cases forms hard cheesy curds in the stomach. These curds pass along the intestine, giving pain and scraping the raw surfaces of the ulcers, and causing in many cases hemorrhage, perforation, and death. The effect of these cheeselike masses of casein is worse for the patient than feeding on well-masticated solids. Moreover, the perpetual distention of the bowel from the large amount of gases evolved by the digestion or decomposition of the milk keeps the ulcers stretched, and thus thins their floors. Secondly, because the bacillus typhosus breeds rapidly in milk, the more bacteria there are, the more the toxins produced, and the more the toxins the more the fever and constitutional disturbance, with foul mouth, headache, cardiac weakness, delirium, and a feeling of illness. In place of milk he advocates whey made according to the following directions: To each quart of new milk stir in two teaspoonfuls of rennet. Put it into a pan and warm slowly till it curdles. This takes about twenty minutes. Break up the curd and strain the whole through fine muslin. The curd is thus separated from the whey. A quart of milk yields about six ounces of curd. If the whey be sterilized, some lemon juice must be given occasionally to prevent scorbutic symptoms.

Metallic Poisoning.—W. R. Gowers discusses the subject of lead and arsenic poisoning. He calls attention to the fact that there are cases of lead poisoning not presenting any actual paralysis, but an inspection of the mouth will reveal the "lead line," and an omission of this procedure often causes a non-recognition of the true nature of the case. He quotes Jenner's saying that "more mistakes are made, many more by not looking than by not knowing." A similar observation applies to the recognition of the pigmentation due to arsenic. The brown pigmentation begins as small spots, which may commence in spots of congestive redness, and the brown tint succeeds the red. These dark spots sometimes exist alone, more often they are seen chiefly on the outer portions of the most pigmented regions, where the tint is more uniform. The uniformity may be due to coalescence of the spots, but sometimes this diffuse coloration seems the first thing. The tint is that which is called sepia, a warm sepia or cold sepia, according to its duration, to use the terms employed by artists. It is not so dark as the pigmentation of Addison's disease, and has not the same distribution. Although it is more marked at places at which there has been pressure, it occurs irrespectively of this, and is greatest on the parts of the trunk least affected in Addison's disease. When the small discrete spots coalesce, they often leave small areas which are unpigmented, and which have a pearly whiteness.

British Medical Journal, November 2, 1901.

A Case of Ulcerative Endocarditis, with Recovery.—H. E. Whitchead and H. W. Syers describe the history of this case. At several stages of the malady it seemed impossible that the patient could recover. Careful nursing, feeding, and use of stimulants had much to do with the recovery, undoubtedly, but they think much of the good result was due to the use of sodium sulphocarbolate. This was ordered in fifteen-grain doses when the patient was at his very worst. Not long after it was given, the patient began to improve. This drug was given every four hours, and was continued until convalescence was established. The writers add that, even if the recovery following the administration of this drug is only a coincidence, it is worthy of notice, and

would emphasize the advisability of the drug being ordered in a similar case.

A Remarkable Case of Aortic Aneurysm of Sixteen Years' Duration; Death from Rupture Externally.—T. R. C. Whipham sums up the remarkable points about this case. For full fifteen years the patient was kept under observation, and during the whole of that time he had a large external tumor, though the aneurysm had been forming for a year, and perhaps longer, before that. The aneurysm passed through frequent and sometimes rapid variations in size, which several times threatened the patient's life. Marked benefit was experienced from prolonged periods of complete rest and treatment, both medicinal and dietetic. During this time the patient had an attack of pleurisy and pneumonia from which he recovered. The entire external part of the aneurysm, which arose from the upper and anterior aspects of the arch, sloughed and came away, after which the patient lived for nearly nine days. The aneurysm then ruptured externally.

A Case of Herpes Zoster Illustrating a Presumptive Cause.—John B. Yeoman reports this case. The patient had an ovarian tumor on the left side removed, after which there were some swelling and uncomfortable sensations in the left lower extremity. Several months later a patch of herpetic vesicles appeared at the level of the third sacral spine, close to the middle line on the left side. Another group appeared on the inner side of the thigh. A few hours after the eruption of the first group, the left labium majus became studded with vesicles. The case ran the usual course, leaving a scarred and pitted surface. The writer believes this to be a case of zoster, the eruption taking place over the cutaneous distribution of the posterior primary divisions of the last dorsal and first lumbar nerves. These nerves are part of the supply of the appendages, and must have been extensively damaged in the operation.

Remarks on a Case of Infantile Scurvy.—John McCaw reports a case of scurvy in a child of ten months, in whom the more prominent symptoms usually seen in scurvy and rickets were absent. No periosteal swelling could be found, the gums were normal in every respect, and two upper and two lower central incisor teeth appeared healthy: there was no proptosis of either eye, nor was there any ecchymosis or œdema of either eyelid. Subcutaneous hemorrhages never took place, and the child never made any complaint of pain on being handled. There was slight beading of the ribs, which was the only distinctive sign of rickets. The child was thought to be vigorous and healthy till he was taken ill. He vomited a considerable quantity of blood, and this was followed by a copious loose motion in which was much altered blood. The child had been fed from birth on condensed milk, and later upon a proprietary food and oat flour. The treatment consisted in the administration of orange juice every two hours, whey and cream at frequent intervals, and one teaspoonful of raw meat juice every four hours. It was advised to apply the icebag to the epigastrium, carefully watching the effect. Eight days later, the child was remarkably improved, and a mixture of arsenic and iron was given, as well as a small quantity of scraped potato or other fresh vegetable in his soup. He was taken to the seaside and made a satisfactory recovery.

Deutsche medicinische Wochenschrift, October 24, 1901.

The Cytodiagnosis of Meningitis.—E. Bendix refers to Widal's observation that in tuberculous-serofibrinous exudates lymphocytes preponderate, while in acute purulent exudations multinuclear neutrophiles occur, as almost the only cellular elements, and gives the results of the investigation of this point in eight cases of meningitis. Of these, five were tuberculous and three sporadic cases of the epidemic form, the diagnosis being confirmed by autopsy. In the former five cases, the fluid obtained by lumbar puncture contained a great excess of small uninuclear cells, while in two of the others the multinuclear neutrophiles were in excess; but the last case, though a meningococcus-intracellularis infection, violated the rule, and showed an excess of lymphocytes.

An External Manœuvre to Facilitate Defecation.—Gumprecht compares the expulsion of a fecal sausage to the delivery of the head in child birth, and describes a measure intended to protect the perineum during the act. It is, however, the region between anus and sacrum, the "posterior perineum," as he calls it, that requires support during the act, and the method is carried out as follows. The left hand is laid over the sacrum with the finger-tips just behind the anus. As the fecal column advances, the soft parts are felt to swell beneath the fingers, and gentle counter pressure is to be made. The fingers then hook themselves around the tip of the coccyx and pry off the first part of the sausage, and force it out of the anus, and returning to their original position continue to give support during the rest of defecation. The object of the plan is to relieve the pain frequently attending cases of hemorrhoids too slight for operation, thereby obviating the use of narcotics, and also to reduce the amount of cathartics required; for it will be found that once the first part of the mass is expelled, the rest of the defecation proceeds easily enough.

Uræmic Conditions.—A. Laqueur publishes some results that confirm the recent work of Neisser and Doering. In experimenting with human serum and rabbits' blood, these authors found that the blood of a uræmic patient reacted in an abnormal way. A certain amount of human serum added to rabbits' blood produces agglutination and hæmolysis of the red cells, owing to the presence of both the "complement" and the "immune" body. The presence of both of these constituents is necessary for the production of hæmolysis, but only the latter is capable of resisting a temperature of 55° C. If, in addition to the amount of active serum required, an additional quantity of serum rendered inactive through the loss of its "complement" by heating is used, in normal cases no change in the reaction is noted, but in the case of blood taken from a uræmic patient the authors found that solution was completely absent. Laqueur repeated these experiments, and found in two cases of uræmia that the same phenomenon occurred, viz., that in this state the inactive serum has the property of abolishing the hæmolytic power of unaltered serum. This peculiarity was not present in any of the other specimens of blood examined, nor even in that of a case of nephritis not giving uræmic symptoms. While it is impossible to draw general conclusions from so limited a number of observations, they may be taken as indicating a decrease in the natural powers of resistance and protection of the blood.

Berliner klinische Wochenschrift, October 21, 1901.

Physostigmine in Paresis of the Intestine.—C. von Noorden has found in this drug a valuable remedy for obstinate tympanites. Five cases are described in which good results followed its application in doses of ½ to ¾ mg. singly or repeated. No unpleasant by-effects are produced, and especially in typhoid fever good results are to be looked for.

The Westphal-Piltz Pupillary Phenomenon.—F. Schantz in investigating this phenomenon comes to rather different conclusions from the authors whose name it bears. It consists in a narrowing of the pupil occurring when the orbicularis oculi muscle is forcibly contracted, and has been explained as due to faulty innervation. It is supposed to be of service in differentiating between central and peripheral palsies. Schantz believes, however, that it never is observed except in pupils that are somewhat abnormal, and that its underlying cause is mechanical, and depends on congestion of the iris.

A Case of Subacute Heart Failure with Observations on Cardiac Therapy.—C. A. Ewald describes the case of a man of sixty-two years who, without previous heart symptoms, suddenly went into a state corresponding to a severe lack of compensation, and for two and one-half years continued in a condition of extreme heart failure. At the end of this time, however, the distressing symptoms receded, and he is now both subjectively and objectively as well as ever. There was no indication of exacerbation of a chronic endocarditis, neither did arteriosclerosis seem possible, so that the author regards myocarditis as the cause of the trouble. In discussing the therapy of this difficult case, the author lays stress on the necessity that always exists of relieving the impeded circulation by the removal of any fluid accumulations that may be present before the heart tonics can act to good effect. Morphine is of the greatest value, and the practitioner should never hesitate to give it, as it is one of the most potent remedies at his command. Digitalin and digitoxin have not given the author great satisfaction, and strophanthus also is less useful than digitalis in most cases. The much-dreaded cumulative toxic action of this drug need not be feared, though the fact that its action is always prolonged after its administration has been stopped renders it advisable to interrupt its use from time to time.

Münchener medicinische Wochenschrift, October 22, 1901.

The Future of Surviving Tracheotomized and Intubated Children.—Trumpp has collected data on 351 cases of children operated for diphtheritic stenosis of the larynx between the years 1886 and 1896. Of this number 23 have died, and 328 are still living, though 64 have since the operation developed affections of the pharynx, larynx, or lungs. Although these figures are comparatively

inadequate, still they seem sufficient to controvert Landouzy's assertion that tracheotomy induces a predisposition to tuberculosis. Still, it appears that a certain proportion of those so treated suffer from more or less serious after-effects, and this is true not only of those tracheotomized, but also of those intubated, and it therefore behooves the practitioner not to perform these operations needlessly, but only under urgent necessity.

Gallstones and Cholelithiasis.—Fiedler says that out of 93,000 patients treated at the municipal hospital of Dresden during the last thirty-three years, the diagnosis of gallstones was made 133 times. Of 500 cadavers recently examined, 10 per cent. contained biliary calculi, and of this number 5 per cent. were men and 15 per cent. women. In considering the question of diagnosis, the author believes that the most promising field lies in the elaboration of *x*-ray methods, which, he thinks, can be made to give great aid. It is probable that a diseased cystic mucous membrane is of much significance in the production of the stones, though the rôle of bacteria, like the typhoid or colon bacilli, to which importance is being attached, is still rather doubtful. A normal gall-bladder is practically never found, for thickening, contraction, adhesions, erosions, ulcers, cicatrices, etc., are nearly always present. No stones larger than about one-half pea-size can traverse the ducts without giving rise to colic, while those larger than a pea cannot escape without causing ulceration. Even if the papilla has been safely reached, at this point a pressure sore is sure to form, owing to the inelastic nature of this opening, and the stone enters the gut by ulceration through the sphincter. In the process of healing, cicatricial contraction takes place, and predisposes to further trouble. The pain of biliary colic has been explained either as due to the actual passage of the offending body or as the result of an attending acute inflammatory process in the gall-bladder. The author believes that both of these possibilities must be taken into account, and that in some cases the one, and in others the other, element predominates. In regard to operative treatment, a conservative attitude should be maintained, and precipitate operation is to be deprecated; but, if the attacks of colic and obstructive symptoms recur, the patient emaciates, and is incapacitated from his employment, while internal medication gives no result, the operation is clearly indicated.

French Journals.

Empyema Cured by One Thoracentesis.—Galliard reports the case of a woman of forty-eight years, who was attacked by a purulent pleurisy during the course of a pneumonia. One puncture was made the seventh day after the beginning of the illness, which resulted in the cure of the pleurisy, while the pneumonia lasted for three weeks. The pint of pus that was evacuated contained an enormous quantity of pneumococci and streptococci.—*Journal des Praticiens*, October 26, 1901.

Action of Milk on the Coagulation of Blood.—Camus observes that intravenous injections of cow's milk in the dog causes a great retardation in the coagulation of the blood. Before trying the experiment, the blood coagulated in twenty-six minutes; after the injection of 28 c.c. of milk into the femoral vein, the blood did not coagulate for four or five hours. The milk of a dog injected into the veins of the same dog caused a retardation in the coagulation.—*Le Progrès Médical*, October 12, 1901.

Operation on a Calcified Epithelioma; Recurrence.—Reverdin has operated on a calcified epithelioma. The tumor consisted of hard, round nodules, surrounded by masses of tissue which was hard, but not calcified. The tumor recurred. This growth, which is quite rare, generally develops before the age of thirty years, especially in the region of the eyebrows and eyelids. Some authorities think these tumors related to sebaceous cysts. Some believe them to be endotheliomatous. It is probable that the origin of the tumor is an ectodermic inclusion, it may be embryonic, it may be traumatic.—*Le Bulletin Médical*, October 30, 1901.

A New Contribution to the Study of Diplobacillary Conjunctivitis.—Aug. Collomb has given careful study to this subject. In the young infant, this affection has been rarely found. The contagion of the diplobacillary infection has been proved by inoculations in man. A little of the pure culture placed on a human conjunctiva, which up to this time has been perfectly healthy, is sufficient to produce the typical affection. Epidemics in families are most common. The diplobacillus lives only on the human conjunctiva, and its transmission takes place from man to man directly. In an epidemic, two, three, four, or even all of the members of a family are affected. The affection attacks most often persons of the poorer classes among whom the observance of the laws of hygiene is not at all strict. The diagnosis of this trouble becomes quite easy with a little practice.—*Revue Médicale de la Suisse Romande*, October 20, 1901.

Arthritism in Children.—J. Comby declares that arthritism is almost always hereditary, and is a permanent trouble of nutrition. In the child it presents only rarely striking manifestations, and it is easy of classification. The young arthritic is an intelligent child, with an alert eye and quick movements. It often shows the characteristics of the lymphatic temperament. Anæmia is sometimes marked. Circulatory troubles are frequent, as are also respiratory affections; epistaxis, and asthma. There are often digestive troubles, such as anorexia. Albuminuria is sometimes found. The skin is fine and easily irritated. Diet plays a most important part in the prophylaxis and treatment of arthritism. Vegetables, water, milk, fresh fish, white meats, and cooked fruits are indicated.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, September 29, 1901.

Clinical Notes on Twenty-six Cases of Eclampsia.—Hirigoyen, in his hospital service, has observed twenty-six cases of eclampsia among 2,200 pregnant women. Three women died, but one died from the rupture of the lower segment, so that really only two patients died of eclampsia, pure and simple. The number of children who died was five, while twenty-one survived. Nineteen of the women were primiparæ, seven being multiparæ. Nine times the eclampsia developed after delivery. The quantity of albumin in the urine was not in proportion to the gravity of the eclamptic manifestations. The prognosis was variable. When the trouble developed *post partum*, it was generally less grave; but there were exceptions. The treatment consisted in milk diet at first, injections of serum, intestinal douches, administration of chloral, and bleeding when necessary. Unfortunately, the treatment is often futile. As to the induction of abortion, this is accomplished when the case is grave, but in other cases the termination of labor is merely facilitated.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, October 27, 1901.

Medicinal Eruptions from an Internal Cause.—Henry Bernard, in describing the characteristics of medicinal eruptions, says that, generally speaking, these eruptions are polymorphous in their manifestations, more or less generalized, and frequently incoördinate in their clinical manifestations. They are often devoid of general phenomena, and they may or may not coexist with other symptoms of medicinal intoxication. They always cease at a longer or shorter period after the administration of the drug which has caused them is stopped. There is scarcely a drug, whatever may be its origin—chemical, vegetable, or animal—which may not, under certain conditions, cause an eruption. This eruption may vary widely in appearance, and its diagnosis is sometimes difficult. The writer enumerates many drugs with their eruptions, among which are the following: Quinine, particularly the sulphate of quinine, produces all sorts of eruptions, the most frequent, however, being a temporary erythema, without pruritus or desquamation. Salicylic acid and the salicylates sometimes cause eruptions which are erythematous, bullous, or purpuric in character. There is nothing characteristic of this drug. Belladonna and digitalis in some cases cause simple erythematous, in other cases scarlatiniform, eruptions. Antipyrin is one of the most common causes of drug eruptions, which appear in various forms.—*Gazette des Hôpitaux Civils et Militaires*, October 26, 1901.

American Journal of the Medical Sciences, November, 1901.

Some New Points in Regard to Raynaud's Disease.—Carl Beck reports two cases, and by means of skiagraphs proves that the tissue changes in this disease are not confined to the soft tissues, but that they also affect the bones. There is osseous proliferation at the upper end of some of the phalanges, and thickening of the epiphyseal ends of the metacarpal bones.

Typhoid Cholecystitis, with Observations Upon Gallstone Formation.—Joseph H. Pratt states that bacteria possibly infect the bile in two ways: (1) An ascending affection through the biliary passages from the duodenum; (2) A hæmatogenous infection. In typhoid fever, the infection would seem to take place through the blood. The typhoid bacillus is nearly always found in pure culture in the gall-bladder. Judging from experiments which have been made, the typhoid bacillus induces gallstone-formation. There are two classes of cases of cholecystitis caused by the bacillus typhosus: (1) Cholecystitis secondary to typhoid enteritis; (2) Cholecystitis due to a primary infection of the gall-bladder. The writer notes one case in which the biliary calculi contained living typhoid bacilli three months after their removal from the patient.

Tuberculosis of the Portio Vaginalis and Cervix Uteri.—Henry D. Beyea declares that the subjective symptoms of tuberculosis of the cervix are indefinite and not at all characteristic. As a rule, the symptoms are referable to lesions of the uterus, tubes, or peritoneum The patients are generally in good physical condition. The most frequent symptom has been a very profuse purulent leucorrhœa, sometimes tinged with blood. In some cases there is menorrhagia, in others amenorrhœa. The two important clinical varieties are tuberculous papillary hyperplastic endocervicitis, and the ulcerative form. The former resembles excessive non-tuberculous papillary erosion of the cervix, and also the rare cases of malignant adenoma of the cervix. The ulcerative form resembles syphilitic chancre. The treatment of tuberculosis of the cervix is, as a rule, operative.

Remarks on the Diagnosis of Some Forms of Ophthalmoplegia.—L. F. Adt believes that the diagnosis of nuclear palsy must by made with reserve in all cases of even partial monocular ophthalmoplegia. The muscles of the motor oculi most apt to be affected in a case of monocular ophthalmoplegia are the internal ocular and the levator palpebræ. In a case of monocular ophthalmoplegia, with a sudden onset affecting any of the muscles which move the eyeball supplied by the third nerve, while others escape, the lesion is in the tegmentum of the crus cerebri. In a case of binocular paralysis of this form, with a sudden onset, the lesion is in the nucleus of the third nerve on the floor of the aqueduct of Sylvius. These rules, to a great extent, also hold in cases with a chronic onset. In cases in which lesions in the base of the brain or in the orbit implicate some of the third nerve fibers, similar forms of paralysis occasionally occur. This is especially true in syphilitic disease of the base of the brain, where only a part of the fibers of one or both motor-oculi muscles are involved by gummatous exudations.

An Epidemic of Noma; Report of Sixteen Cases.—George Blumer and Andrew MacFarlane define noma as a disease characterized by a rapidly developing gangrenous sloughing with frightful destruction of tissue. This affection occurs almost exclusively in children, and generally between the ages of three and eight years. The mucous membrane of the mouth—gum or cheek—is most often attacked. The disease quickly attacks the periosteum. The mortality is very great on account of the exhaustion. It is supposed to occur in children recovering from acute disease, and whose hygienic surroundings are bad. Measles, scarlet fever, and typhoid fever are the most frequent precursors. In these sixteen cases, the mouth only was affected in four cases; the mouth, the ear, and vulva in three cases; the vulva alone in two cases, and with other parts in seven. Among the fatal cases, noma involved the mouth in three children and the rectum in four. The ages of these children ranged between three and twelve years. These sixteen cases would seem to be rightfully called an epidemic. The beginning of the disease was a slight ulceration of the mucous membrane, with an area of extreme hardness surrounding it. There was no complaint of pain. The general treatment was stimulating, consisting in the administration of alcohol, iron, quinine, strychnine, nitroglycerin, and concentrated nourishment. The local treatment consisted of cleanliness, frequent douching with 50-per-cent. boric-acid solution, then with pure hydrogen dioxide, and continual wet dressings of Labarraque's solution. When the destruction was not too great, the use of the Paquelin cautery under chloroform seemed to stop the process. The writers conclude that this affection probably originates as a simple infection, but is later a mixed infection, and is most frequently due to a long threadlike organism of the leptothrix type, which does not grow upon ordinary culture media.

A Consideration of Certain Details in the Management of the Pregnant and Puerperal Patient.—William R. Nicholson thinks that there is need of more careful study of the seemingly normal case. As soon as the diagnosis of pregnancy is made, the urine should be examined, and also the heart and the lungs. General advice should be given regarding diet, exercise, and personal hygiene. The diet should be nourishing and simple. The daily bath may be taken with caution against the cold plunge. The more severe forms of exercise should be avoided. Constipation should be combated by the milder laxatives. Salts and castor oil had better be forbidden. About two months before confinement the size of the pelvic inlet should be estimated. Next, the position of the child should be determined. External version may be necessary. An important preparation for labor is the full tub-bath. A soap-and-water enema should be taken. Ordinary clothing ought to be removed by the middle of the first stage. All interference with the genital tract before labor, by means of douches or frequent examinations, should be strictly avoided. Labor must be conducted under the most careful aseptic precautions. Rubber gloves should be used whenever there is any reason to mistrust the condition of the hands, although they must always be carefully sterilized. In regard to the puerperal woman, all tears—except lacerations of the cervix—should be repaired within twenty-four hours after labor. The average time that the patient should be kept in bed after labor is twelve days. After forty-hour hours, the patient is encouraged to change her position from time to time, even lying at times upon the face and abdomen. The pad should be applied above the fundus uteri, not immediately above the symphysis. At the end of his attendance, the physician should make a thorough examination of his patient to see that all is going well.

Annals of Surgery, October, 1901.

Pneumococcus Arthritis, Primary in the Knee Joint.—D. P. Allen and C. Lull report a case of this rare affection, it being but the fourth on record. The patient was a single woman of forty years, who commenced her illness with abdominal pains, which later left this region and attacked the left knee joint. In the course of four days the joint was aspirated and pus found. It was removed under the strictest antisepsis by opening the joint, but general sepsis supervened, and an amputation was performed at the junction of the middle and lower third of the thigh. Evidences of general sepsis continued, and the patient finally died, after an illness lasting in all seventeen days. Examination of cover-slip preparation taken from the amputation stump showed the presence of pneumococci, together with some staphylococci pyogenes aurei. Cultures from the lungs were negative, and microscopic examination of sections from these organs showed no pneumonia. In the light of the autopsy findings it seems clear that the pneumococci in the amputation wound were present before operation, having spread through the tissues from the infected joint. The staphylococci probably reached the wound secondarily from the skin.

The Worsted Truss in Inguinal Hernia.—J. C. Hubbard says that worsted is preferable for the purpose indicated, as it is cheap, can be washed, worn in the bath, and is less liable to irritate the skin than a spring truss. The same skein can be used a number of times, but is useless after its elasticity is gone. The material is ordinarily sold in a skein made up of two laps. A lap, or half of a skein, is sufficient for a truss, and the other half can be kept in reserve to be used when the first is soiled. The method of application is as follows: The child is placed on his back, the half-skein is passed under him and pulled far enough so that the end just reaches the internal ring. The other end is then passed through the loop of this first end and the hernia is reduced. The bunch of worsted made by the looping of one end through the other is adjusted carefully and firmly over the hernial opening, and the free end then passed under the leg and fastened by a bit of bandage to the part on the back. If the skein is so long that there is a mass of extra worsted in the back where the perineal arm fastens to the horizontal part, a neater and more comfortable truss can be made by rewinding the worsted, making it the proper length. The truss should fit snugly, and should be worn at night as well as during the day. Whenever it is to be changed, the child should lie down. Occasionally the skin of the groin becomes chafed. This can be guarded against and prevented in most of the cases by keeping the parts dry and by changing the worsted as often as it becomes soiled by urine or dejections.

Milton's Method of Exposing the Anterior Mediastinum Modified for Ligature of the Innominate Artery.—B. Farquhar Curtis thus describes the steps of the modified operation: (1) A median incision is made from the larynx to the middle of the sternum or lower, dividing the skin and deep fascia above and the periosteum also below. (2) The sternohyoid and sternothyroid muscles are followed down to their sternal insertion, retractors being placed so as to draw the soft parts at the base of the neck widely apart. (3) A transverse incision is made through the periosteum along the upper border of the manubrium, and the periosteum and muscles detached from the posterior surface of the bone by blunt elevators and the finger as far as can be reached. (4) The ordinary amputation saw is then applied to the bone in the line of the vertical incision in the periosteum, the soft parts in the neck and behind the sternum being protected by flat metal strips. It should cut most deeply above, and entirely divide the manubrium at its upper border, the cut being more shallow below, and only grooving the bone at its lower end. (5) A stout chisel is then applied in the saw-cut at the superior border of the manubrium, and the thin layer of undivided bone on the posterior surface is made to give way as the wedge action of the chisel forces the two halves apart. (6) The skin being well retracted, a transverse incision is made in

the periosteum across the face of the bone at the level of the first or second intercostal space, and the chisel is applied in this line directed obliquely outward from the middle line on each side so as to divide each half of the bone from the body of the sternum. The instrument must not be allowed to cut entirely through the bone at the outer border for fear of injury to the pleura or internal mammary artery. (7) Strong retractors are then inserted in the median saw-cut, and with a little force the two halves can be sufficiently separated to allow access to the periosteum, which should be carefully incised or scratched through with the point of the knife, beginning above where the danger of damage to the subjacent parts is least. As the periosteum is divided, the halves of the bone can be more widely separated, and this interval gradually extends from an inch to nearly twice that distance. (8) The muscles and fascia are then divided by blunt dissection, or with forceps and scissors in the median line, beginning above, double ligatures being applied to the veins which cross the line of incision.

Archives of Pediatrics, October, 1901.

An Analysis of Thirty-two Cases of Congenital Heart Disease.—John Lovett Morse presents the following interesting points from his study of these cases: 1. In a considerable proportion of cases the cardiac lesion was discovered during a routine physical examination, there having been no symptoms referable to the heart. 2. The length of time that the condition existed without the development of any symptoms, several children having shown no symptoms at three and four years of age. 3. The comparative mildness of the symptoms in cases of patent foramen ovale. 4. The recovery from lesions, which, upon physical examination, were apparently the same as those in cases which resulted in chronic invalidism or death.

Maternal Impressions, Report of a Case.—B. K. Rachford describes this case. The mother was operated on for appendicitis when she was two months pregnant with the child. A stitch abscess developed, leaving stitch scars. When the child was one year old, there developed stitch scars on her abdomen exactly corresponding to those of the mother and in the same position. These markings were neither scar tissue nor pigmentation, but depressions in the skin. The writer believes that the maternal impressions which produced these markings on the child resulted from the strain on the stitches in the abdominal wound of the mother during the forty-eight hours of vomiting, immediately following the operation. These impressions occurred about one week prior to the termination of the third month of uterogestation.

Appendicitis in Children of Two Years and Under.—J. P. Crozer Griffith reports a cases of appendicitis, the patient being only three months old. The baby was very ill when admitted to the hospital, and no operative interference was attempted. The child died the next morning. From the evidence furnished by the autopsy the cause of the disease seemed to be a kinking of the appendix, probably due to the short mesentery and to the other unusual and unusually tight bands which kept the lower half of the appendix firmly fixed, while the distal half was free to move. There were no concretions or foreign bodies present in the appendix, and nothing else discoverable to account for the obstruction to the lumen and to the circulation which had evidently existed in the terminal portion of the organ. The chronic lesions indicated that this infant had suffered from a previous attack of appendicitis.

Acute Recurring Respiratory Failure in the Newly Born, with Symptoms Apparently of Bulbar Origin.—Irving M. Snow reports two cases. The first patient was a baby four days old. The baby who before this had been in good condition, now suddenly grew cold and blue, and the breathing became shallow and irregular. For nineteen hours the baby showed the most alarming symptoms as follows: 1. Frequent stoppage of respiration with intense cyanosis and no spontaneous effort at natural breathing. 2. The frequent occurrence of convulsions which seemed closely associated with the respiratory pause. 3. Intense exaggeration of the pharyngeal and anal reflexes. When the intestine was irrigated, or food or medicine was given by rectum or mouth, the child grew rigid and ceased to breathe. Life seemed to be sustained only by artificial respiration and the continuous administration of oxygen. Only whiskey and chloral had been given hypodermically. Later, a soft catheter was pushed into the œsophagus, and by this means two drachms of breast milk were injected into the stomach. This procedure was successful, and the baby made a good recovery. In the second case, the principal symptom was the sudden cessation of breathing every quarter of an hour. This infant continued to grow weaker until it died. No autopsy was allowed.

Tuberculosis of the Female Internal Genital Organs; Secondary Infection of the Peritoneum and Intestine.—J. L. Dueñas reports this case. The patient was a colored girl, aged eleven years, with no syphilitic nor tuberculous taint in the family. The girl was, with slight exceptions, in good health till about seven months before she entered the hospital, at which time she developed measles. At the end of this time a moderate anasarca appeared with scanty urine. These symptoms disappeared spontaneously in two weeks. Fever, diarrhœa, and loss of flesh persisted for four months, followed by a period of apyrexia, which lasted for three months, during which time the abdomen continued to grow in size. There were abdominal pains of no great intensity. The abdomen measured 82 cm. in circumference. There were no signs of anything abnormal in the respiratory, digestive, or cardiac systems. There was considerable ascitic effusion. The abdomen was oval in form. For two months before entrance to the hospital the girl's condition appeared to be good. Her intestinal functions were regular. Two tappings were performed, and later laparotomy was decided upon. Salpingo-ovarian tuberculosis was discovered. From both the macroscopical and microscopical examinations it could be inferred that the oldest lesion in this case belonged to the appendages of the uterus from which the process was secondarily propagated to the peritoneum and the intestinal mass. From the pathogenic point of view, it seemed that the genital lesion of the girl was primary. It is difficult to state whether the beginning of the infection took place through the vulva, or whether the bacilli made their way through the blood.

Kasseer Arkiv Patologi et, August 30, 1901.

A Study of the Elaboration of Eberth's Bacilli by the Kidneys During and After Typhoid Fever.—B. N. Klimenk concludes from his investigations in fifty-five cases, that, when the urine of typhoid patients contains Eberth's bacilli, they disappear any time from the third to the thirtieth day after the cessation of the fever, only in rare cases lasting for years. The urine of typhoid patients or convalescents should be regarded as a source of infection, and sterilized by one means or another. Internal medication capable of disinfecting the urinary passages should be administered. The urine of convalescents from typhoid should be carefully examined for the bacillus. In a few rare and obscure cases, the bacteriological examination of the urine may assist in the diagnosis.

Clinical Forms of Mercurial Angina; a Case of Buccal Affection Simulating Relapsing Herpes of the Mouth.—G. E. Gartche reports the case of a syphilitic patient, who, during mercurial treatment and long after, suffered from a throat affection. The lesions which were pomeral and superficial, were round or oval plaques, of whitish color and very painful. They would almost entirely disappear, to reappear again in from five to seven days, and this went on for about three months. The tongue was also involved. To all appearance, it was a case of relapsing herpes but was undoubtedly due to the mercurial treatment.

Plasmolysis in Bacteria.—Alexandre Ivanoff in his experimentation has been unable to obtain the process of plasmoptysis recently described by A. Fischer, and observed even plasmolysis only when the bacteria were taken from one salt solution and placed in another, of whatsoever degree of concentration; plasmolysis did not occur when the bacteria were transported directly from the cultures to even a strongly concentrated solution. The author concludes that plasmolysis in bacteria is not a simple physical process depending on osmosis, but a complicated process in which the alimentation of the bacteria and the composition of their protoplasm play the chief part.

The Bacillus of Acute Contagious Conjunctivitis (the Koch-Weeks Bacillus), and Its Relation to the Grippe or Pfeiffer Bacillus.—F. Ryboviteh has found that these two varieties of bacilli are morphologically identical. The conditions of their multiplication in a nutritive medium and the appearance of the cultures are precisely the same. Under the same conditions, both bacteria develop alike, and both have equal tendencies to symbiosis with certain microbes. Their action on the human organism is the same; they are toxic without producing a general infection. The author concludes that the bacillus of acute conjunctivitis and that of the grippe are the same, and that in the mucosa of the respiratory passages it produces grippe, while in the conjunctiva it causes acute conjunctivitis, or, to express it differently, grippe of the eye.

Book Reviews.

THE LAST WORDS (REAL AND TRADITIONAL) OF DISTINGUISHED MEN AND WOMEN. Collected from various sources by FREDERIC ROWLAND MARVIN. New York, Chicago, and Toronto: Fleming H. Revell Co. 12mo. 318 pages.

THIS work is an interesting one from many points of view and appeals alike to the student of history, morals, psychology, and philosophy. In the "last words" are exemplified all the varying traits of human character which show themselves in the final moments when the real truth must be told and the last testimony as to life purposes and accomplished work must be truthfully rendered. There is much for psychological study in matching the words and sentences from dying lips with the former acts and motives of the individual concerned. Pride, vanity, bravado, resignation, hope, pluck, conviction, and, in fact, all the human attributes are presented under varied and trying conditions. Even the merely traditional sayings have their significance and suggestiveness. There are also very many curious facts regarding the manner of dying of different famous individuals which afford very profitable reading for the antiquarian, the biographer, and the litterateur. The most striking examples of fortitude are to be witnessed in the case of the martyrs and those who suffered for alleged political crimes.

The greatest vanity is shown among assassins, and the most perfect resignation among Christians and philosophers. In a large number of instances the sayings are those of delirium and mean nothing, while in others different accounts by different narrators effectually cancel the real directness of the sentiments. But altogether it is a book well written, well arranged, and well worth the most attentive reading.

The author deserves special praise for the admirable industry displayed in the collection of many remarkably apt resting anecdotes bearing upon the subjects of graves, epitaphs, sepulchral whims, and curious funerals connected with the different famous persons mentioned. In this and other respects there is much interesting in the book.

DOSE-BOOK AND MANUAL OF PRESCRIBING-WRITING. With a List of the Official Drugs and Preparations and the More Important New Remedies. By E. Q. THORNTON, M.D., Demonstrator of Therapeutics, Jefferson Medical College, Philadelphia. Second edition, revised and enlarged. Philadelphia and London: W. B. Saunders & Co., 1901.

THIS is a useful work for the student or recent graduate, and may even be of service to the older physician whose memory of the elementary surmises studied so many years ago has grown somewhat rusty. If certain statements frequently repeated by compounding druggists are to be credited, many cases of carelessness attributed to practitioners might read with profit the section on incompatibilities.

A CIVILIAN WAR HOSPITAL. By the Professional Staff. ANTHONY A. BOWLBY, HERBERT H. TOOTH, and others. 8vo, 8-327 pp. New York: Longmans, Green & Co., 1901.

THIS book, based upon the workings of an auxiliary war hospital attached to the British forces in South Africa, though supported by private subscriptions and operated by civilians, is clearly written and attractively get up. The subject-matter deals with the organization and equipment of such a hospital of 160 beds capacity, and contains also the conclusions reached by the attending staff relative to the camp diseases and gunshot wounds with which their service in the field brought them in professional contact.

Beginning with the chapter on the organization and equipment of the hospital, the reader is forcibly impressed with the fact that, in the matter of equipment for field hospitals, the Medical Department of the United States Army, as at present outfitted for the field, has nothing whatever to learn from the British medical service on the lines of which this hospital was organized. The weight of this hospital for 160 patients amounted to no less than seventy tons, where the U. S. Army hospital of 100 beds weighs not more than one-seventh as much, the latter being transported in half a dozen army wagons, while the field hospital in question needed a railroad train of some fourteen cars to move it. If similar conditions prevailed throughout the British army, its inability to leave the railroad, wage an aggressive warfare, or cope with a mobile enemy, is readily explained. The cots used in this hospital weighed sixty pounds each, while those used in our own field hospitals weigh but seventeen pounds each. Glass and china tableware were also carried with this hospital, and there are many other evidences of the retention of heavy, cumbrous, and fragile articles of a character long since discarded in our own service. The ambulances pictured and described as used with this hospital appear more like heavy wains than the light, capacious, and substantial vehicles used for the transportation of wounded in our own service. The deficiencies of the British ambulances, however, fully admitted by the writers, who say: "We do not know of any good ambulance wagons that are purchasable in this country, and those that we took out ourselves left much to be desired." It may here be remarked parenthetically that the British Government has recently purchased a number of U. S. Army ambulances for use in South Africa, and has also ordered samples of our entire field-hospital equipment for trial.

The chapters on the diseases encountered, of course, deal chiefly with typhoid fever and dysentery, but they are not sufficiently full to be of the greatest scientific or practical value. The outbreaks of typhoid fever described are almost identical in their origination, course, and severity with those prevailing in our own camps in 1898. Dr. Tooth, who writes up the medical side of the service, gives the first place in importance to typhoid fever, "with which scourge it must be remembered that the medical casualties of the campaign would have been comparatively insignificant." He regards the dissemination of typhoid infection among troops as due to bad water, infected flies and dust, and to personal contact with the sick. He disparages his own first point, however, by showing that there was a higher rate of typhoid among the officers who usually took care to drink only boiled water, than among the men, who could not be restrained from using doubtful sources of supply.

Further, at Bloemfontein, as was the case with our own troops at Jacksonville and Lexington, in the camps of instruction typhoid raged among the British soldiers, while it was much more severe than usual among the officers of the adjoining town. The great importance of flies as carriers of infection was noted, and a curious preference on the part of flies to congregate around typhoid cases rather than other sick in the same ward is commented upon. Eight cases of typhoid were seen to cohabit with fleas, and the death of the flies, which was the inhabitants of Bloemfontein said "came with the army." As the "fleas" largely depends upon the presence of filth, it is probable that no very exact sanitary rules existed in the camps. In speaking of the Modder River campaign Dr. Tooth says: "It would appear on the present state of evidence to be almost impossible to control hygienically the spread of enteric fever in any army under similar conditions." This was a very accomplished fact in many instances in 1898, at Camp Meade. Dr. Tooth quaintly remarks: "It is quite unjustifiable to allow any man to return to duty who has involved a life after an attack of enteric fever, however slight, except after a long period, the extent of which has yet to be determined." Dysentery, unknown in the Civil War, was contracted among our troops in 1898 by the return to duty of convalescents who harbored the germs of disease in their alimentary and urinary tracts. The authors are much impressed with the value of antityphoid inoculations, which their statistics go to show not only reduce the incidence of the disease, but also diminish its severity when once contracted. It is thought that the amount of reaction following inoculation is a reliable indication of individual susceptibility, and repeated reinoculation is favored until no reaction is obtained. Many cases of fulminant typhoid were seen, and when such cases recovered, convalescence was unusually protracted. A rapid pulse gave an unfavorable prognosis, and diarrhœa was also regarded as an unfavorable symptom, and treated when there were more than three movements daily. Many more cases died in which diarrhœal symptoms were pronounced than did those in which there was a tendency to constipation. The mortality among the typhoid cases treated amounted to 12.5 per cent.

The chapters treating of gunshot injuries are very interesting and contain much valuable information. They contain a short discussion on the subjects of ballistics, projectiles and their effects, and are very full, illustrated with excellent radiographs. The x-rays were apparently used as a matter of routine on all cases of gunshot injuries involving bone, and the authors are very enthusiastic as to their value in military surgery. They dispose summarily of the popular charge that the Boers used poisoned bullets, but at the same time show that the latter at times used "dum-dum," or mushrooming, bullets, and illustrate the mangling effects produced by the latter. Like nearly all military surgeons with actual experience on the battlefield, they are very skeptical as to the hard-and-fast rules of "explosive action" attributed to the full-mantled bullet, within certain ranges, by experimental investigators. On page 177 they say: "It may be said in general terms that the actual experience of gunshot

ractures in war does not confirm the very definite conclusions arrived at as a result of experiment in times of peace, so that, although much has been learned, it was soon evident that there was yet a good deal more to learn on this subject, and that there had been a tendency to be too dogmatic as to the effects of high-velocity projectiles." Again, they say on page 180: "There are many factors to consider in determining the nature of a gunshot fracture, and no mere consideration of the bullet or the range is sufficient for a proper appreciation of the results observed." They place the chief factors in determining the character of gunshot wounds, in order of importance, as follows: (1) Range; (2) Character of bone; (3) Angle at which the bone was struck. As a result of their experience, the authors conclude that bone injuries are liable to present the appearance of "explosive action," at any range, while wounds of tissue not involving bone rarely show any "explosive action," even at the shortest range. "We do not think that the range, or what is the same, the velocity, has any appreciable effect when soft parts alone are involved. . . . When, on the other hand, bone is struck, and a good resistance is offered to the onward passage of the projectile, the velocity becomes an important factor, and the higher the velocity, the greater the damage and splintering done to the bone." (Page 164.)

Wounds with lodged bullets appeared to heal as kindly as if the missile had passed out. The good results obtained with bullet wounds were believed by them to be due (1) To the small wound produced by the Mauser. (2) Favorable climatic conditions and, (3) Early antiseptic dressing. These views differ from those of our own army surgeons, who regard the antiseptic dressing as of by far the greatest importance. With regard to the enlargement of wounds for the removal of bone fragments, the authors believe that the character of the external wound furnishes a safe guide. If the wound opening be large, the bone fragments must be removed, but if the external wound be small, such removal is not usually required. Fragments of bone attached to the shaft should not be removed, as experience shows that these do not ordinarily necrose. The authors never performed or advised amputation for an uncomplicated bullet wound, and state that the assumption of this position never subsequently caused regret. Joint injuries caused no trouble aside from that due to bone comminution, and these injuries were habitually treated like simple flesh wounds. Excision of joints is regarded by them as an operation of the past, and as no longer indicated. There seemed to be no increased danger from hemorrhage in Mauser wounds, and they state that death on the battlefield from hemorrhage from wounds of the limbs rarely occurred in South Africa. Traumatic aneurysm, however, gave rise to much difficulty, and ligation was unexpectedly often followed by gangrene. With regard to wounds of the skull, the authors say on page 220: "It may be stated here that the expected disruption effects of the perfect Mauser bullet have not been seen. . . . In cases of bullet wound of the skull at ranges observed in this war, practical experience has not borne out the deductions of experiment." Wounds of the lung usually made good recoveries, but such cases do not bear rough handling, and transportation without ill effects. Laparotomy has saved but few soldiers, but must be regarded as among the unsuccessful operations in field surgery. The point is emphasized, however, that wounds affecting the peritoneal cavity do not necessarily imply perforation of the intestine, and that a number of cases of supposed injury of the intestines which recover without operation, very probably belong to this class. A number of cases are given to illustrate this point. Wounds of the large intestine are much more liable to recover without operation than are those of the small intestine. While the general opinion of military surgeons in South Africa was to the effect that 20 per cent. of wounds of the intestine recovered without operation, the authors were inclined to regard this estimate as too high, and call attention to the fact that injuries to the intestine should be studied as to their fatality rather on the firing line than in the hospital.

On the whole, there is much to commend in this book, which, though apparently written for the lay as well as the professional reader, and neither suited nor intended to serve as a textbook, nevertheless contains much valuable information, and is well worthy of careful perusal by the military surgeon. The large number of unusually good photographs and radiographs in the book add much to its value and attractiveness.

A Manual of the Practice of Medicine. By George Roe Lockwood, M.D., Professor of Practice in the Woman's Medical College of the New York Infirmary. Second edition, revised and enlarged. Philadelphia and London: W. B. Saunders & Co., 1901.

In his preface to the first edition, the author makes the claim that this work presents the essential facts and principles of the practice of medicine in a concise and available form, adapted to meet the requirements of those who heretofore have been obliged to resort to the larger works of reference. As far as it goes, the work justifies in great measure the author's claim, but it comes short of the ideal in several respects. In the section on yellow fever, for example, no mention is made of the mosquito theory of the propagation of the disease, notwithstanding strong arguments in its support which have been advanced from time to time during more than a year. Then, again, such an important disease as Malta fever is not treated of. Nothing is said of the prevalence of typhus fever on the Mexican plateau, although this is a matter of some moment to American physicians. However, these faults do not detract seriously from the value of the work as a guide to the student or young practitioner.

Lessons on Massage. By Margaret D. Palmer Masseuse and Manager of the Massage Department of the London Hospital, Instructor of Massage to the Nursing Staff of the London Hospital, etc. New York: William Wood & Co., 1901.

The number of satisfactory works on the subject of massage is not so large that there is no room for one like the present. This volume is written by a woman of experience who has incorporated enough anatomy and physiology in her book to make it a valuable textbook for the student of massage, while at the same time the physician, who does not need instruction in those subjects, will find much of interest between its covers. Emphasis is laid upon the fact, too often not appreciated, that massage is not the unscientific, though well-intentioned, rubbing so often dignified by the name, but that it is a system of manipulation founded on certain principles, which, when carried out properly, will give certain results. An interesting historical chapter precedes those in which the various forms of movements and manipulations are taken up. The latter are elucidated by many well-executed illustrations which add much to the ease with which we are able to understand the subject, and to our ability to see the practical application of what has been said in the text. Much more can be accomplished in medicine and surgery by massage than is generally supposed, though knowledge of this form of therapeusis is becoming more diffused than formerly, and results are becoming increasingly better. A glossary is added to this volume, chiefly of value to those who have not studied medicine.

Medical Directory of New York, New Jersey, and Connecticut, 1901. Published by the New York State Medical Association. Vol. III. 12mo, 940 pages.

The third volume of this useful annual is somewhat enlarged as compared with its predecessors. A desirable departure is made in publishing the names of all licensed practitioners, irrespective of their school of practice. This not only enhances its value as a book of reference, but in a very practical way takes a very effectual stand against all illegal practitioners who are not recognized in the list.

The general arrangement of the volume is the same as previous ones. Altogether the work has made itself indispensable to the busy consultant and practitioner who wish to keep in personal touch with their professional brethren in the city and the adjoining States.

Materia Medica, Pharmacy, Pharmacology, and Therapeutics. By W. Hale White, M.D., F.R.C.P. Physician to, and Lecturer on Medicine at, Guy's Hospital, London. Edited by Reynold W. Wilcox, M.A., M.D., LL.D., Professor of Medicine and Therapeutics at the New York Post-Graduate Medical School, etc. Fifth American edition, thoroughly revised. Philadelphia: P. Blakiston's Son & Co., 1901.

This edition following soon upon the last, is some forty pages larger than its predecessor, twelve pages of new matter having been added.

The editor's own work is indicated by brackets. The pages bear evidence of condensation and careful revision, and no little attention has been paid to unofficial preparations both from the standpoint of current literature and personal experience in practice. Thus, a work originally so good that it has become a standard in the colleges is kept up to date, and stamped with the necessary modifications to make it of the greatest use to students on this side of the Atlantic.

La Photothérapie. By Dr. H. Lebon, Paris: Société d'éditions scientifiques, 1901.

A brochure of thirty-five pages, giving a glance over the treatment of dermatoses by concentrated chemical rays of light; chiefly dealing with the Finsen method.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 17, 1901.

GEORGE L. PEABODY, M.D., VICE-PRESIDENT, IN THE CHAIR.

A Clinical Discourse on the Gift of Helmholtz to the Medical Profession by the Invention of the Ophthalmoscope Fifty Years Ago.—Dr. HERMAN KNAPP delivered this discourse. He said that in 1851 Helmholtz had presented his "eye mirror" to the Medical Society of Königsberg. Most important discoveries had been made with it, and the era of those discoveries was not yet past. He would limit his remarks on the present occasion to a number of conditions in which this instrument had been an aid to the science and art of medicine.

Latitude in the Appearance of the Normal Fundus.—He desired especially to speak of the latitude in the appearance of the normal fundus oculi leading to errors in diagnosis and treatment in functional diseases, such as nervous asthenopia and hysteria. For example, a school child is brought to the oculist with the statement that it cannot see well or read clearly for any length of time. The child reads only 20/50 or 20/70. If such a child were given glasses as strong negative as positive, so that the one glass neutralizes the other, the child would be found to read well. On examining the field of vision some contraction might be found, but it would be difficult to map it out. The mobility of such an eye would be found normal. It was just these children in whom the varied normal ophthalmoscopic picture passed over the pathological border line that much harmful treatment had been resorted to. This concentric limitation of the field with asthenopia, the result of a neurasthenic condition, leads to many errors, especially if the patient happen to be a petted child of wealthy parents. The speaker cited a case of this kind, from his experience, in which a girl had promptly recovered full sight by sending her to the opera, where she had spent hours using the eyes with the keenest attention. Diplopia of one eye, not the result of an optical disturbance such as dislocation of the lens, belongs to the same category.

Choked Disk.—It was well known that choked disk is found in cases of brain tumor, abscess, meningitis, and sinus thrombosis. It is found in meningitis, particularly in children, yet he had known a number of such children to recover. The prognosis hinged upon the preservation of the acuteness and the field of vision. If there were no symptoms of severe cerebral disease, such as constant pain and vomiting, and the acuteness and field of vision were normal, the prognosis, while grave, would be fairly represented by the statement that the chances of living or dying were about equal. Choked disk, in connection with abscesses of the ear, were not uncommon at the present day. Sometimes the ophthalmoscope would decide the diagnosis. The ophthalmoscope would show the presence of optic neuritis, and the history would indicate the probability of infection from the ear, or else the slow growth of an intra-ocular tumor. Sinus thrombosis did not show so much choked disk as congestion of the optic nerve and retina. This sign was present in the majority of cases, and was a useful aid to diagnosis and a distinct indication for operation.

Atrophy of the Optic Disk.—Atrophy of the optic disk might be post-neuritic or tabic. In the former, the disk is white, and there will be probably some tortuousness of the vessels. In tabic atrophy the disk is of an even, pearl-gray color, and without inflammation. According to his experience, tabic atrophy was completely uncontrollable.

Toxic Amblyopias.—The toxic amblyopias were principally due to poisoning with quinine, alcohol, and tobacco. If he remembered correctly, quinine poisoning of this kind had been first described in this country by Voorhees. The center of the visual field, in such a case, would be regained, but the periphery would be permanently cut off. This condition had resulted from variable doses of quinine. Alcohol and tobacco produce a particular kind of optic-nerve atrophy of the so-called macular bundle. The outer-lower quadrant of the optic disk becomes pale, and later the whole outer half. If the excessive use of alcohol and tobacco continued, the atrophy would be total. He did not remember to have seen the sight completely destroyed by these poisons. It was very remarkable that this kind of optic-nerve atrophy befell that part which in quinine amaurosis was preserved. It was the center of the field of vision which was blotted out, called a central scotoma, which was so characteristic of this form of amblyopia. It was usually observed in those persons that begin to smoke before the age of seventeen or eighteen years, and was quite rarely seen in those who do not begin smoking or drinking until after that age. Possibly the explanation of this was to be found in the fact that those who begin these habits very young are more apt later to use alcohol and tobacco to excess. However, in any case, the lesson to be learned was obvious and should be impressed by physicians upon the public at large.

Amaurotic Family Idiocy.—Waren Jay in London described in 1880 a white halo around the yellow spot in certain children having a weak nervous system. This condition had been further investigated by Dr. B. Sachs of this city, who had named it amaurotic family idiocy. The speaker said that it was surprising that all of the children afflicted with this disease that he had seen had been Hebrews. He mentioned this fact in order to learn if this had been the experience of others. The cause of this strange racial influence was unknown to him.

Retrobulbar Neuritis.—This is a peripheric neuritis in the optic nerve itself, behind the eye. It was sometimes the result of infection with la grippe. Sometimes the sight was lost very suddenly and then regained. He had seen a number of these cases in which the symptoms of la grippe had been more or less distinct. The eyes had gradually recovered.

Bright's Retinitis.—Probably the most important ophthalmoscopic picture of all was that known as albuminuric retinitis. Apart from that, all kinds and stages of retinal inflammation could be met in Bright's disease. Sometimes there was nothing more than a mere congestion with slight œdema. Even in such cases one would often find albumin in the urine. He had seen cases of Bright's disease which had presented the picture of neuro-retinitis, and even of choked disk. The next stage of this form of retinitis was characterized by changes in the blood vessels. The veins were dilated, while the arteries showed a diminution of their caliber. This thickening of the walls of the arteries and diminution of their lumen led to venous congestion, thrombosis, and hemorrhage. The hemorrhages were succeeded by the bright white spots so well known to those who used the ophthalmoscope. The stellate appearance at the macula lutea is occasionally seen in cases of tumor of the brain just as distinctly as in Bright's disease. If the general practitioner would learn to use the ophthalmoscope, he would be able to diagnose Bright's disease in the stage of congestion and slight œdema of the optic nerve and retina. In this stage the disease was curable, or at least by proper dietetic and hygienic treatment its development might be long postponed. It was too late to do anything in the way of controlling the disease when the picture of Bright's retinitis was pronounced.

Embolism and Thrombosis.—In cases of embolism, the arteries are thin and the veins large. Around the optic nerve and over a considerable portion of the retina a milky veil is spread. Gradually about two-thirds of the caliber of the arteries are restored. Incurable blindness is the ultimate result. These patients often say that they

have had several attacks of transitory impairment of sight before the onset of total blindness. These early attacks were best explained on the theory that the caliber of the arteries had been affected by an endarteritis. The cases of thrombosis of the retina that he had seen could be grouped under three heads, viz.: (1) Those due to compression; (2) Those brought about by endarteritis; (3) Those resulting from infection. We were taught that blood stagnating in a healthy vein remains fluid, but he had seen with the ophthalmoscope both parietal and obturating thrombi in the retinal veins.

Intraocular Tumors; Glioma and Sarcoma.—Glioma, the speaker said, occurs in early life much more commonly than does sarcoma. Glioma is almost always fatal. To save life, the growth should be removed early.

Glioma, when well developed, could be recognized with the naked eye, by the yellowish-white metallic luster of the pupil to which Beer, about one hundred years ago, gave the still used name of amaurotic cat's eye. In the earlier stages both these fatal pseudoplasms can be diagnosticated only with the ophthalmoscope.

Foreign Bodies.—They are either magnetic or non-magnetic. Of the aid which the ophthalmoscope may furnish in the removal of non-magnetic foreign bodies from within the eye, the speaker reported a remarkable example. A piece of a gun cap from an exploding toy pistol entered into the eye of a boy through the corneal border of the sclerotic without injuring the lens. It was seen with the ophthalmoscope to float in the vitreous. The speaker, aided by Dr. Gruening and two others, placed the anæsthetized little patient sideways on a table so that he could see with a forehead mirror the foreign body by the sunlight coming from the window. He made an incision into the temporal part of the sclerotic, and fished the foreign body out through the scleral opening, even without loss of vitreous, under guidance of the mirror. The eye recovered, with preservation of its sight.

The removal of magnetic foreign bodies now constitutes an important chapter in ophthalmic surgery. When the foreign body is small, it can be led by the magnet around the lens toward the pupil, and through a corneal incision out of the eye with excellent result. For mechanical reasons, this plan cannot be employed if these bodies are large.

The speaker illustrated his discourse by blackboard drawings and ten large colored charts, all from cases of his own observation; for instance, Waren Tay's macula halo, different forms of Bright's retinitis, embolism of the central retinal artery and its branches, thrombosis of the retinal veins from endarteritis, four successive stages of retinal thrombosis from compression of the retinal vessels by orbital cellulitis in facial erysipelas, which was not fatal and therefore showed the total compression of the central retinal arteries; the black, engorged veins and numerous hemorrhages, then in the convalescence; the partial and temporary return of the retinal circulation, a crop of fresh hemorrhages, and the gradual white obliteration of the veins by organization of the thrombi and plastic periphlebitis; furthermore, a beginning glioma nodule with gliomatous infiltration of the adjacent retina in the case of a child, in which the whole course of retinal glioma had been observed; the beginning in the above eye leading in two and a half years to an immense tumor with metastases in the diploe of the cranial bones, whereas the other eye, which was removed, æt. six months, showed no local relapse.

In conclusion, the speaker asked the indulgence of the academy on account of the imperfections in the delivery of his discourse. The sudden and prolonged absence of Dr Weir, the President, had thrust the honor and burden on the Vice-President, and he had not been able to find a speaker for the present meeting. Thus, he had to throw himself into the breach. He could not make the time to write out a careful paper, yet he thought the subject, the fiftieth anniversary of the invention of the ophthalmoscope, would be eminently proper to be brought up before our first medical society. It is a broad and deep subject of which only one part could be presented in one evening. The theory of the ophthalmoscope, the other "scopes," to which it gave birth; the improvement of the original instrument, leading to an evolution of the eye-mirror, like that of the steam engine and other fundamental inventions; its scientific value, by engendering so many important discoveries, are well known and universally appreciated. That this era of discoveries was far from being closed was evident from the recent appearance of the magnificent atlases which he had placed on the table for inspection, of which the newest has aroused his attention and admiration in the highest degree, viz., the first part of contributions to the comparative anatomy of the mammalian eye, chiefly based on ophthalmoscopic examination, by G. L. Johnson, M.D., F.R.C.S., London, 1901; twenty-nine brilliantly executed plates with text, published in the Philosophical Transactions of the Royal Society of London. The speaker's aim in this evening's discourse had been to honor Helmholtz by selecting a series of diseases in which his immortal invention had been of particular benefit to mankind through the medical profession.

Dr. Charles Stedman Bull said that within the last eighteen months he had seen six cases of infectious choroiditis, due to la grippe. The picture given by the ophthalmoscope had been almost startling, the entire fundus becoming, sometimes in twenty-four hours, one mass of infiltration, and the sight being destroyed. Of these six patients, four had died. In his student days he had been taught that there was a typical ophthalmoscopic picture associated with Bright's disease—retinitis albuminurica We now knew that this was not true, and that Bright's retinitis might simulate a great many other conditions. There was no such thing, then, as a typical picture of albuminuric retinitis; hence, when the ophthalmoscopic picture excites our suspicions of Bright's disease, the urine should be promptly examined, not only for albumin, but for casts. At one time he had personally followed 106 of these cases, and had found that 76 per cent. of them had died within a year after the retinitis had manifested itself Of these fatal cases, 62 per cent. had died within six months. The speaker said that he felt that he was now able to distinguish by means of the ophthalmoscope cases of gout and rheumatism in which the constitutional symptoms were in abeyance at the time or but slightly marked.

Dr. Thomas R. Pooley said that he had come to believe that primary atrophy of the optic nerve, with the single exception of atrophy in tabes, is much more rare than was generally supposed. He believed that the cases were almost all the result of an optic neuritis. It was well known that optic neuritis might exist in a high degree without affecting the sight; hence it might occur in any disease which gave rise to severe choked disk. The speaker then referred to a case of amaurotic family idiocy that had come under his notice, and one seen by Dr. J. Herbert Claiborne, as neither of these children were Hebrews. He was sorry that Dr. Knapp had not dwelt upon the assistance rendered by the ophthalmoscope in cases of albuminuric retinitis of pregnancy. The instrument was here an invaluable guide to the physician as to the time at which premature labor must be induced if sight were to be preserved.

Dr. Sara Welt-Kakels presented a case of amaurotic family idiocy. The parents were healthy and there was no consanguinity between them Both of them were Russian immigrants of Semitic origin A very few cases had been reported in children of other races. From the history of this family it seemed probable that the first child had been similarly affected, though according to the hospital records, it had died of hydrocephalus. The baby now presented, the fourth child, is a year old, and was born at full term after an easy labor For the first few months

it had developed normally. When about three months old, the mother had noticed that the baby could not hold up its head. It was taken to the same hospital at which the first child had been treated, and again the diagnosis of hydrocephalus had been made, and an operation suggested, but declined. The mother had then come to the speaker. There was found to be decided muscular weakness in the upper and lower extremities. The child was well nourished, and an examination of the blood had revealed nothing abnormal. There was some slight hypersensitiveness to sound. The eyes exhibited the characteristic changes in the macula lutea, though not so distinct as in some other cases. In nearly all instances more than one child in the same family was affected.

Dr. E. GRUENING said that he looked upon Helmholtz as not only the inventor of the ophthalmoscope, but of the otoscope, the laryngoscope, and all the various instruments used for examining the cavities of the body.

Dr. DAVID WEBSTER said that Dr. Knapp had intimated that it was not always easy to draw the line between the normal and the pathological fundus. To emphasize this very practical point, he cited a recent case in which, by a careful consideration of the clinical history alone, he had been able to decide that there was present a congenital defect of the eye.

Dr. B. SACHS said that neurologists occasionally saw cases in which it appeared that primary optic atrophy occurred independently of tabes. If this were true, the question would arise: Is this primary nerve atrophy a part of some of the other degenerations of the nervous system? Regarding amaurotic family idiocy, he would say that a doubt had arisen in his mind as to whether every case presenting the peculiar and supposedly characteristic appearance of the macula lutea should be put down as one of amaurotic family idiocy. He was positive that the case reported by Dr. Claiborne was not one of amaurotic family idiocy. The fact that such a large proportion of these children were Hebrews was entirely unique. He knew of only one or two thoroughly authentic cases of this disease on record in which the subject had been of another race.

Dr. KNAPP, in closing the discussion, said that he had never seen an idiopathic atrophy of the optic nerve; there had always been some general disease, for the most part, of a tabic character, if the atrophy was not post-neuritic. As to the futility of treatment in atrophy of the optic nerve, he begged leave to tell his own opinion and that of the late Dr. Alfred Loomis, who had asked him his opinion about the therapeutic value of electricity in tabic and other atrophies. He, the speaker, answered he thought that electricity in these diseases was next to quackery, to which Loomis replied: "That is too far off."

Stated Meeting, November 7, 1901

HERMAN KNAPP, M.D., VICE-PRESIDENT, IN THE CHAIR.

The Causation of Multiple Neuritis.—Dr. M. ALLEN STARR read a paper on this subject. He took up first the toxic causes from poison outside the body.

Arsenic.—He said that many persons who attempt suicide by taking arsenic suffer subsequently from a toxic neuritis. Cases were on record, and had come under his own observation, in which the neuritis had resulted from the use of toilet powders containing arsenic, and from the inhalation of arsenic from wall paper. An epidemic of arsenical neuritis had been observed in England. Inquiry had shown that the arsenic had been introduced into the system in beer. It had gotten into the beer from the glucose used, and the latter had been made from sulphuric acid obtained from arsenical pyrites. Arsenic being commonly found in copper, it was not surprising that workers in copper are apt to become poisoned with arsenic. In factories in which the copper is heated in order to drive off the contaminating arsenic, the fumes are conducted into chimneys 250 feet high, yet the surrounding atmosphere is so poisoned with the arsenic that the workmen very commonly suffer from arsenical neuritis.

Lead.—Physicians practising in districts where pottery is made should be on their guard for cases of neuritis arising from lead poisoning. Lead is sometimes dissolved out of the glaze of earthenware and may then poison the food.

Phosphorous.—It was not unlikely that many of the nervous symptoms observed in those working in match factories are the result of poisoning with phosphorus.

Mercury.—Poisoning with mercury was very common when mirrors were manufactured in the old way. In making silk hats, nitrate of mercury is used in England for producing the gloss on these hats, and those engaged in this work are liable to suffer from mercurial neuritis. Dr. Starr said that he had never seen mercurial neuritis arise from the medicinal use of mercury.

Poisoning by Non-Metallic Substances.—The cases of multiple neuritis belonging to this class were much more numerous than those of the first group.

Alcohol.—It was now known that in some persons susceptible to alcohol, red wines, white wines, and even ale and beer may produce alcoholic neuritis. Some persons who indulge freely in alcoholic drinks for years escape neuritis, while others who take very little alcohol develop neuritis. All the work in factories where the fumes of alcohol may be constantly inhaled are liable to the development of neuritis. The speaker said that he had known one case of neuritis occurring in a woman from sipping cologne. Neuritis was more commonly seen among the higher classes, and in those whose nervous organization is more highly developed than in the lower and more phlegmatic class of people.

Coal Gas.—Coal gas, when inhaled, may cause a very severe form of multiple neuritis. It was not generally known, however, that natural gas may produce the same effect. He had been told that neuritis had increased in Pittsburg since natural gas had come into general use there as fuel.

Bisulphide of Carbon.—Multiple neuritis was sometimes observed among those who work in rubber factories, and results from the inhalation of the fumes of bisulphide of carbon.

Coal-Tar Products.—It had been stated recently that such coal-tar products as antipyrin, acetanilid, sulphonal, trional, and chloretone might give rise to neuritis. He had not seen neuritis from antipyrin, acetanilid, or phenacetin, but had seen a neuritis develop in a person who had taken an overdose of sulphonal. A case had been recently reported in which trional, taken in large doses for a considerable time, had caused multiple neuritis.

Neuritis from Toxæmia.—In this class were included all cases due to the development in the system of some bacterial poison, either of external or internal origin. Neuritis occurred as a sequel of diphtheria, severe pharyngitis, la grippe, typhoid and typhus fevers, scarlet fever, measles, mumps, whooping-cough, smallpox, pneumonia, erysipelas, gonorrhœa, puerperal fever, and septicæmia of any origin. In this class might be included beriberi and leprous neuritis. Since the general use of antitoxin in diphtheria, the number of cases of neuritis following that disease had been decidedly less. Neuritis following la grippe he had found to be very slow in reovering. Many cases of neuritis following typhoid fever he had thought might be the result of the free and long-continued use of alcoholic stimulants. Neuritis following the children's disorders mentioned was very rare in this country. Some of the cases of neuritis, formerly classified as of unknown origin, were now thought to be infectious in their nature. Beriberi is a form of neuritis, and is likely to be seen in this country among those coming from the Philippines. Many believe it to be due to a diet in which rice predom-

inates, but others are of the opinion that it is of infectious origin.

Neuritis and Dyscrasias.—A class of cases of neuritis exists due to some other disease in the body, such as tuberculosis, rheumatism, diabetes, gout, carcinoma, and arteriosclerosis. In diabetic patients local neuritis was of common occurrence, but general multiple neuritis was seldom seen. In gouty patients, also, mononeuritis was far more common than multiple neuritis. In carcinomatous individuals, as in tuberculous persons, the occurrence of neuritis was to be attributed to the general malnutrition. The question of the existence of a syphilitic multiple neuritis had been raised, but it was probable that syphilis is not a factor generally in the causation of multiple neuritis, though it may be of localized neuritis.

Idiopathic Multiple Neuritis.—It could not be denied that there were still some cases of multiple neuritis that could not be classified etiologically under the headings already given, but the number of such cases diminishes as our knowledge increases. Only a few cases of recurring neuritis were on record. One should not be satisfied that the exact etiology of any case had been made out until all possible causes had been eliminated, and in this connection it should be borne in mind that it was not uncommon for two or more causes to coexist.

Clinical Types.—Dr. C. L. Dana said that of late years he had met with very different types of neuritis from those he had seen frequently in former years. He would divide the neuritis into three classes, viz.: (1) Those due to toxic causes; (2) Those due to dyscrasias, and (3) Those due to infections. Nearly all the toxic cases were forms of neuritis in which the whole nerve was involved, and there were both motor and sensory symptoms. Cases of neuritis due to infections, especially to diphtheria, were largely of the motor type. Those forms of neuritis due to dyscrasic conditions, such as rheumatism, gout, and diabetes, were largely of the sensory type—a form that he thought had not been sufficiently dwelt upon by writers on neuritis. This was the type that he had found quite frequently in diabetes. He had noted that many of his patients having neuritis were of a neuropathic nature, or gave a family history of tuberculosis or of some psychosis. He was sure that in some cases the excessive use of tobacco, coupled with a very moderate use of alcohol, caused neuritis. In hospitals, the women were specially liable to neuritis, and all of these women had been found to be excessive drinkers of tea. The use of morphine, cocaine, or any narcotic drug predisposes to neuritis. Alcohol was the most important single factor in the causation of neuritis; according to his statistics, about two-thirds of all the cases of multiple neuritis had this causation. He had seen some cases of multiple neuritis that seemed to be associated with lithæmia, but he did not believe there was any such thing as a rheumatic multiple neuritis, and it was only very exceptionally that gout caused multiple neuritis. He believed that many of the cases of multiple neuritis following infections were really due to something that had been given during the course of the infection; hence, he was disposed to look with suspicion upon alleged new causal factors. The speaker closed by citing a case in which a person had, without his knowledge, taken ten grains of chloretone three times a day for a period of about four months. The man had then developed numbness and anæsthesia of the feet, with more or less ataxia, and sensory and motor symptoms of a beginning neuritis.

Dr. B. Sachs said that a number of years ago, when unusually large doses of arsenic had been given in chorea, symptoms of arsenical neuritis had not been very uncommon. He had seen some cases of multiple neuritis occurring in persons addicted to the use of snuff, and he had attributed the neuritis to poisoning from lead introduced into the snuff to give it an intense black color. He thought there was an unfortunate tendency to make the diagnosis of alcoholic multiple neuritis on insufficient grounds. Such a diagnosis should not be made unless there were other symptoms of chronic alcoholism. He had seen malarial multiple neuritis occurring in children living in the swampy malarial districts of Long Island. In these cases the malarial plasmodium had been found in the blood, and there had been present the usual symptoms of malarial poisoning. He had seen one case which he had been compelled to look upon as syphilitic multiple neuritis. It had occurred in a person who had not received mercurials to any extent, and the use of mercury and the iodide had brought about rapid improvement. This was the only case of the kind, however, that he had seen, and he had made the diagnosis by exclusion. He had also seen diabetic multiple neuritis rather more frequently than Dr. Starr. Certain cases of neuritis he believed were entirely secondary to disturbances of the circulation. The lithæmic cases were purely sensory in character, and were exceedingly obstinate under treatment.

Dr. Frederic Peterson said that it must be evident from the paper that, with arsenic lurking in beer and in our cooking utensils and in our sleeping potions, the danger of living grows greater every day. The facts brought out this evening should constitute a good argument for the establishment of a State Hygienic Institute. The speaker, continuing, said that in alcoholic multiple neuritis there was often a peculiar mental condition characterized by a loss of the sense of time and place. Some years ago he had reported three cases of acute mania occurring in rubber workers from poisoning with the bisulphide of carbon.

Chloretone.—Referring to chloretone, he said he thought very little was as yet known about this agent. He had used it in a number of cases of epilepsy in small doses—three to five grains—and had observed some peculiar effects in some cases. Chloretone was known to be a very uncertain drug in the tablet form. This had been well shown by the case of a young girl who had swallowed 25 five-grain tablets of chloretone without any appreciable effect. He had seen two cases of arsenical multiple neuritis develop from the use of only eight or ten drops of Fowler's solution of arsenic three times a day.

No Diseases Caused by Tobacco.—Dr. Joseph Collins said that he, too, had learned to look upon diabetic multiple neuritis as comparatively common. He would consider a multiple neuritis to be tuberculous when the poison generated by the tubercle bacillus gives rise to the neuritis by circulating through the system. He had just seen such a case. He had met with several cases of tuberculous neuritis, in which the autopsy had shown no characteristic lesion. The speaker said that after long search and expensive experience he had failed to find any disease produced by tobacco, with the possible exception of arteriosclerosis.

Neuritis in Snuff-Takers.—Dr. Collins said that he had seen at least three snuff-takers who had multiple neuritis; and as they had all come from the same locality, he had made an investigation and had found that they had all procured their snuff from one shop, and that the snuff had been packed in lead.

Dr. B. Lapowski cautioned against the free use of mercury in a case of neuritis developing in a syphilitic, unless the examination of the urine seemed to warrant the pushing of this drug.

Neuritis from Coal Gas.—Dr. Herman Knapp reported a case of poisoning by coal gas in which there had been paralysis of several of the eye muscles. It had been necessary to operate upon the muscles in order to prevent double vision. Recovery had been very slow, and after two years he had been directed to go to the mountains, and his sojourn there had apparently done him more

good than all elaborate treatment that had been previously employed.

Neuritis an Improper Term.—Dr. Knapp questioned the accuracy of the term "neuritis" as employed in this discussion. He said there was no histological foundation for the belief that it is a neuritis, for the ophthalmoscope enabled one to see exactly what occurred. Tobacco amaurosis was characterized by atrophy, not preceded by congestion or any evidence of inflammation: it was an atrophy just as is seen in tabes. He had not been able to convince himself that gout exerts any influence upon diseases of the eye. After an attack of la grippe there was certainly developed a distinct optic neuritis.

Tea-Taster's Disease.—Dr. Starr closed the discussion. He said that it was common in his experience to meet with sciatica and other forms of mononeuritis in diabetes, but he had not seen general multiple neuritis in connection with this disease, and the literature showed that these cases were comparatively rare. He had had one interesting case in an American who had been engaged in Japan for nine years as a tea-taster. This man had had the "tea-taster's disease," but after careful examination he had not been convinced that the case was one of true multiple neuritis, and hence he had not included these cases in his paper. This man had presented symptoms of extreme neurasthenia, associated with very rapid heart action, fibrillary muscular twitchings, and paræsthesia. However, it was probable that excessive tea-drinking by impairing nutrition might lead to a multiple neuritis. He could not agree with Dr. Sachs that the vasomotor type of multiple neuritis is merely secondary to disease of the blood vessels.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, October 24, 1901.

A. Brothers, M.D., Chairman.

Acute Perforative Appendicitis.—Dr. S. Marx presented several specimens. The first was a specimen of acute perforative appendicitis. There was a history of two prior attacks of appendicitis. The onset had been sudden, and when first seen by him the patient had presented the usual evidences of acute general peritonitis. Laparotomy had confirmed this diagnosis, and had failed to show any other cause for the peritonitis than the appendicitis. Apparently, the peritonitis had resulted from a microscopic rupture of the appendix.

Fatal Case of Extrauterine Pregnancy.—The woman had had one child seven years before. Having gone two days over her period, she inserted a catheter into the uterus and left it in for two days. Her physician had then been summoned and had curetted her. She had improved rapidly after this, but four weeks later had very suddenly passed into collapse. The patient had rallied well after operation, but had died twenty-four hours later. From the way she had reacted after the operation, he had almost come to the conclusion that it was wise in these cases to operate promptly in spite of the presence of severe collapse.

Sloughing Fibroid After Labor.—In this case a large mass had appeared at the vulva just about the time the patient had gotten out of bed. There was a foul discharge present. A physician had spent three hours trying to remove this mass, which he had taken to be a placenta. Dr. Marx had operated and removed the mass, partly by morcellation. Her condition growing worse, the abdomen was opened, and then it was found that there was a total gangrene, not only of the uterus, but of the bladder. The woman died of exhaustion thirty-six hours later.

Spontaneous Rupture of the Uterus.—According to the literature, spontaneous rupture is not extremely rare in the presence of placenta prævia. This patient died within a few hours. The autopsy showed the broad ligament to be emphysematous. A laceration extended through the cervix for five inches and a half, and the uterine vessels were completely torn across. The predisposing cause in this case had been the deep tear of the cervix, and the exciting cause the placenta prævia. The cervix had only dilated on one side, and in that direction only at the expense of the uterus.

Porro-Cæsarian Section for Double Uterus.—Dr. L. J. Ladinski reported this case. For some weeks the woman had suffered from crampy pains, and these had been very severe in the few days preceding the time of the first examination. When first seen, there had been a large ovoid tumor filling the left side of the abdomen, and neither heart sounds nor fœtal movements could be made out. In the left cul-de-sac was a small indefinite mass that appeared to be separated from the cervix by a septum. A diagnosis of abdominal pregnancy or pregnancy in an anomalous uterus had been made. The same evening he had opened the abdominal cavity. The gestation was in the left sac, and the left tube and ovary were intact. On the right side was the other uterus somewhat enlarged. Between the two uteri and to the left of the median line was a short, broad, recto-vesical ligament joining the rectum and bladder for a distance of one inch and a half above the junction. As the fœtus was no longer viable, he had proceeded to remove the pregnant uterus. There was reason to believe that the full-term pregnancy had occurred in one uterus, and the three abortions in the other uterus. The recto-vesical septum was certainly very unusual in double uterus.

Intraperitoneal Rupture of an Ovarian Cyst.—Dr. Ladinski presented several specimens. The first one was an intraperitoneal ovarian cyst that had ruptured. The rupture was very minute. The patient had been married seven years ago, and had had three children. For about nine months she had noticed a gradual but painless enlargement of the abdomen. She had suddenly gone into collapse, and her physician had found a change in the contour of the abdomen. In addition, the pain had ceased, and the abdomen was filled with fluid. Dr. Ladinski had operated upon her the same day. On opening the abdominal cavity under ether, the peritoneal cavity had been found filled with a dark grumous material, together with the collapsed cyst. This had been removed, and she had made a good recovery, leaving the hospital in two weeks.

Elephantiasis of the Labia Majora.—This woman had been admitted to the Gouverneur Hospital while in labor with her first child. On examination he had found a tumor of the labia, and had recognized her as a woman who had been at his clinic under treatment for a severe syphilitic ulceration of this region. During delivery she had sustained a severe rupture of the perineum.

Carcinoma of the Urethra in the Female.—Dr. A. Brothers presented this specimen. The only symptom was difficulty in micturition. He had made an opening into the bladder, and with the finger therein had dissected out widely the entire urethra, and the carcinomatous mass had thus been removed intact. The parts were then sutured as carefully as possible. The condition appeared to be a very rare one, and the literature was scanty. One German writer had collected twenty-seven cases and had classified them as follows: (1) Those presenting warty papillomatous excrescences; (2) Cases characterized by thick, nodular, infiltrating masses in the periurethral tissues; (3) Those with ulcerating surfaces and thickened edges. In one-third of the cases inguinal enlargement was present.

Dr. Robert A. Murray reported that he had examined Dr. Ladinski's patient with double uterus, and had found the two cervices and a partial septum.

Etiology, Histology, and Usual Course of Ectopic Gestation.—S. W. Bandler was the author of this paper. He said that external migration of the ovum was believed by some authorities to be the etiological factor. Specimens

were presented to substantiate this theory of external migration. Certain experiments seemed to indicate that in a perfectly normal tube development of the ovum could not take place. Ectopic gestation occurred most frequently in multipara after a period of sterility. The latter marked the time during which the tube had been the seat of inflammatory changes. Recurrences of tubal gestation takes place, but rarely in the same tube. The location of the gestation was generally in the middle of the tube. The ovum might grow in three different ways: (1) The columnar growth; (2) The intercolumnar growth; (3) The centrifugal form. Under normal conditions the villi do not project into the arterial openings of the intervillous space. It was very probable that the villi actually invade the muscle wall. In the intercolumnar type of development the ovum is surrounded by mucosa folds alone. Such a columnar situation made abortion easy and but slightly dangerous. The theory that the tube ruptures, because the ovum is too large, was not usually borne out by the facts in the case of gestations in the first three months; the real cause here was hemorrhage. Rupture of the tube almost always occurs at the placental site, at which point both old and new hemorrhages could usually be found. The majority of tubal abortions were near the uterine end. There might be an intraligamentous tear with a hæmatocele at the abdominal end. If the bleeding were very slow, a secondary hæmatocele would form.

Early Symptoms of Ectopic Gestation. Dr Egbert H Grandin opened the discussion on the general subject of ectopic gestation. He said that from an experience with over fifty cases of ectopic gestation he was satisfied that it rarely runs the course described in the textbooks. Very seldom, indeed, was there a history of amenorrhœa followed by irregular hemorrhages, and very often there was an absence of the colicky pains considered to be so characteristic of this condition. Only once in his series had a decidua been present. There was only one safe course to follow, *i. e.* considering that every woman has an extrauterine pregnancy until it has been disproved. The diagnosis must be largely made by excluding uterine pregnancy. There was usually a history of absolute or relative sterility, and this was an important factor in reaching a diagnosis. Close inquiry would show that the woman had not menstruated according to her accustomed rule; she might have either anticipated the usual date or gone a little over that time. Some of the women give no history of this kind, but insist that they *think* they are pregnant The gravid uterus is globular in shape and compressible, and the lower segment is boggy and projects more or less over the cervix—the so-called Hegar's sign. This last sign was not present in ectopic gestation, except in those very rare cases in which ectopic and uterine gestation coexist. In any doubtful cases a positive diagnosis could be made by an incision into the posterior vaginal fornix an operation which might fairly be said to be free from risk As to the question of operating during shock, he would say that while the woman is in collapse the bleeding ceases; as soon as she is stimulated, the hemorrhage recommences. For this reason his rule had been to open the abdomen in spite of existing shock, feeling that, although this added shock to shock, it was following the old surgical rule of cutting down upon the bleeding point and securing it He had formerly spent a good deal of time in washing out the cavity, but had come to the conclusion that so much handling of the bowel was undesirable He did not at the present time resort so much to drainage as formerly, not draining at all in the recent cases In old cases he was still disposed to open into the vagina and carry gauze through, but he was beginning to doubt even the wisdom of this, because of the well-known fact that in about forty-eight hours a drainage channel through the vagina is shut off from the general abdominal cavity

Dr S Marx said that in the majority of his cases there had been a history of antecedent pelvic trouble. He felt sure that the diagnosis of extrauterine pregnancy would be made more often if the physician only thought of this condition. When called to a pregnant woman having hemorrhage he invariably thought of two conditions—placenta prævia and ectopic gestation. Hemorrhage was a most important symptom, as was also the small size of the uterus, as compared with the supposed period of gestation. He could not accept Dr. Grandin's description of Hegar's sign. What Dr. Grandin had alluded to in his remarks was not that sign, but one which Dr. Grandin had himself described, *i. e.* the bulging of the uterus above the cervix. Hegar's sign, on the contrary, was the extreme thinness at the vaginal junction. He was not sure whether he would operate during shock or not, because of the risk of being severely censured by the family for operating upon an apparently moribund woman in the event of the case terminating fatally.

Dr. Ladinski said that before one could expect to attain much success in the diagnosis of extrauterine pregnancy, one should have become expert in the diagnosis of intrauterine pregnancy Statistics show that Hegar's sign is only found in about 17 per cent. of cases of intrauterine pregnancy. There was another sign of early intrauterine pregnancy which was of great value, *i. e.* a peculiar elastic feel in the body of the uterine just above its junction with the cervix. This sign could be detected as early as the fifth week of intrauterine pregnancy. In every case of extrauterine pregnancy there is amenorrhœa, together with tenderness and paroxysmal pain. He saw no necessity for making an exploratory incision, for in cases in which the diagnosis is so much in doubt, operation would be demanded even though the case did not prove to be one of ectopic gestation. He did not favor operation through the vagina He had seen more than fifty cases of ectopic gestation, and had operated upon thirty-five of them himself, but only once by the vaginal route. He had had 100 per cent. of recoveries He did not drain or wash out the abdominal cavity farther than to remove the clots. He agreed most heartily that the surgeon was not justified in postponing operation while the patient was in shock, for, while waiting for the patient to react to the stimulants, the woman could be operated upon and saved. Such advice might not have been good before saline infusion was known, but by infusing both before and after the operation one could operate, stop the hemorrhage, and save much valuable time

Dr. Bandler, in closing, said that the differential diagnosis could not be made between intraperitoneal rupture and tubal abortion. The route to be selected was entirely a matter of individual judgment and choice.

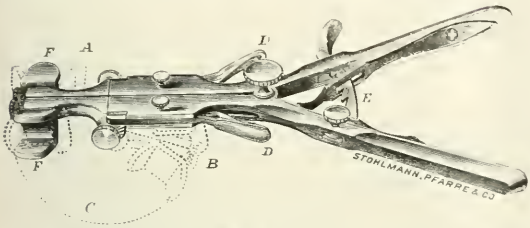
The Plague has reappeared at Glasgow, and several cases have also occurred at Liverpool. In the latter place, suspicion was aroused by two deaths from some undefined disease, and investigation showed that there had been six deaths in the past six weeks of persons whose symptoms suggested plague. There are several suspected cases in hospital. In Glasgow, four of the servants in one hotel were taken ill with symptoms of plague and died. The patients were removed to hospital and the hotel was closed. A number of places have declared quarantine against Liverpool, among which are Havre, Bordeaux, and all the Italian ports. The Texas State Health Department has issued orders to enforce quarantine against all vessels from Liverpool and Glasgow on account of the prevalence of bubonic plague at those ports. At Brisbane, Australia, one death occurred on October 10, this being the first reported case in that city in two months. The disease also exists at Port Elizabeth, South Africa, where five cases were discovered on November 4; at Batum Russia, and at Rio de Janeiro.

New Instruments.

AN ADJUSTABLE AUTOMATIC MOUTH GAG.*

By H. W. CARTER, M.D.
NEW YORK.

EVERY anæsthetist is occasionally confronted with the necessity of keeping his patient's mouth open during anæsthesia in order to overcome some mechanical obstruction to respiration, such as persistent dropping backward of the tongue or relaxation of the buccal muscles from atrophy of the alveolar structures, the redundant cheeks acting as valves which permit free expiration, but effectually prevent the entrance of air during inspiration. This in itself is, of course, a very simple matter, but the application of the modern face piece, when the ordinary gag with its long curved jaws is in use, is almost impossible. Any one who has had a single experience of this kind, and has realized the extreme difficulty of keeping an alcoholic or robust muscular man under ether with his mouth open and the face piece only half applied, will appreciate the necessity of some reliable and efficient remedy in dealing with such an emergency.



A. Jaws fully extended. B. Jaws fully flexed. C. Radius of jaw adjustment. D. Handles of automatic catch. E. Ratchet and spring. F. Automatic tooth rests.

The interdental mouth prop is not satisfactory on account of the great danger of its slipping into the larynx and causing strangulation. Having encountered several such cases, I determined to devise an instrument that would fulfil all the requirements of a general mouth gag and at the same time would not interfere with the successful administration of nitrous oxide and other anæsthetics.

To accomplish this purpose and to secure perfect coaptation of the face piece, it was evident that the gag while in use must lie flat against the cheek. A fixed instrument of any kind, for obvious reasons, would not answer, and it became necessary to devise one which could be adjusted to the individual face. This was done by using a hinge joint which permits any degree of motion between extreme extension and full flexion. But while the joint was indispensable for adjustment, it was also absolutely necessary to have a perfectly rigid instrument when in use, on account of the tendency of the hinge to close up and throw the gag out of the mouth. In order to overcome this difficulty, I had made upon the outer surface of either joint a series of nine small cogs into which a peg on the end of a spring lever would successively fit.

This lever operates within a deep slot on the outer surface of either side of the gag, thus reinforcing and making it perfectly secure. When the handles of the levers are depressed with the thumb and index finger, the corresponding joint is freed for adjustment, but as soon as they are released the spring drives the peg into one of the small cogs on its outer surface, making it perfectly rigid. The character of the joint makes it impossible to pinch the lips in any position in which the gag may be used.

I found it necessary to have the tooth rests made automatic so that they would adapt themselves to any position in which the gag might be fixed and would always rest perfectly flat upon the teeth. This feature did away with the necessity of curved jaws and enabled the instrument to be introduced well back into the mouth. As each side of the gag is independent of the other in its mechanism, it is very easy to adjust the jaws to any irregularities or malformation of the mouth. I have adopted the ratchet and spring attachment for opening and closing the gag, because it seems to be the simplest and most convenient one to use. The instrument presented this evening is in no sense intended as a mouth-opener, but as a general gag, pure and simple.

It should prove of great value to the dentist and to the nose and throat specialist in extracting teeth and in removing tonsils and adenoids under nitrous-oxide anæsthesia. Used for this purpose, it should be simply introduced and when the patient is under the anæsthetic, just before removing the inhaler, the mouth should be opened by pressing together the handles of the gag. The instrument is simple in construction and every part of it can be easily taken apart and thoroughly cleaned.

The accompanying wood cut fully shows its different positions and uses.

148 EAST THIRTY-FIFTH STREET.

* Presented to the Section on Surgery of the New York Academy of Medicine, October 14, 1901.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 9, 1901:

	Cases.	Deaths
Measles	172	3
Diphtheria and croup	257	44
Scarlet fever	141	8
Smallpox	10	1
Chickenpox	20	..
Tuberculosis	264	141
Typhoid fever	60	20
Cerebrospinal meningitis	..	..

Smallpox and the Seasons.—The occurrence of an outbreak of smallpox at the present time of year, which is out of the common course, is a matter of some interest, both in regard to immediate prospects and to the outlook for the future. The seasonal curve of smallpox mortality is a simple one, that is to say, it has one rise and one fall per annum. Taking the mean of a large number of years, the maximum mortality occurs between January and May, when it rapidly falls, the minimum being reached in September. From this point it gradually rises again through October and November, and runs up quickly in December to its maximum in January and February. The fact, then, that the present outbreak began at the bottom of the curve, that is, at the time when, under normal conditions, the tendency to smallpox is slight, may by some be taken to indicate that it will be easily dealt with. We do not, however, think that such a view is tenable, in the light of past experience. When we find an infectious disease gradually dying away at a certain season, year after year, notwithstanding that during the preceding months of its maximum prevalence the dissemination of its infection must have been at the highest, it is clear that there must be at work some influence, we know not what, but something connected with the season to account for the phenomenon, and we cannot but believe that an infection accidentally imported during that

period of decreasing prevalence is comparatively unlikely to extend. When, however, we find that at a given season, as also happens every year, the disease begins to spread, notwithstanding that the foci of infection must be at the minimum, we have to admit that there is some hidden influence at work to cause this result, and again in our ignorance of its exact nature we have to describe this as "seasonal," a something which makes up at such season of the year more potent for evil than at other times. Now, let us apply all this to smallpox. The present outbreak has occurred at the very bottom of the curve, when, under ordinary circumstances smallpox is at the minimum. So far so good. Evidently the season favors our efforts to suppress it, and for the present we may succeed. But the infection which is now being spread abroad by these cases comes into operation at the very season of the year at which, as the natural history of the disease shows, a very little infection always goes a long way. Hence we must not be misled by the fact that this outbreak has so far shown no marked tendency to become epidemic. What we have to think of is what will happen in the early spring. We know that the seed has been sown, and not until harvest time arrives can we be sure that it has not taken root.—*Hospital.*

Disposal of the Milk of Tuberculous Cows.—Professor Sheridan Delépine says: "While I consider it advisable to deal with young stock under three years of age as rapidly as possible, I think that in the present state of things the indiscriminate slaughter of all tuberculous animals above that age would be attended with considerable and unnecessary losses. Only cows in an advanced stage of tuberculosis, showing evidences of wasting, or of tuberculosis of the udder, should be slaughtered without delay. They are serious sources of infection, and the longer they are kept the less their value becomes, if they retain any at all.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended November 9, 1901:

		CASES	DEATHS.
Smallpox—United States			
Illinois, Peoria	Oct. 1st to 31st	6	
Springfield	Oct. 2d to Nov. 2d	26	
Iowa, Ottumwa	Sept. 28th to Nov. 2d	31	
Kansas, Wichita	Oct. 19th to 26th	3	
Kentucky, Lexington	Oct. 25th to Nov. 2d		5
Louisiana, New Orleans	Oct. 25th to Nov. 2d	7	
Massachusetts, Boston	Oct. 19th to Nov. 2d	22	2
Newton	Oct. 19th to 26th	2	
Michigan, Detroit	Oct. 19th to Nov. 2d	2	
Nebraska, Omaha	Oct. 19th to Nov. 2d	14	
South Omaha	Oct. 17th to 24th	6	
New Jersey, Camden	Oct. 19th to 26th	5	1
New York, Elmira	Oct. 26th to Nov. 2d	1	
New York	Oct. 26th to Nov. 2d	5	4
Ohio, Youngstown	Oct. 12th to 19th	2	
Pennsylvania, Allegheny City	Oct. 18th to 25th	1	
Lebanon	Nov. 2d	2	
Norristown	Oct. 26th to Nov. 2d	7	1
Philadelphia	Oct. 19th to Nov. 2d	111	22
Pittsburg	Oct. 26th to Nov. 2d	6	
Vermont, Burlington	Oct. 26th to Nov. 2d	5	
Smallpox—Foreign.			
Austria, Prague	Oct. 6th to 10th	6	
Belgium, Antwerp	Oct. 6th to 12th	2	1
Canada, Halifax	Oct. 19th to Nov. 2d	13	
Quebec	Oct. 26th to Nov. 2d	41	
Winnipeg	Oct. 26th to Nov. 2d	1	
Colombia, Panama	Oct. 20th to 28th	300	
France, Paris	Oct. 12th to 19th		3
Great Britain, Liverpool	Oct. 12 to 19th	1	
London	Oct. 12th to 19th	172	12
Russia, Moscow	Oct. 5th to 12th	5	1
Odessa	Oct. 12th to 19th	3	
Warsaw	Oct 7th to 14th	3	
Uruguay, Montevideo	Aug 24th to Sept. 14th	75	11
Yellow Fever.			
Colombia, Bocas del Toro	Oct. 15th to 23d	2	
Mexico, Vera Cruz	Oct. 19th to 26th	17	2
Cholera.			
India, Bombay	Oct. 1st to 8th		3
Calcutta	Sept. 28th to Oct. 5th		3
Plague—United States.			
California, San Francisco	Oct. 20th to 30th	1	1
Plague—Insular.			
Philippines, Manila	Sept. 7th to 21st	5	3
Taguig	Sept. 7th to 14th		1
Plague—Foreign.			
Great Britain, Glasgow	Nov. 1st	4	
Liverpool	Oct. 30th	Several cases	2
India, Bombay	Oct. 1st to 8th		174
Calcutta	Sept. 22d to Oct. 5th		19
Turkey, Samsoun	Oct 1st	9	1

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

The Medical Plants of the Philippines. By T. H. Pardo De Tavera. 8vo, 269 pages. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $2.00.

Handbook on Sanitation. By George M. Price, M.D. 8vo, 317 pages. Illustrated, first edition. John Wiley & Sons, New York. Price, $1.50.

Physicians' Pocket Account Book. By J. J. Taylor. The Medical Council, Philadelphia, Pa.

The Last Words of Distinguished Men and Women. By F. R. Marvin. 8vo, 336 pages. Fleming H. Revell Co., New York City.

Diseases of the Digestive Organs in Infancy and Childhood. By Louis Starr, M.D. 8vo, 448 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $3.00 net.

Syphilis and Other Venereal Diseases. By H. De Meric. 8vo, 132 pages. William Wood & Co., New York. Price, $1.25 net.

Lessons on Massage. By Margaret D. Palmer. 8vo, 234 pages. Illustrated. William Wood & Co., New York. Price, $2.00 net.

The Diagnosis and Treatment of the Diseases of the Rectum. By W. Allingham & H. W. Allingham. 7th edition. 471 pages. Illustrated. Wm. Wood & Co., New York. Price, $3.25.

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IS RABIES A SPECIFIC DISEASE?

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THE article on "Hydrophobia and the Pasteur Methods," by Charles Winslow Dulles, M.D., which appeared in the MEDICAL RECORD, July 13, 1901, reads like a chapter from the medical literature of a dozen years ago. Even at that time such views were comparatively rare, but to-day they are a curiosity. There is but one reason for noticing such a series of misleading assertions, and that is their influence upon the lay press, and the use which is made of them to oppose and obstruct sanitary officers who are endeavoring to protect our people from this dreadful disease.

When John P. Haines[1] some years ago wrote the article on "Rabies and Hydrophobia," which has been scattered broadcast over the country, and which is generally quoted to prove that it is unnecessary to enforce regulations against the disease in animals, he referred to "Dr. Charles W. Dulles, the "Eminent Lecturer on the History of Medicine at the University of Pennsylvania," as one of his principal authorities. After announcing the preposterous claim made for Dr. Dulles that he has "performed the almost incredible task of investigating, either personally or by correspondence, with the physicians or others in attendance, every case of hydrophobia reported in the newspapers of the United States for the past sixteen years," he says: "The result of all this patient and conscientious work has not only brought Dr. Dulles to the conclusion that 'hydrophobia is extremely rare,' but has also inclined him to believe that 'there is no such specific malady,' since he has failed, 'after sixteen years of investigation, to find a case on record that can be conclusively proved to have resulted from the bite of a dog or any other cause.'" Mr. Haines adds: "We need hardly observe that this fact—for a fact it is—reduces the probability that any supposed case of hydrophobia has been really caused by the bite of a dog almost to zero."

Here we have in a nutshell the case of those who oppose the results of modern science and the methods of modern sanitarians. It is distributed from the Atlantic to the Pacific as the mature conclusion of a man particularly eminent in the medical profession, who has devoted many years to indefatigable investigation.

The writer has not investigated all the cases reported in sixteen years, but he has investigated long enough to prove that a sufficient number of cases can be demonstrated in one year to satisfy any unprejudiced man of the existence of the disease, and that it results from the bite of a dog. If Dr. Dulles really wanted to know something about rabies, it is surprising that, instead of attempting to investigate it in the newspapers, he did not confine his attention to his own city of Philadelphia, and use, experimentally, the material which comes to the veterinary department of the university with which he is connected. The dean of that department estimates, that, during the fourteen years' existence of the school, from three hundred to four hundred unquestioned cases of rabies have been received at the hospital. He also knows of several cases of rabies in man that have occurred in Pennsylvania, some of which have been confirmed by the inoculation of animals.[2]

During the two years that rabies has existed among the dogs of the District of Columbia, Dr. Dulles has been frequently quoted by our local newspapers to prove that there is no such disease, and that, consequently, there is no need of sanitary measures to prevent it. The position which he holds in connection with a great university gives his views weight with the public, notwithstanding that he is out of harmony with the great body of his profession, and out of harmony with the results of modern research.

The greater part of the article of July 13 is made up of denunciations of Pasteur and of the Pasteur treatment. It is only necessary to say in reply to these that the views of Pasteur, after the most searching investigation by scientific men, have prevailed; the results of his investigations stand confirmed; institutions for giving the Pasteur treatment have multiplied, and now exist in most parts of the civilized world; and whether these institutions are conducted by private enterprise or as parts of a government service, the reports have been substantially the same.

The views which are most surprising as coming from a physician are (1) That hydrophobia is not a specific disease, and (2) That it is about as likely to follow the bite of a healthy dog as of a diseased one. In view of the fact that rabies may be easily communicated by inoculation from animal to animal through an indefinite series, and from man to animal with equal facility; and further, that such inoculations have been for years and are constantly being made by competent investigators, it is difficult to see how the specific nature of the malady can be successfully questioned. We have as clear evidence of the specific nature of rabies as of any other disease, and we can confirm this evidence at any time by inoculation experiments. Why, then, should there be any doubt?

The conclusion that rabies is about as likely to follow the bite of a healthy as of a diseased dog is absurd on the face of it. What would be thought of a physician who claimed that smallpox, measles, scarlatina, or diphtheria were about as likely to follow exposure to a healthy as to a diseased person? And yet the cases are strictly parallel. An animal is not able any more than is a man to communicate a contagion which it does not possess.

The fallacy of Dr. Dulles's conclusion may be clearly shown, however, by the experience of England during recent years. And in referring to this, I shall take the opportunity to correct a most glar-

ing misstatement which he has made with great positiveness. He says:

"This great disparity between France and other countries has not altogether escaped the attention of the followers of Pasteur, who, in France, have added to their other evidences of ignorance of what goes on outside of their own country by claiming that the comparative immunity of England, Belgium, Holland, Austria, and Germany is due to the administration of effective muzzling laws.

"As a matter of fact, the muzzling laws of England are as inefficient as they are in this country."

In this country we have no efficient muzzling laws. Muzzling is only attempted by city boards of health, consequently does not extend beyond the city's jurisdiction, and in no case which has come to my attention has it been thorough or efficient within these limits. During the last two years it has been attempted by Washington, Buffalo, and Rochester; but in each case met with such opposition that its efficiency could not be compared with the muzzling in England. In Washington it was a farce from beginning to end.

In England, on the contrary, the muzzling regulations are enforced by a central authority—the Board of Agriculture; they are applied wherever the disease appears, and in recent years they have been rigidly maintained. The result has been remarkable, so rapid and complete has been the eradication of the contagion.

The law of 1886 first included dogs among the animals dealt with by the Contagious Diseases (Animals) Act of 1878. The official information as to rabies in Great Britain, therefore, begins in 1887, during which year 217 cases in dogs were reported. At that time it was decided by the Privy Council to give to the local authorities of counties and boroughs the power to make muzzling regulations applicable to the whole or parts of their districts, and to deal with cases of rabies as they might arise. Owing to the want of rigorous and concerted action on the part of the local authorities, little benefit resulted. The number of cases dropped to 160 in 1888, and increased to 312 in 1889.[3]

Early in the year 1889, the disease commenced to spread within the metropolis and the surrounding counties, and became so prevalent in July that it became necessary for the Privy Council to pass a special order requiring the muzzling of all dogs in public places, exempting only dogs used for sport or the destruction of vermin. The order also provided for the seizure of all dogs affected with, or suspected of, rabies, and of all ownerless dogs.

Owing to the long period of incubation of rabies, no material decrease was observable during the first three months, but in November and December there was a marked reduction. The following table shows that within three years after the enforcement of the order, which was issued in July, 1889, rabies was practically extinguished in the district to which the order applied:[4]

1889	176	cases.
1890	44	"
1891	28	"
1892	3	"

At the close of the year 1889, the measures taken by the Privy Council to check the progress of rabies in London had already done such good service that it was determined by the Board of Agriculture, to whom the powers of the Privy Council in this matter had been transferred in the autumn of 1889, to extend the operation of muzzling to Lancashire, the West Riding of Yorkshire, Cheshire, and some other districts where rabies was prevalent. The results of this action were very satisfactory, as the cases reported for Great Britain fell from 312 in 1889 to 129 in 1890; were still further reduced to 79 in 1891, while in 1892 there were but 38 cases.[5]

With this great decrease in the prevalence in rabies, public interest and support waned and disappeared, while opposition to muzzling became so vigorous that the muzzling orders were withdrawn, and the matter left once more in the hands of the local authorities. The local authorities hesitated to incur the odium of making muzzling regulations, and, consequently, very little was done to control the disease. The result of this was plainly seen in the rapid increase in the number of cases reported. These were as follows: 1893, 93 cases; 1894, 248 cases; 1895, 672 cases.[6]

This condition of affairs opened the eyes of the English people, and strong and increasing pressure was brought to bear on the Board of Agriculture to deal with rabies in a thorough manner. In 1896, public alarm had caused the local authorities to be somewhat more rigorous in the enforcement of muzzling, and following this the number of reported cases dropped to 438; but, with the abatement of the alarm, the enforcement of this measure was again neglected, and it became evident that there was danger of the disease increasing. The Board of Agriculture, therefore, issued the rabies order of March 23, 1897, withdrawing the power of making muzzling regulations from the local authorities, and imposing these regulations by central authority. Inspectors were employed to make searching investigation in every case, to trace the dogs which might have been bitten, to secure their slaughter or isolation, and to determine the boundaries of districts to be placed under muzzling orders. These inspectors were also engaged in efforts to induce the local authorities to seize and destroy ownerless and stray dogs.[7]

It was frequently urged, says the report, that rabies was by no means so prevalent as it was supposed to be, and that many of the reported cases were not true rabies, but some affection which temporarily produced symptoms which were mistaken for that disease. That is, England also had its Dulles and its Haines to cast doubt upon the diagnosis, and to obstruct the enforcement of the regulations. With a view, as far as possible, to eliminate all doubtful cases, and to enable the board to decide whether the muzzling regulations should be applied to, or withdrawn in, certain districts, a most exhaustive inquiry was made into the history of every dog killed as suspected. If there still remained a doubt, whether the slaughtered dog was or was not rabid, inoculations were carried out to decide the question.[8]

Now, we will see the result of these thorough measures. Starting with 438 cases in 1896, the number was reduced to 151 in 1897, to 17 in 1898, to 9 in 1899, and to 6 in 1900. In the year 1900, there was not found a single rabid dog in England or Scotland, the six cases reported having developed in South Wales, a district which, by reason of its mountainous nature, renders it extremely difficult to enforce a muzzling regulation, and where dogs affected with rabies may easily wander from their homes and die in some remote place without recognition.[9]

Now, if Dr. Dulles is correct in his conclusion, that rabies is not a specific disease, and that it is about as likely to follow the bite of a healthy as of a rabid dog, will he, or some one else, explain how it can be stamped out of countries like England and Scotland by muzzling dogs in districts where the disease appears, and by slaughtering the dogs which are rabid, or which have been bitten by rabid

animals? The muzzling orders are only applied temporarily and in certain districts where the disease has appeared. There were but two rabid dogs in England and Scotland during 1899, and none during 1900; consequently, for two years there has been but little muzzling. The dogs of these countries were, therefore, as free to bite as they were before any regulations were made, but there have never before been two years with such freedom from rabies since records of the disease have been kept in Great Britain. This result, to my mind, is sufficient in itself to disprove absolutely the position which Dr. Dulles has assumed, and which the medical profession has fortunately viewed with disfavor, notwithstanding his special pleading for many years.

There remains one more point of great interest, which should be brought out in this connection. What has been the effect of eradicating rabies in dogs in Great Britain upon the development of rabies in man? Dulles, Woods, Haines, *et al.* have been telling us for years that the so-called hydrophobia of man was mostly or entirely lyssophobia. That it was produced by fear after having been bitten by a dog, or that, at the worst, it was not a specific disease. If this were true, there should have been no diminution in the number of cases of hydrophobia in man; on the contrary, according to the reasoning of these gentlemen, the number of cases should have been increased by calling attention to the malady in enforcing the muzzling orders, just as they claim that it has been increased by the influence of the Pasteur treatment. But no such result has followed. The disease in man has steadily decreased from 1895, when there were twenty deaths, to 1899, when, for the first time in over half a century that is covered by the records, there was a year without a death from hydrophobia in England and Wales. The year 1900 also is reported to have passed without a death from this disease.[10]

Is this a mere coincidence, or does it prove that rabies is a specific disease? And as it is only a repetition of the experience of Norway, Sweden, and Holland, does it not indicate that such a result will probably follow in every case?

I have gone into details concerning the history of the eradication of rabies in Great Britain, and have taken my statements, almost word for word, from the official reports, because the matter has been so frequently misrepresented in the press of this country. With the rapid increase of rabies in the United States, it is time that the medical profession, at least, should know the facts.

Dr. Dulles makes an amusing attempt to prove that there were more deaths in Paris from hydrophobia during the five years succeeding the inauguration of the Pasteur treatment than during the five years preceding it. This is how he does it. He takes the statistics of Dujardin-Beaumetz and arranges them as follows:

Lustrum preceding:		Lustrum following:	
1880	4 deaths.	1885	22 deaths.
1881	21 "	1886	3 "
1882	9 "	1887	9 "
1883	4 "	1888	19 "
1884	5 "	1889	6 "
Total	43 deaths.	Total	59 deaths.

If he had not made an error in copying the figures for 1884, which should have been 3 instead of 5, he would have had a still more striking contrast. The deception in this table is in putting the year 1885 after the inauguration of the Pasteur treatment, instead of before it. As there were more deaths in this year than in any other year covered by the table, it forms a convenient means of changing the result. The Pasteur treatment did not begin until November 1, 1885, when five-sixths of the year was passed, and when it was too late for the treatment to have any marked effect upon the cases of hydrophobia during that year. A single case was treated before the method was offered to the public, but as information concerning this case was not given out until October 26, 1885, it does not affect the general statement just made. Now, if we put the year 1885 in the period preceding the beginning of the treatment, as in all fairness it should be placed, we have:

5 years preceding:		5 years following:	
1881	21 deaths.	1886	3 deaths.
1882	9 "	1887	9 "
1883	4 "	1888	19 "
1884	3 "	1889	6 "
1885	22 "	1890	1 "
Total	59 deaths.	Total	38 deaths.

As a matter of fact, the largest number of deaths from hydrophobia occurred in the years in which there were most rabid dogs, and as there happened to be a considerable increase in canine rabies in the years following the beginning of the Pasteur treatment, the mortality from rabies did not decrease to the extent that it otherwise would have done. It is naïvely remarked by Dr. Dulles in reference to the year 1885, that it was "the year in which the Pasteur method was brought out, when the largest advertisement of it was made in the newspapers of Paris, when everybody was talking about it all over the world, and when cases of lyssophobia multiplied everywhere in consequence of this morbid discussion. So marked was the increase in deaths from rabies among animals at this time in France that I find Nocard, in 1888, speaking to the Académie de Médecine of Paris of the cases occurring in Paris, says that a like increase was observed everywhere in France; while in 1892 Galtier declares to the same body that hydrophobia has singularly increased."

Does Dr. Dulles intend to convey the impression that this increase of rabies in dogs was really lyssophobia developed in consequence of the "morbid discussion?" If not, it is difficult to see what idea he expects the reader to gather from the fact stated in this connection. There appears to be no other way of charging the Pasteur treatment with responsibility for the increase of canine rabies.

Again, Dr. Dulles quotes statistics as to the number of rabid dogs in Germany from 1889 to 1894, showing but one case of hydrophobia in man to 435 cases of rabies in dogs. In France, he finds by an indirect method, which I shall not attempt to controvert, that "on the most moderate estimate of the ratio of mortality to bites accepted by the Pasteur Institute, this would have furnished 516 deaths, if untreated, or one to about twelve cases in dogs." From this he proceeds to argue that "there is an enormous discrepancy between the ratio of deaths from hydrophobia to cases of rabies in dogs in Germany and that in France—the latter having a mortality thirty-eight times as great."

It is intimated that this great disparity exists between France and other countries—England, Belgium, Holland, and Austria. As Holland has long been free from hydrophobia in man and rabies in dogs, there are no recent cases to compare. It will,

however, be interesting to compare the figures as to England and Wales for a series of years.

TABLE SHOWING HUMAN AND CANINE RABIES IN ENGLAND AND WALES.

Years	Cases of Human Rabies.	Cases of Canine Rabies.	Ratio between Human and Canine Rabies.
1887	29	217	1 : 7.48
1888	14	160	1 :11 43
1889	30	312	1 :10.40
1890	8	129	1 :16.12
1891	7	79	1 :11.29
1892	6	35	1 : 5 83
1893	4	45	1 :11 25
1894	13	219	1 :16.85
1895	20	668	1 :33.40
1896	8	434	1 :54.25
1897	6	150	1 :25 00
1898	2	17	1 : 8.50
1899	0	9	....
1900	0	6	....

This table shows in several years for England and Wales a narrower ratio than has so surprised our controversial friend when found in France.

I am inclined to think that the strictly enforced muzzling regulations in Germany are a sufficient explanation of the differences which are found in the ratio of that country as compared with France and England. Consul-General Mason, who was asked by the State Department to investigate and report upon the matter, said: "In Berlin, Frankfort, and, so far as I know or can ascertain, in all cities and large towns in Germany, dogs are required to be muzzled whenever they are on the street or public place, and this regulation is enforced in cities even when the dog is led or held in leash by the owner, or is harnessed for working purposes to a cart or other vehicle."[11]

In England, the muzzling was only required temporarily, and was confined to infected districts. In Germany, it appears to be universal, at least in all the centers of population. In France, as in the United States, muzzling is infrequent, spasmodic, and has little effect on the number of cases of rabies in man or animals. Dr. Dulles alleges that the muzzling laws "of Germany do not prevent the taking up annually of a very large number of unmuzzled and suspected animals whose opportunities for biting are quite sufficient to cause a large number of deaths from hydrophobia." The first thought that suggests itself, in this connection, is: If the bite of a healthy dog is as dangerous as the bite of a rabid dog, as Dr. Dulles believes, why are there not a larger number of cases of hydrophobia in Germany? He does not attempt to explain this inconsistency in his own argument.

The fact is, where muzzling is universally required, the appearance of a dog without a muzzle at once attracts attention, and is a warning to people that something is wrong with it. The capture and slaughter of unmuzzled dogs prevent the accumulation of ownerless animals, which in other countries are an especial menace, because they often wander miles daily, searching for food, and are more apt to be bitten than are the pets of the household which are kept upon the owner's premises. While, therefore, a certain number of unmuzzled dogs are captured annually in Germany, that fact is not an argument against either the specific nature of rabies, or the value of muzzling regulations in protecting human life.

Undoubtedly, the statistics of the Department of the Seine collected by Dujardin-Beaumetz are the most accurate which we have from any district in France as to the number of cases of human and canine rabies. These statistics indicate that the ratio between these cases in France and Germany does not differ to anything like the degree which Dr. Dulles thinks. The following table which I have compiled, is conclusive on this point.[12]

Years.	Human Rabies.	Canine Rabies.	Ratio between Human and Canine Rabies.
1881	21	615	1 : 29.28
1882	9	276	1 : 30 66
1883	4	182	1 : 45.50
1884	3	301	1 :100.33
1885	22	518	1 :23 54
1886	3	604	1 :201 33
1887	9	644	1 : 71 55
1888	19	863	1 : 45.42
1889	6	367	1 : 61.16
1890	1	203	1 :203 00
1891	4	400	1 :100.00
1892	5	676	1 :135.20

The above table shows that the large number of cases of hydrophobia in 1885 corresponds with a large number of cases of canine rabies, and that the ratio was only slightly narrower than in 1881 and 1882, and not nearly as narrow as in England in the years 1887 to 1894, inclusive. It also shows that, while the statistics for the year 1885 alone might appear to furnish some ground for the conclusion that "cases of lyssophobia multiplied everywhere," if we take into account the fact that the Pasteur treatment was not commenced until near the end of that year, that the discussion of it was more general and more excited in 1886 than in 1885; that about 2,700 patients were treated in 1886 as compared with about 150 in 1885; and, finally, that there were but three cases of hydrophobia in 1886, the argument falls to the ground. If there were a large number of cases of lyssophobia in 1885, there should have been, on the same line of reasoning, a still larger number in 1886. But this was one of the years in which the cases of hydrophobia were at a minimum, and the cases of canine rabies were large, and, consequently, when there was the largest number of canine cases to each human case with a single exception in the series of twelve years. There is no indication of lyssophobia here.

The table also shows that the Pasteur treatment has had a favorable effect upon the ratio of human and canine rabies. Taking the four years (1881–1884) preceding the year in which the treatment was commenced, the ratio was 1 : 37.13; in the four years (1886–1889) following the one in which the treatment was commenced, the ratio was 1 : 66.97; in the last three years covered by the table (1890–1892) the ratio was 1 : 127.9. This appears to be progress in the right direction, and certainly does not warrant Dr. Dulles' pessimistic remarks.

Time sets all things right, and Dr. Dulles may have observed that at Berlin, where Pasteur's views were once questioned and combated, there has been established a department for the protective inoculation against rabies in connection with the Royal Institute for Infectious Diseases. In the last report of the work at this department it is stated that in 1898 there were treated 137 bitten persons with no deaths In most of these cases, rabies was clearly established in the dogs which did the biting. In 1899, there were treated 196 persons with no deaths. The treatment lasted nineteen to twenty days, according to the Paris method.[13]

It appears, therefore, that this royal Prussian institution is strictly following the Pasteur treatment, and that for two years the result has been perfect protection of the bitten people. I see no escape from the conclusion that this report absolutely vindicates the Pasteur treatment, if it needed any vindication. There may be some men who will not be convinced this side of the grave; but physicians, at least, owe it to their profession to abstain from such villification of Pasteur and his followers as appeared in the paper under discussion.

It should scarcely be necessary to remind a lecturer

on the history of medicine that the medical profession came well on to the three-quarter-mark of the last century in the densest ignorance of the cause and nature of contagious diseases. No one knew whether these diseases were due to electrical or other disturbances of the atmosphere; to peculiarly subtile chemical poisons; to perverted protoplasm; to bacteria, or to some absolutely unknown force of nature. The subject was the *bête noire* of medicine. But, fortunately, the researches of Pasteur on fermentation and on silkworm-diseases pointed the way out of this desperate situation. They led to the work of Lister, of Tyndall, of Koch, and to the later work of Pasteur on chicken cholera, septicæmia, anthrax, and rabies—researches which not only placed the germ theory of disease upon a scientific basis, but which put within our grasp the most unexpected resources in the way of prevention and cure.

Pasteur was one of the greatest investigators the world has produced; he was unmercifully criticised because his views were so original and so astonishing; but his principal conclusions have been accepted by other investigators because they have been confirmed and are right. It is useless for Dr. Dulles, or any one else, to try to disprove facts which are so firmly established, and it is far from edifying to read slanders based upon newspaper clippings of this great man, to whom we owe so much, and who, in his grave, is certainly entitled to respectful treatment.

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SOME FACTS LEARNED IN THE MANAGEMENT OF TYPHOID FEVER IN CENTRAL WEST VIRGINIA.*

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SECRETARY OF THE WEST VIRGINIA STATE MEDICAL SOCIETY

THE great frequency of typhoid fever in spite of the great advances in sanitation on the one hand, and the absence so far of any specific means for its early abortion on the other, must make the subject of its treatment always interesting. Until the labors of so many able workers in the fields of the newer therapies are crowned with better success than they have hitherto been, the treatment of this disease on old and well-tried lines must continue to engage our attention, and the observations of the individual physician at the bedside under the varied conditions of private practice should still have some value. And this value need not be necessarily by virtue of some new discovery or invention, for the corroboration and reaffirmation of facts already known may prove of even greater benefit to our art by adding to the strength of our occupied positions and enabling us to resist the attacks of the spirit of innovation, which often, alas, too often, smacks of sensationalism more than of true progress.

In an article published by the late Dr. James E. Reeves, who was then practising in the historic town of Philippi, in the *Buffalo Medical Journal* for October, 1856, he traces the introduction of typhoid fever into Central West Virginia to a case brought there from Ohio under the name of "slow fever" in 1837. For some reason the infection of the disease found a fertile soil there, and a very extensive epidemic soon followed, as recorded by Reeves in his analysis of 110 cases. As this part of the State figured largely as a battlefield and camping ground during the Civil War, it has shared the fate of all such places in becoming a hotbed of many infectious diseases, notably of typhoid fever. The recent rapid development throughout the State of very extensive mining and lumber industries, with their usual attendant unsanitary camps and hastily constructed villages, has added considerably to the further spread and perpetuation of the disease under discussion. You will, perhaps, grasp more fully the force of this development as a factor in the etiology of this disease, if I call your attention to the fact that the great increase in the population which has accompanied this development has been mainly by the influx of younger persons, between the ages of twenty and thirty, a period of life well noted for its great susceptibility to typhoid fever. The disease has thus become there endemic, prevailing epidemically during certain months of the year; but sporadic cases can be found all the year around. The experience, therefore, of physicians with this disease is very wide. I believe that I shall probably underestimate it, if I state that fully one-fourth of the medical practice in Central West Virginia consists of attendance upon cases of typhoid fever. A very noticeable abatement of the disease, however, has taken place in the last few years in many of the towns which have profited by their sad experience in the past, and have not spared their money in constructing public water works, sewers, and many other sanitary improvements. Of these I shall mention as good examples the towns of Elkins, Davis, and Belington.

The clinical picture of the disease there does not differ from what I have seen it to be elsewhere. The classical textbook type of the disease is met with, but more often its course is atypical in many ways. Constipation is more common than diarrhœa. The eruption is seen only occasionally. An unduly high temperature at the beginning is frequently seen, but is mostly due to the heavy diet indulged in by the patient with the hope of overcoming his growing weakness before seeing his physician. A good cathartic usually brings the temperature down to its legitimate level. A failure to relieve the headache of the first week by means of the coal-tar derivatives, and the disproportionately free response of the bowels to cathartics, even in cases otherwise characterized by constipation, have come to be considered there as pathognomonic therapeutic tests of no little value. Complications are not very common, but are great in variety. Relapses and recrudescences are exceedingly common even under the most judicious treatment and best nursing.

The duration of the disease will average about four weeks, with an occasional minimum of eight days and a maximum of seven or eight weeks. The mortality average is comparatively small and will not much exceed 6 per cent. In the practice of some individual physicians it is much lower than that. In my own practice it has so far not exceeded 2 per cent. during a period of nine years. Most of the fatalities are due to hemorrhage, and there are on record epidemics which were noted for the great fre

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quency of this complication, as well as such which were noted for freedom from it. The fatal cases not due to intestinal hemorrhage are mostly caused by perforation, a death from exhaustion being exceedingly rare. I must add that these observations are based as much upon practice among the newer elements of the population, drawn from all parts of the country and from abroad, as upon the practice among the native and pioneer classes. As of special interest I will mention the common knowledge there of the existence in some places of fixed foci of typhoid infection. The public has learned to dread these typhoid-fever houses. As an illustration I will mention the instance of one boarding house in which typhoid fever has been the curse of its occupants for the last ten years. The house has undergone many renovations and alterations in structure at the hands of its several successive owners, its water supply has been changed, and some improvements have been made in the drainage of its ground, which was bad for a while; but all this has made no noticeable change in its apparent infectiousness. Time and again there have been cases of typhoid fever in that house when there was none known in the town, either at that time or for some time preceding it. The cases which occurred in it from time to time were also noted for their great severity.

I have learned to look upon the regulation of the diet as to kind and quantity as the most important part of the management of typhoid fever. In common with others, I have found cow's milk to be the safest article of food in this disease, and at the same time fully sufficient. Prior to 1898, such a statement before such an audience would have appeared so commonplace as almost to need an apology. But since the diet-reform wave was started at St. Petersburg, it has made such rapid progress across this continent that what one really fears in making such a statement is contradiction. I have never prescribed for my typhoid cases much else outside of milk as a food, but time and again a disobedient patient on his own initiative, or at the suggestion of an over-anxious member of his family, has tried the Bushyev experiment for himself. As a rule, every such indulgence ended most disastrously. There is hardly a practising physician in Central West Virginia who cannot recall more than one instance in his practice in which relapses far exceeding in severity the initial attack, and not infrequently resulting in death, have followed the ingestion of such articles as soft-boiled eggs and toasted bread only. One of the severest relapses I have seen myself followed within a few hours the ingestion of a piece of toasted bread not larger than the size of my thumb, after a normal temperature had existed for forty-eight hours. Even the general public has learned to recognize the greater safety of an exclusive milk diet. If, as is fortunately only very rarely the case, a patient is unable to take milk, I always expect a troublesome time, and subsequent developments have always proven the justification of such an apprehension. Patients who first object to a milk diet are rather common; but there are very few, indeed, who continue their objection after a few days' fasting, which I believe to be of some advantage. My special concern in the treatment of typhoid fever comes with the time in the stage of convalescence for a change of diet. Until all the symptoms of the disease have subsided, and the fæces have become perfectly normal in every way, I have learned to look upon any radical change in the diet as a very dangerous experiment. The advice given by conservative authorities to postpone a change from the milk diet until eight or ten days of convalescence have passed, I believe, to be a most excellent one. I have found that in such cases, when the confidence of the patient in me was a little stronger than the craving of his palate for a change in his menu, I have been able to restore him to his flesh and strength much sooner by continuing him on a milk diet for two weeks after he had become convalescent than when a more liberal diet had to be allowed earlier. I have repeatedly had occasion to test the effect of a continued but abundant milk diet on the one hand, and that of a mixed diet on the other, upon the rate of recuperation during convalescence in members of the same family whose cases have run a parallel course. The advantage was markedly and invariably in favor of the milk. True, once in a while I have seen a person suffering from typhoid fever who took his case in his own hands, and, while going about his business, was keeping himself on a diet that surpassed in coarseness that of Bushyev, Moorehouse, and other recent followers of Graves, and who yet fully recovered without any apparent bad results. But I should no more think of taking such instances as an argument in favor of allowing my patients a more liberal diet than I should in favor of allowing them to exercise, although it would seem that Wilson has actually done so when he advocates the permission of typhoid-fever patients to walk from their beds to the bathtub. Buttermilk I have found a safe substitute for milk. I have never seen any harm from the use of some lemon juice in waters.

The regulation of the quantity of food I have found to be of equally great importance. It is safer and wiser to underfeed than to overfeed. I have time and again succeeded in changing the course of the disease from malignant to benign by withholding all food for a while.

The tendency among physicians is to overfeed their typhoid patients. In fact, there is a tendency to overdo things in many other respects. Increasing experience and observation are impressing me with the greater importance of learning what to avoid than what to do in these cases. The late Dr. Loomis used to say that, if he were a sufferer from typhoid fever, all he would want would be a quart of milk in twenty-four hours, the cold coil to his abdomen, and to be left alone. He evidently had great confidence in nature's power. Yet, it would have greatly added to his safety in such a case had he upon him in addition the watchful eye of a conservative physician in a state of "armed neutrality." I find it best not to allow any order for the quantity of milk to be given to hold for a period longer than the intervals between my visits. In fact, I find it of great advantage to vary the quantity from time to time, and to this end I devote much of my time at each visit to a study of indications. Given a case of a patient with a fair degree of energy and flesh in reserve, a dry mouth and a high temperature indicate a minimum of food. Such cases will do better when the quantity of milk does not exceed one pint in twenty-four hours, if a larger quantity of water be given along with alcohol in doses so small as to produce no perceptible stimulation, but frequently administered. Diarrhœa indicates spare feeding. The morning hours, the stages of development and decline call for larger feeding, while during the afternoon hours and during the fastigium the quantity is to be reduced.

The enthusiasm of the earlier days of my professional career has given way to maturer judgment, and many a beautiful theory regarding the abortion of the disease has been killed by the ugly facts gathered at the bedside. Inasmuch as the duration of the disease varies greatly when entirely without any treatment, what process of logic can convince us that a certain drug or combination of drugs has any other relation to the short duration of a given case than that of mere coincidence? The rapid recovery might

have occurred independent of the remedy used, either because of a high degree of individual resistance (*i. e.* either a high degree of Metchnikoff's phagocytosis, or the power of producing large quantities of Ehrlich's antibodies, and Büchner's alexins in response to toxic stimuli) on the part of the patient, or because of the mildness of the attack. The mildness of the attack might have been due to some climatic, seasonal, or more subtle feature in the environment, exercising an inhibitory influence upon the vitality, and, hence, also upon the virulence, of the specific bacilli. For what is true in the macroscopic world must also be true in the microscopic one, and if variation—physical, chemical, and physiological—in consequence of the law of adaptation, is the law in the higher planes of the biological world, the same must prevail in the lower ones, such as are included in the generic name of pathogenic bacteria. We could not, therefore, even by *a priori* reasoning, expect that the effects produced by the implantation of the Eberth bacilli should be alike in all cases. However, much can be done by means of medicinal treatment toward the prevention of complications and unessential symptoms. Tympanites is an undesirable and unnecessary symptom; but if a correct diet has been followed, one seldom sees it excessive. But with the daily use of an enema of saponified water, holding in emulsion 1 drachm of oil of turpentine, the distention of the intestine will hardly ever exceed the normal. I have, therefore, made it a routine treatment and consider its use only next in importance to the diet. The only contraindications to its use are the occurrence of hemorrhage or perforation. Of all the internal antiseptics I have some faith in thymol. It does seem to contribute toward a better intestinal condition. I may mention right here that the Woodbridge treatment is generally condemned in central West Virginia.

RUPTURE OF THE URETHRA.

A Report of Cases.*

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The serious nature of urethral rupture, the importance of its early recognition, and the prompt employment of such treatment as will check urinary extravasation and prevent the subsequent formation of stricture, will, I trust, render a recital of the following cases of practical interest, and, at the same time, elicit free discussion as to the most suitable method of treating this grave, and not infrequently encountered, condition.

Case I.—Thirty-six years of age. Has never had any disease of the genito-urinary organs. About thirty hours before admission to Bellevue Hospital, and while in an intoxicated condition, patient was kicked in the perineum, his assailant wearing a heavy sea boot. The next day, when he awoke from his debauch, he noticed blood on his shirt, and a slight bloody discharge from the meatus. On attempting to urinate, he had an intense burning pain in the glans, and a feeling as if the urine was "leaking" into the perineum and penis. The stream was very small, forked, and dribbling, and patient had to strain for some time in order to start it. The act of urination caused such severe pain that he broke out in a profuse perspiration and fainted. Patient went through this same experience each time he attempted to empty his bladder, and finally became so weak and exhausted that he entered the hospital for relief.

Examination on Admission.—Temperature, pulse, and respiration normal. The perineum is greatly swollen, tender, fluctuating, bluish-black in color, and abraded in places. The prostate and adjacent parts are normal by rectal touch. There is a slight bloody discharge from the meatus. The urine is tinged with blood and contains bloody shreds, but is normal in other respects. No stricture of the urethra detected, but the bulbous portion of the canal is exquisitely tender, bleeds freely, and feels roughened and lacerated. There is some compressor spasm, which is readily overcome by gentle pressure.

A diagnosis of rupture of bulbous urethra, with beginning extravasation of urine being made, the patient was etherized and external urethrotomy performed in the usual manner. The perineal tissues were found extensively infiltrated with blood clots, and a thin bloody fluid having a distinctly urinous odor. The bulb of the corpus spongiosum was crushed into a bleeding and oozing mass of tissue, the bulbous urethra being ruptured longitudinally in many places on its floor, while its roof remained uninjured. The clots were turned out of the perineum, and all bleeding points ligated. A full-sized sound was passed from the meatus, and the bladder irrigated and drained by a large perineal tube, which was removed permanently on the fifth day, and full-sized sounds passed every other day until the perineal wound was healed.

The patient convalesced rapidly and left the hospital at the end of twenty days, the perineal wound being completely cicatrized, and the urine passing normally by the meatus.

No attempt at suturing the urethra was made on account of the contused condition of the tissues, the multiplicity and nature of the wounds, and the integrity of the roof of the canal.

Case II.—Thirty-seven years of age. Twelve years ago patient had urethritis, which was apparently cured. Twenty-four hours before admission to Bellevue Hospital, and while at work carrying a fifty-pound weight on his shoulder, patient fell ten feet, landing astride a two-inch iron pipe. On standing up, he felt very wet about the genitals, and on inspection found that he was bleeding freely from the meatus, but had very little pain. Patient went to his home in a street car, and called in a physician, who failed to enter the bladder after prolonged and painful instrumentation, and then, in order to stop the hemorrhage, tied a bandage tightly around the penis.

Examination on Admission.—Twenty-four hours after accident: Temperature 102° F., pulse 72, respirations 24. Patient is very weak and anæmic from loss of blood, but not in much pain, except that due to urinary retention, which has not been relieved since the accident. The prostate and neighboring tissues are normal by rectal feel. The anterior abdominal wall is very tense and rigid, and the bladder greatly distended. The penis is so tightly bandaged as to cause marked swelling of the glans, which looks almost gangrenous. On removal of the bandage, a surprisingly large amount of blood spurted forcibly from the meatus, but even then the patient was unable to urinate voluntarily.

Scrotum and perineum greatly ecchymosed, the latter being distended, tense, and fluctuating.

A diagnosis of rupture of the urethra with urinary extravasation being made, the patient was prepared for operation and etherized. Soft-rubber and silk catheters passed as far as the bulbous urethra, where they apparently left the canal and entered the perineal tissues. A No. 20 French silver catheter was passed into the bladder by keeping its tip in close contact with the roof of the canal, which

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was apparently intact. Forty-two ounces of bloody urine and many clots were evacuated, and the bladder irrigated with hot saline solution, several ounces of which were left in. During these manipulations the hemorrhage from the meatus was quite free.

The patient was then put in the lithotomy position, and external urethrotomy done, using the silver catheter as a guide. The perineal tissues were filled with bloody urine and clots, and oozing freely. When the bleeding was stopped and the parts dried, a longitudinal rupture about two inches in length could be seen in the floor of the bulb of the urethra. A full-sized sound was passed to the bladder, which was irrigated and drained by a large perineal tube as in external urethrotomy. The perineal wound was left open and lightly packed with gauze. On the fourth day the perineal tube was removed permanently, and a No. 30 French sound passed to the bladder.

On the twelfth day the wound in the urethra was cicatrized, all the urine passing by the meatus after that day.

The perineal wound was closed at the end of the third week, the patient remaining in hospital for several weeks longer for irrigations, sounds, and observation.

In this case, the urethra looked so swollen and boggy that no attempt at closing the rent in the floor was made, especially as its roof and walls were intact.

At the present writing, which is a little over a year after the operation, urination is normal, the patient taking a full-sized sound with ease.

Case III.—Thirty years of age. Admitted to Bellevue Hospital December 19, 1900. Patient had a very slight attack of anterior urethritis nine years ago. About twelve hours before entering hospital, and while intoxicated, patient says he fell a considerable height from a gangplank, landing astride a narrow board; he was able to get up without help after the accident, in spite of the severe pain in the perineum. Six hours later, on urinating, he found his underclothes stained with blood, and the meatus sealed with a dry clot, on removal of which urination was free, but painful, and followed by bleeding, which so frightened him that he entered hospital for treatment.

Examination on Admission (twelve hours after injury).—Temperature, pulse, and respirations normal. There is a slight and constant oozing of blood from the meatus; the urine is tinged with blood, and contains a few, light bloody threads and flakes, but is normal in other respects. Urination is free, but painful. The perineum is ecchymosed and slightly swollen and tender, but there is no local point of tumefaction or fluctuation. Prostate and surrounding structures normal by rectal touch. A large soft-rubber catheter enters the bladder with ease and draws clear urine; the urethra feels normal, although the bulb is exquisitely sensitive. A diagnosis of rupture of the bulbous urethra without extravasation being made, the patient was put to bed and given boric acid in full dose; he was catheterized at regular intervals with soft-rubber instruments, and the urethra very gently and sparingly irrigated at these times with a warm sterile alum solution; the perineum being covered with a cold bichloride dressing, and the temperature and pulse taken every two hours, to keep us informed as to the necessity for external urethrotomy and vesical drainage.

On the fourth day all bleeding had stopped, the urine being perfectly clear, and the perineal swelling having disappeared. The temperature has remained normal since admission.

On the fifth day the patient was up and about, and passing a clear urine in a perfectly normal manner.

On the tenth day the patient left the hospital at his own request, as he felt perfectly well and was anxious to resume his work.

In conclusion, it may be broadly stated that the treatment of rupture of the urethra is either operative or non-operative in character, depending upon the nature and extent of the injury, which, as a rule, can be readily ascertained by a careful study of the local conditions.

If there is marked hemorrhage from the meatus with a complete retention of urine, or difficult and painful urination and bloody urine, associated with difficulty or inability to enter the bladder with instruments; and, also, if there is a fluctuating perineal tumor, with perhaps a rise of temperature, then immediate perineal section and bladder drainage are indicated.

If, on the other hand, hemorrhage is slight, urination free, but somewhat painful, the urine tinged with blood, or containing light bloody flakes, and catheterization normal, except perhaps causing some pain at a localized spot, which feels slightly roughened or thickened, and little or no perineal tumefaction, then catheterization, irrigation, and urinary antiseptics should be resorted to, the patient in the meantime being kept in bed, and carefully watched for the first sign of urinary extravasation, in the event of which external urethrotomy with vesical drainage should be immediately resorted to.

Partial suture of the urethra must always be employed in case of complete rupture, in which the divided ends of the canal are widely separated; otherwise it is not essential.

Complete suture of the damaged canal is, in the writer's opinion, contraindicated, as it prohibits the free bladder and urethral drainage, which is so essential for the contused and infiltrated condition of the tissues in these cases.

OPERATION FOR CARIES OF THE MASTOID, SECONDARY OPENING OF THE LATERAL SINUS, AND LIGATION OF THE INTERNAL JUGULAR VEIN.

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The cases of mastoid disease with infectious thrombosis of the lateral sinus and extension of the process into the jugular vein are sufficiently rare and interesting to warrant the publication of the following case: The patient, I. S., fifteen years old, came under my care August 7, 1899. The family history was negative, and the patient had always been well. He first noticed pain in the right ear four weeks before entering the hospital. He had never suffered from any running of the ear. Simultaneously with the pain, swelling appeared behind right ear. Two weeks subsequently he complained of severe headaches, was thirsty and feverish in the evening, but had no dizziness or nausea. There was a large swelling extending from the level of the concha down to 3 cm. below the mastoid process, commencing in the region directly behind the ear and extending backward 2 cm. behind the posterior border of the mastoid process. The swelling was very painful to the touch, and gave indistinct fluctuation; the skin was reddened over it. The ear was discharging a foul-smelling pus, the tympanum was perforated, and there were some granulations in the meatus externus. The watch

was heard only at the meatus. Bone transmission on the mastoid was impaired, but was normal on the top of the head. Slight somnolence of patient prevented a satisfactory examination. Immediate operation was advised and consented to. After the usual preparation, an incision was made commencing behind the concha of the right ear at the level of the upper margin of the helix, describing a semicircular line around the ear downward to 1 cm. below the mastoid process. The incision was carried down to the bone, the periosteum and soft parts being pushed back with an elevator. During this part of the operation, pus came from a perforation in the mastoid process. Careful curettage was begun, but hardly had the curette been introduced when a most profuse venous hemorrhage occurred. It was thought at the time that the hemorrhage proceeded from the lateral sinus, although anatomically we were not in that region, being too far anterior. Immediate digital compression was continued while the curetting was being done, until the granulations were removed and the bone surfaces were thoroughly cleaned and found intact. I then applied an iodoform-gauze tampon. I removed the diseased edges of bone overhanging the excavated part, and then opened the antrum. Syringing it failed to demonstrate a free communication with the middle and outer ear, for the boracic solution did not escape from the external meatus. The patient was put to bed, the usual dressing having been applied. That evening the temperature was 98.4°, pulse 80. The patient complained of pain in the head, and vomited a little.

On August 12, the patient complained of very severe pains on the right side of the head. The temperature at 8 A.M. was 98°, pulse 72; at 8 P.M. the temperature was 98.4°, pulse 78. The following day the wound was dressed, and when the tampon was removed severe hemorrhage occurred. This was controlled by a reapplication of the gauze tampon. At 8 P.M., the temperature was 103.6°, pulse 108. The ophthalmoscope showed normal conditions; the pupils were normal. Percussion of the head showed sligh sensitiveness over the temporal region.

On August 16, the patient complained of pain in the forehead. At 8 A.M. the temperature was 96°, pulse 92; at 8 P.M., temperature 100.6°, pulse 90.

On August 19, at 9.45 A.M., the temperature went up to 105.4°, the pulse to 115. The patient was sent to the operating room. Dr. Fischel kindly assisted me in the operation. An incision was carried back at right angles from middle of the original incision between 5 and 6 cm., down to the bone; the soft parts were retracted, and granulations that had formed in the meantime were curetted away. There was no suppuration, and the wound looked clean. The bone over the sinus was carefully chiseled off, until the knee of the lateral sinus was reached. The wall of the sinus looked pale, but showed no lesion. A Pravaz syringe was introduced, but aspiration brought only a little blood, not more than one or two drops. The wall of the sinus was opened, but no hemorrhage occurred, the sinus being empty. A very small curette was introduced in an anterior direction, but nothing was brought out. A curette introduced posteriorly removed a clot, 3 cm. long, followed by the usual profuse hemorrhage upon the opening of the sinus. The bleeding was allowed to go on for a few seconds. After packing with iodoform gauze, the wound was dressed and the patient was put to bed.

On August 19, at 3 P.M., the temperature was 100.4°, pulse 84. The following day at 8 A.M., the temperature was 98°, pulse 74. The headache and nausea had disappeared, but the patient complained of pain in the right anterior part of the neck. A slight œdematous swelling was discovered along the line of the internal jugular vein, where there was pain on pressure. It was decided to ligate this vessel. An incision was made 6 cm. in length, internally and parallel to the border of the sternocleidomastoid muscle. After isolation, the vessel was found to be empty. Ligatures were applied about 1.5 cm. apart, and a small piece of the vein was excised between them. A running suture of silkworm gut, covered with iodoform collodion, closed the wound. Recovery from this time was uneventful until September 11.

On September 11, the patient complained of a gland at the posterior margin of the sternocleidomastoid muscle, the size of a large almond, and very painful to the touch. Ichthyol was applied. On September 19, no change having been effected by the ichthyol, the small gland was removed by a transverse incision. On October 10 the patient was dismissed, well.

Zaufal was the first who, in 1880,[1] proposed a method to open and clear the sinus and also to ligate the jugular vein under certain conditions. In 1886, Horsley,[2] recommended the same procedure, which was first carried out in 1888 by Arbuthnot Lane. The literature on the subject of sinus thrombosis following infectious otitis media contains nearly exclusively chronic cases. Weissgerber,[3] in his paper on acute inflammation of the middle ear with sinus thrombosis, mentions the rapid course of his case as very rare when compared with the usual chronicity. His patient took sick on August 26, and was operated for the first time on November 14 of the same year, an interval of eighty days. Dahlgren[4] gave the history of a case of Lenander's, that was operated about seven weeks after the first appearance of ear symptoms.

Macewen's case[5] hardly ran two weeks from its inception to the time of its operation, but there the infection started from the diphtheritic pharyngitis traveling along the Eustachian tube, and the resulting secondary otitis media diphtheritica had been acquired along that road. In my case, only four weeks had passed from the time when the patient presented his first symptoms of sickness until I deemed an immediate operation necessary.

Barring, then, Macewen's observation, as not due to primary ear disease, my case shows the most rapid course of sinus thrombosis due to primary otitis media. Granting that a great many unsuccessful operations are not published, such very acute cases must be extremely rare and even Politzer,[6] whose range of observations equals that of any specialist, has recently stated that the sinus affection is incomparably more frequent in chronic than in acute cases. The extreme chronicity possibly is best illustrated by a case of Preysing's[7] in which a woman, seventy-four years old, had been suffering continuously for sixty years from a suppurative discharge from the ear due to cholesteatoma, and had finally developed a thrombosis of the sinus transversus (lateralis) with pulsating abscess of the sinus.

It is much to be regretted that through some accident it was impossible to make a bacteriological examination in my case, and the cause of infection therefore remained unknown. Speculation might point to influenza as being the most probable cause, but clinically there is very little support for such a view. The unusual hemorrhage encountered was due to a very large intraosseous vein filled to its utmost in consequence of the sinus thrombosis. Those veins are proportionately larger in juvenile skulls and empty directly into the sinus.

Figure 11 in Macewen's book shows the temporal bone of a fifteen-year-old boy with an abnormal

opening on its inner surface for a large vein emptying directly into the sigmoid sinus. Macewen's picture shows the left temporal bone, but according to Körner[9] these veins occur more often on the right side. According to the investigations of this author, the far greater frequency of sinus thrombosis after otitic disease on the right side is to be explained by the greater proximity of the carious focus to the sinus on the right than on the left side. His measurements show that the bone covering the right lateral (transverse) and sigmoid sinus in 77 per cent. of all cases is thinner on the right temporal than on the left, owing to the greater depth of the sinus on this side.[10]

These two conditions—the direct communication with the sinus of veins that pass through the diseased part of the bone and the greater proximity of this carious focus to the sinus walls, congregating on the right side—facilitate the infection and consequent thrombosis of the right sinus, and explain the preponderance over the left.

In cases where, at the time of operation, the infection and thrombosis extend already to the jugular vein, Jansen[11] calculates the danger of metastatic pyæmia and sepsis at 75 per cent.

The question of ligation of the vena jugularis interna in infection of the sinus enters here. Although the necessity of direct surgical interference in sinus thrombosis from otitis media is now universally conceded, Jansen[12] reports on forty-five cases observed in the Berlin otiatrical clinic, of which twenty-nine were operated upon without opening the sinus, with two recoveries, while sixteen cases with opening o sinus gave eight recoveries.

The advisability of simultaneous ligation of the internal jugular vein is yet disputed. Zaufal, Kröner, and Parker demand it. Jansen does not favor it. Macewen grants it only in those cases in which the jugular is directly involved. Jansen [3] has pleaded that thirteen of his cases of sinus operation without jugular ligation show eight recoveries (61.5 per cent.), while of the three with jugular ligation none recovered.

Körner[14] reports four recoveries in eight cases without ligation of the jugular vein, against nine recoveries out of twelve where the ligation took place. A. of Forselles[15] compiled 145 cases, of which twenty-nine had been operated upon. Thirteen without ligation of the jugular vein show 53.8 per cent. recoveries; sixteen with ligation, 62.5 per cent. Körner and A. of Forselles both compiled their series from the general literature on this subject, where the unfavorable cases are probably not so often recorded. Jansen's cases were all observed by him in his clinic, and therefore deserve greater consideration; but on their closer scrutiny they do not bear out the author's conclusions. His cases Nos. 122[16] and 106[17] admit a rather different interpretation, and in case 211 syringing from the cervical end of the ligated jugular veins might have freed the vessel of the infectious thrombotic masses and prevented the fatal infection. Macewen's[18] conservative views appear to be the safest to follow, especially as the ligation of at least the right jugularis interna does not seem to be free from serious danger. Linser[19] reported a case recently from v. Brun's clinic, where, in the course of an operation for goiter, adherent through previous inflammation, the right internal jugular had to be tied. Death occurred on the following day under symptoms of accelerated pulse, and respiration and great cyanosis. The autopsy showed that the cause of death was œdema of the brain, which occurrence was explained by the fact that the lumen of the left jugular and the diameter of the left jugular fossa were very considerably smaller than on the right. Extensive anatomical investigation by this author subsequently proved that one jugular foramen, generally the left one, is (by no means in rare instances) so much smaller than the corresponding one of the other side that the ligation of the larger vein imperils the circulation in the brain.

The author mentions two similar observations by Rohrbach (also v. Bruns' clinic) and by Kummer.

It did not surprise me that in spite of the sinus thrombosis the examination of the fundus of the eye did not reveal anything abnormal. Jansen[20] found papillitis in only 43.5 per cent. of his cases of pure sinus thrombosis. He missed it in cases of extensive thrombosis of the jugular vein, of the petrosal sinus, and even of the cavernous sinus, but found it in a case of slight thrombosis of the sigmoid sinus. This indicates that the disturbances of the blood circulation within the cranium are not responsible for the appearance of papillitis, but rather the filling of the arachnoid with liquor cerebri.

The cause of the glandular swelling and its connection with the otitic disease remained doubtful, but it was thought prudent to remove the gland, as no improvement occurred after a week's waiting, and application of ichthyol. The teeth on that side were sound. Microscopically the gland showed simply infiltration with lymphocytes and multinuclear and uninuclear leucocytes. Cultures showed no characteristic growths.

Nearly two years have elapsed since the patient left the hospital cured. I have seen him recently; there has been no discharge from the ear, and he is perfectly well.

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Etiology of Nasal Polypi.—Irving Townsend says that it is wiser to accept the belief that polypi always indicate disease of the underlying bone than to continue the old practice of "lopping off the branches," by which method the patient is relieved temporarily of the mechanical obstruction caused by the growths, with the assurance that they will recur. In many cases it is possible to discover and remove the diseased bone and effect a radical cure, for "recurrence" depends on the failure to excise all the diseased issue, and not on its peculiarity of structure or any inherent quality favoring reproduction. The relations of polypoid disease and suppuration of the accessory sinuses are not clearly defined, but are probably those of cause and effect, in which either may assume the active rôle, or both result from disease of the bone, as previously described.—*Homœopathic Eye, Ear, and Throat Journal.*

THE VALUE OF THE WIDAL REACTION IN THE DIAGNOSIS OF TYPHOID FEVER IN CHILDREN.

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While the value of the Widal reaction is generally recognized and numerous statistics on cases in adults are available, it would appear that the value of the reaction in children has not been sufficiently emphasized, and that there are lacking statistics based on a large number of cases. It is a matter of common knowledge that typhoid fever in children, and particularly in young children, is apt to be atypical in its course and often difficult of diagnosis. Some of the causes of these difficulties are the following:

The temperature curve in children is apt to be irregular, or even intermittent; the date of the onset is very difficult to determine. Furthermore, in a number of cases the spleen is not enlarged, and the intestinal symptoms are mild or lacking.

A further cause of confusion is the frequency of enlargement of the spleen in anæmic and rhachitic children; and the frequency of enlargement of the spleen due to all varieties of enteric trouble, which condition, if the child suffers from prolonged fever, may give rise to an unwarranted suspicion that typhoid fever is present.

The data given in this paper are based upon the study of the fever cases occurring in the children's ward of Mt. Sinai Hospital in the service of Dr. Koplik from March, 1898, to October, 1901. The tests were made by Dr. Libman according to the method described in the Mount Sinai Hospital Reports, Vol. I.

A dilution of one to twenty was used in all cases. Where the Widal reaction came as a surprise, or, in other words, in cases in which typhoid fever had not been seriously considered, the reaction was repeated in the dilution of one to fifty. Such reactions were always positive. Dried blood was used for all the tests, except in a few cases where the Widal reaction remained negative throughout the course of typical cases of typhoid fever. Serum was then substituted for the dried blood with no different result. Altogether, 670 tests were made in 199 cases. Eighty-four of these cases were instances of typhoid fever, and the other 115 were febrile cases of the greatest variety, such as miliary tuberculosis, meningitis, pneumonia, endocarditis, septic conditions, etc.

In a number of these the existence of typhoid fever could not be excluded at the outset. In all cases, the Widal reaction was made daily until a positive reaction was obtained, or until the diagnosis had been cleared up by other methods.

In the 84 cases of typhoid fever we obtained positive results in 81. In all, 329 examinations were made. In these cases, repeated tests were necessary before 45 of the cases developed positive reactions, while 36 cases gave the reaction on the first examination. Our patients ranged between one and a half and fourteen years of age.

1 patient	was	1½	years	of age.
4 patients	were	3	"	"
9 "	"	4	"	"
5 "	"	5	"	"
10 "	"	6	"	"
7 "	"	7	"	"
5 "	"	8	"	"
8 "	"	9	"	"
6 "	"	10	"	"
11 "	"	11	"	"
8 "	"	12	"	"
9 "	"	13	"	"
1 patient	was	14	"	"

Thirty-eight of these cases were males, and forty-six females.

The day on which the patient was noticed to be ill, or complained of being ill, was taken as the first day of the disease. According to this:

5 cases	gave a positive reaction	on the	5th	day	of	disease.	
3 "	" "	"	6th	"		"	
3 "	" "	"	7th	"		"	
3 "	" "	"	8th	"		"	
4 "	" "	"	9th	"		"	
7 "	" "	"	10th	"		"	
26 "	" "	"	between 11th and 15th			day.	
21 "	" "	"	16th and 25th			"	
1 "	" "	"	on the 26th day of disease.				
1 "	" "	"	27th	"		"	
1 "	" "	"	29th	"		"	
5 "	" "	"	30th	"		"	
1 "	" "	"	35th	"		"	

Or, in other words, only 13 per cent. were positive by the end of the seventh day; 63 per cent., by the fifteenth day; and 89 per cent., by the twenty-fifth day.

In children, it is *a priori* probable that they have not suffered from a previous attack of typhoid fever. However, for the sake of accuracy, we include a separate table detailing the cases in which the reaction was positive only after negative results had been obtained. In these cases the possibility of the reaction existing from a previous attack of typhoid fever is absolutely excluded.

Among these,	4 were	positive	on the	5th	day.	
	1 was	"	"	6th	"	
	1 "	"	"	7th	"	
	1 "	"	"	8th	"	
	1 "	"	"	9th	"	
	3 were	"	"	10th	"	
	10 "	"	between 11th and 15th days.			
	16 "	"	"	16th	" 25th	"
	8 "	"	"	26th	" 30th	"

It will be of interest to compare these results with those given by other authors.

Morse[1] found that the reaction seldom appeared before the second week, and says therefore that the test is of little value up to that time. Musser[2] found the reaction in no case earlier than the seventh day, while in our series eleven cases had given the reaction by that time. Pfaundler[3] and Abelman[4], both reported their earliest Widals as occurring on the fifth day of the disease. Blackader,[5] from a series of forty-three cases of typhoid fever in children, reports, that

3 were	positive	on the	4th	day.	
2 "	"	"	5th	"	
2 "	"	"	6th	"	
3 "	"	"	7th	"	
2 "	"	"	8th	"	
1 was	"	"	9th	"	
3 were	"	"	10th	"	
14 "	"	between the 11th and 15th days.			
12 "	"	"	16th	" 25th	"
1 was	"	on the 28th day.			

In other words, before the end of the second week he had obtained positive results in 70 per cent. of the cases—a figure which comes close to our own.

In no instance, among the 341 examinations made in the cases which were clinically not instances of typhoid fever, was a positive reaction ever obtained. On the other hand, as noted, three of our cases of typhoid fever never gave a reaction at any time. These cases were undoubted instances of typhoid fever clinically, as will be seen from their subjoined histories. These cases were very carefully watched, and repeated examinations made daily, the blood in the third case having been examined thirty-seven times.

Case I.—A. K., aged five years, admitted May 16, 1899. History of five days' standing; began with headache, fever, vomiting, and pain in the abdomen. Slight cough, no epistaxis. On ad-

mission, temperature was 104° F.; pulse, 120; respirations, 30. Roseola present on abdomen and back. Lungs, heart, and liver, negative; spleen palpable, abdomen tympanitic, urine negative, except for the presence of diazo reaction. The temperature ran the typical course. The blood was examined eleven times, but the reaction never appeared. Discharged, cured, June 5, 1899.

Case II.—B. S., aged six years, admitted October 22, 1900. History of eight days' duration, beginning with headache, followed by fever and pain in the chest; bowels constipated, no epistaxis. On admission, chest, abdomen, and back were covered by a profuse roseola. Lungs, slight dulness with increased voice and breathing at the right apex. Spleen enlarged, and palpable one finger below free border of ribs. Abdomen otherwise negative. Leucocyte count, 8,600. The disease ran an uncomplicated, typical course, and thirteen blood examinations proved negative.

Case III.—A. Z., aged ten years, admitted May 23, 1899. Present history of seven days' standing, beginning with abdominal pain, fever, and diarrhœa. At present bowels are costive. On admission, temperature was 104° F.; pulse, 130; respirations, 30. Spleen enlarged to percussion; abdomen soft and negative. May 24, diazo reaction present. June 17, hemorrhage from bowels; temperature curve atypical. August 2, discharged cured.

As a reason for the persistent absence of the reaction in these cases, an explanation might have been offered which has been given in similar cases in which the Widal reaction has remained repeatedly negative, and that is, that the Widal reaction had disappeared before the patient had arrived at the hospital. But it will be seen that, at least so far as the clinical histories of these cases can be trusted, the patients came in too early for such an occurrence to have been possible. It must also be noted that in a number of instances the day on which the reaction first became positive belonged to the period of convalescence or relapse. An instance of the latter will be given later.

It is interesting in this connection to review the statements made by Thursfield[6] in his recent thorough article, with which we are hardly in accord. He states that he found the reaction present in the first examination in forty out of forty-two cases; and concludes that negative reactions are trustworthy evidence that the disease is not typhoid fever; and also states that "a negative reaction later than the tenth day of the illness was strong proof, but not convincing evidence, of the absence of typhoid fever. From our experience we would rather say that a negative reaction in any fever case means very little as regards the existence or absence of typhoid fever.

Although in many instances we have had to wait a long time to obtain a positive reaction in cases in which it was hardly needed to confirm the clinical diagnosis, we have had the good fortune, generally, to find the reaction occur early in cases in which it was essential for establishing the diagnosis. Among such cases were those of so-called cerebral typhoids and pneumonic typhoids, and cases in which a complication was really the first symptom of the disease. To illustrate this, we cite the following cases as examples:

Case I.—F. M., aged five years, admitted September 11, 1900. For twenty days he has complained of headache and pain in the abdomen; he has a dry cough and fever at night; no chills, no epistaxis; for the last four days diarrhœa. On admission, lips were dry, tongue coated, no roseola present. Temperature, 104.6° F.; pulse, 140; respirations, 30. The examination of the chest revealed a dull note at the apices, with increased breathing and some crepitant râles in the left axilla, and diminished breathing in the right axilla. Heart and liver negative; spleen not increased in size to percussion, nor palpable. Abdomen slightly distended, very rigid.

The general appearance of this case was that of a bronchopneumonia; but as it has been our custom to suspect the existence of typhoid fever in all cases occurring during the summer and autumn months which gave pulmonary or meningeal symptoms, the blood was examined the day after admission, and the reaction found to be present in dilution of one to fifty. On September 15, the spleen was palpable. The patient was apathetic. From that time on the general condition improved, and the patient was discharged, October 30, cured.

Case II.—R. F., aged four years, admitted April 14, 1901. Previous history, had pneumonia two years ago. Present history, has been ill eight days with fever; no vomiting, no epistaxis, bowels costive, urine normal. Temperature, 102.6° F.; pulse, 160; respirations, 34. Tongue, moist and coated. Examination of the chest revealed a few moist râles over both sides of the chest in front. There was dulness at the left apex extending to the spine of the scapula with increased breathing. Liver negative, spleen not enlarged to percussion, nor palpable; abdomen negative; no roseola present. April 17, a profuse macular eruption appeared all over the body, and the child was isolated on a suspicion of scarlet fever. The following day the Widal reaction was positive in a dilution of one to fifty. April 19, the typical typhoid roseola appeared on the back, and the spleen became palpable just below the free border of the ribs. On the 24th, temperature was normal. Discharged on the 27th, cured.

In this case the child was isolated as a suspected case of scarlet fever; and the Widal reaction became positive before the cardinal signs of typhoid fever appeared. Dr. Koplik was inclined to regard this case as an "exanthematous" typhoid.*

Case III.—R. C., four years of age, admitted July 28, 1901. Present history of two days' duration beginning with cough, headache, rise of temperature; no vomiting, no chill, no epistaxis; bowels regular. On admission, temperature was 104.6° F.; pulse, 150; respirations, 32. Tongue moist and coated; no roseola present. Lungs, dull note at both apices; near the angle of the left scapula, breathing is tubular. Spleen not palpable; abdomen negative. July 29, the leucocyte count was 9,600. Widal reaction negative. July 31, another reaction positive, dilution one to fifty. The child's condition gradually became worse. August 3, Widal reaction became positive, one to one hundred. Signs of pneumonia increasing. Spleen not evidently enlarged. August 4, Widal reaction was positive in dilution 1 to 350, and the same day the child died. There was no autopsy.

This case throughout its entire course had the appearance of a case of lobar pneumonia. As the Widal reaction was negative on the third day of the disease, and became positive later, even up to dilution of 1 to 350, the case must be considered one of typhoid fever.

An investigation of the family history made after the death of the child still further confirmed the diagnosis. Three other children took sick with typhoid fever soon after our case was sent to the hospital, one of which died. A man living on the floor above, and a boy on the floor below, also contracted the disease at the same time. The former was treated in our own hospital for typhoid fever, and died. The

*Such cases have been described by Angeli and Aron (Abstracts in *Gaz. hebdom. de méd.*, 1900.)

clinical history was straightforward and the Widal reaction present. (No autopsy.)

CASE IV.—M. A., aged nine years, admitted July 11, 1901. Present history of two weeks' duration, beginning with headache, fever, no vomiting, no epistaxis, no chill, no discharge from the ear. Five days after the onset the physician diagnosed pneumonia. The child then improved, but for the past five days has been semi-conscious, and the temperature has reached 106° F. On admission the temperature was 104° F.; pulse, 126; respiration, 38. The status was as follows: General condition fair, child unconscious, discharge from the right ear. Tongue dry. Two maculo-papular spots on abdomen, rigidity of neck, reflexes increased. Ankle clonus present. Marked Kernig's phenomenon present. Pupils are equal, and react to light. There is clonic spasm of the muscles of mastication. Lungs, some dulness at the left apex with increased voice and breathing; respiration, slow and irregular; heart, negative. Liver, fully two and a half fingers below free border of ribs. Spleen, large and palpable.

On first sight, this case would have been considered one of meningitis; but previous experience with the meningeal type of typhoid fever, and the presence of an enlarged spleen, prompted us to make a probable diagnosis of typhoid fever with meningeal symptoms. The blood was examined the day after admission; the reaction found positive, one to fifty. A lumbar puncture was later made. The fluid was clear, containing a trace of albumin, but was negative on culture.

At the time of writing, the child is in the hospital just recovering from a second relapse of the disease.

CASE V.—The following case was published by Dr. A. A. Berg, in the MEDICAL RECORD, June, 1901. J. H., aged seven years, admitted to the surgical service of Dr. Gerster on August 18, 1900, with a diagnosis of purulent peritonitis following appendicitis. There was no previous history. Present history was of one week's duration, beginning with headache and general lassitude. No abdominal pain, bowels irregular, no fever. The patient had not been confined to bed. Early on the day of admission he complained of violent cramps in right iliac fossa and vomiting. On admission, temperature was 103° F.; pulse, 136; respiration, 26. Lungs and heart negative, abdomen distended and very rigid, spleen and liver negative. Operation on the same day by Dr. Berg: appendix found normal. Small perforation found low down in the ileum. After the perforation was sutured, the case progressed favorably, and the temperature reached normal the tenth day after operation.

The blood in this case was carefully examined for the Widal reaction, and it was not until September 8 that the reaction became positive. It served to confirm the suspected diagnosis of typhoid-fever perforation. This case serves also as an example of the type of cases in which the Widal reaction does not become positive until after convalescence is established.

Conclusions.—I.—The main facts concerning the Widal reaction in children are the same as those that hold true for adults.

II.—In eighty-four cases of typhoid fever in children, ranging from one and a half to fourteen years of age, eighty-one cases gave a positive result.

III.—In 115 cases that were fevers other than typhoid, the positive reaction was never obtained.

IV.—The reaction did not occur later in children than in adults, as is claimed by some writers, but on the other hand, somewhat earlier. However, we would not lay too much stress on this point.

V.—The Widal test is of greater importance in children than in adults, owing to the frequent atypical character of the disease in the former, and the greater frequency of cases resembling pneumonia and meningitis.

VI.—As pointed out by Morse, the reaction will be of service in establishing the frequency of typhoid fever in children.

I wish to take this opportunity to thank Dr. Koplik for the use of the material and encouragement, and Dr. Libman for his kind aid, in the course of the work.

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Nephrolithiasis and Spinal Disease.—These two affections, according to H. Schlesinger, may have an etiological relationship, and he has collected a number of cases in which renal calculi appeared in conjunction with some cord lesion. The spinal trouble usually preceded the kidney history by several months, and the percentage of simultaneous occurrence of the two is too high to be explicable on the ground of mere coincidence. Renal calculi have frequently been found in cases of traumatism to the cord, and in syringomyelia, less often in spinal tumor. Once they accompanied acute encephalomyelitis. The symptoms may not appear till months or years after the beginning of the spinal affection. The calculi are most often phosphatic, but may also be uratic. Cystopyelitis does not necessarily occur, but is usually present with phosphatic concretions. The spinal trouble may have a direct or an indirect influence on the formation of the renal stones, perhaps, particularly in the case of uratic calculi; a predisposition is necessary.—*Wiener klinische Rundschau.*

Examination of the Blood Corpuscles in Typhoid Fever.—The conclusions of W. A. Winter are as follows: 1. The number of the red blood corpuscles gradually diminishes as the fever progresses, but with the establishment of convalescence, regeneration sets in. 2. The number of leucocytes is diminished throughout the course of the fever. This rule does not hold good in all cases, but is so constant that if, in a given case of a non-eruptive fever, the number of leucocytes is normal or subnormal, it would be a strong point in favor of the diagnosis of enteric fever. 3. There is a progressive diminution in the percentage of the polymorphonuclear cells, which continues into the stage of early convalescence. 4. The percentage of the large mononuclear leucocytes is increased throughout the whole course of the fever, and continues into the stage of early convalescence. 5. The percentage of the lymphocytes is increased throughout the fever, the increase being most marked in the stage of convalescense. 6. While the fever lasts, the percentage of the eosinophile cells is subnormal, but with the establishment of convalescence, it again reaches and may even pass the normal level.—*Dublin Journal of Medical Science.*

Clinical Department.

A CASE OF ACTINOMYCOSIS.*

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Though more than forty cases of actinomycosis in man have been published since Bollinger, in 1876, drew attention to the occurrence of this fungous disease in cattle, and James Israel and Ponfick, in 1878, described the first cases seen by them in human beings, I do not hesitate to communicate my case which is confirmatory as to the general symptoms and usual course of the disease reported by previous observers, but appeared to be entirely unaffected by the administration of iodide of potassium as recommended by some. The patient had taken a great deal of the iodide for old specific disease before he was infected by actinomycosis, so it was not a preventive; and he took a regular course of it for the established disease before and after operation, but also without lasting benefit. The fungus may invade the region of the neck and jaw—it does so quite frequently—or the lungs and chestwall, abdominal parietes and viscera, skin and subcutaneous tissues, or very rarely the meninges and brain. In the last case I know of, published by Professor Nikitin of St. Petersburg, in the *Deutsche medicinische Wochenschrift*, 1900, No. 38, the morbid progress began in the respiratory organs of a woman, thirty-eight years old, thence spread to the integuments and lymphatics, and ended in the brain, having lasted about two years. My case started in the jaw and face of a man in March, 1895, and ended with the symptoms of pneumonia in July, 1897.

S. B. H., æt. fifty-two, single, bookkeeper, with whom I have been acquainted for twenty-seven years, had been sound and vigorous in early youth, and remained so until he had the misfortune to contract syphilis in 1879. The disease, though never really dangerous, was rebellious and obstinate in its manifestations, so that it was not until 1890 that he finally became free from all specific symptoms and remained so for some years. January 26, 1895, he presented himself again, complaining of a small, hard, tender, and painful swelling on the outer side of the right seventh rib. It was due to syphilitic periosteitis, yielded quickly to iodide of potassium, and had entirely disappeared by February 24, when the patient had taken two ounces of the drug.

At the beginning of March, he felt some pain and noticed a sore and inflamed-looking area at the outer side of the last two molars of the right lower jaw. One of the teeth was removed, the other treated by a dentist, and the gums were attended to, but pain and soreness continued more or less. On March 20, he noticed a distinct swelling of the part of the face extending from the angle of the right lower jaw upward to the temporal region. Mastication became now somewhat difficult, the swelling, which was never hot or particularly tender, increased, and when he presented himself on March 26, I had no difficulty in discovering deep-seated fluctuation in the same. I suspected a broken-down gumma, on account of the patient's previous history, but sent him for further examination and eventual operation to Dr. Lange's hospital. Some of the fluid was aspirated and a specimen of it placed under the microscope, when actinomyces fungi with their characteristic forms were seen to be present in large numbers.

As to the history of the infection it may be stated that the patient had the habit of picking off and chewing ears of rye or wheat when walking about in the country in the summer. Through a tender spot of the gums of his lower jaw the fungus had found an entrance and had spread into muscle and bone quite extensively at the time the patient presented himself. A thorough and painstaking operation was performed by Dr. Lange, and no diseased part was left behind, so far as could be seen, and no untoward event interrupted the slow granulation and filling up of the rather large cavity, the healing of it being completed by the end of June. A narrow fistula about one and a half inches in depth remained, discharging a little thin pus from time to time. Mr. H. returned to me September 30, 1895, and said that he felt no ache or pain; in fact, he looked better and healthier than at any time before.

On March 8, 1896, the retracted cicatrix and surrounding parts were somewhat tender and there was a slight discharge from the fistula, but nothing of the old disease could be discovered by probing and microscopical examination of the wound-secretion. I ordered iodide of potassium, gr. xv. t. i. d. By April 7, he had taken about two ounces of the drug, and there was no more swelling or tenderness, but just a drop or two of secretion from the fistula.

On February 6, 1897, there were no symptoms and the fistula was in *status quo*.

On July 5, 1897, the patient was taken with the symptoms of pneumonia of the right lung, and died July 10. I did not happen to be in town when he was taken ill, but learned from one of his friends that for two weeks prior to his last illness he had some bronchial catarrh, with peculiar grayish-brown expectoration, not accompanied by fever. The pneumonia was said to be of asthenic character without high temperature, but with a very weak pulse. No autopsy was made.

From this and other records of this infectious disease, it would appear that the duration averages from eighteen months to two years, that no reliance should be placed on the iodide of potassium in trying to cure it, but a thorough operation be done, wherever possible, as soon as the diagnosis has been made. To be sure, a doubt remains whether the inflammation of the right lung, of which my patient died, was caused by actinomycosis of that organ, but it is at least probable that this was the case.

25 West Forty-sixth Street.

*Read before the German Medical Society of New York, March, 1900.

A CASE OF MULTIPLE UNILATERAL CRANIAL NERVE PARALYSIS.

By PHILIP KING BROWN, M.D.,
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Ah Lung, a native of China, fifty-eight years old, a coal miner by occupation for some years past, presents the following history: His health up to one year ago was perfect. He has not had syphilis, does not drink or smoke tobacco, but has smoked opium a little. While working in a shaft in a coal mine a year ago, he began to have pain in the right eye, which was much aggravated by exposure to cold. He worked with a pick and shovel and noticed that the draft in the shaft struck the right side of his face. His face felt cold on that side all the time, the pain soon became constant day and night, and seemed to him to be deep in the eye. A doctor gave him something to drop in the eye, and he states that since then he has been unable to see. He has not observed anything else about the head, except a progressing deafness in the right ear, and a loss of feeling in the skin on the right side of the head. He does not know

when these symptoms were first noted, but they developed very soon after the eye trouble. At present, he complains of a pain deep in the eye and shooting up across the forehead, and he keeps his hand constantly over the eye. He says the pain is worse now than at any time since the onset of the trouble a year ago. During the summer he was quite free from pain.

A physical examination of the patient showed nothing abnormal about his thoracic and abdominal organs; there was no eruption on his body, nor were there any enlarged glands or scars on the penis. Several large scars on the body were explained to have resulted from injury. There were several small patches of alopecia on the head, but these seemed to be due also to injury. The right side of the face and particularly the forehead were of a much deeper brownish color than the left side. The pigmentation was blotchy, but covered the face on the right side almost entirely. Perspiration was certainly more profuse on the right side. Smell was practically gone on the right side, as was also vision. There was an opacity of the anterior chamber which prevented the nerve being examined, but there was not even perception of light on that side. Marked conjunctivitis of the right eye, ptosis of the right lid, and internal rotation of the eye were noted. No conjunctival reflex was present, but there was marked arcus in both eyes. There was complete sensory and motor paralysis of the right half of the face and anterior part of the scalp, and also complete deafness in the right ear. The sense of taste in the right anterior part of the tongue was gone entirely and diminished in the right posterior part.

There were no abnormalities of the left cranial nerves particularly noted in regard to the nose and eye symptoms. The tendon reflexes throughout the body were equal and normal, and there were no other anæsthetic areas found. The Justus and tuberculin tests were negative. No rise of temperature occurred during the three days I was able to keep the patient in the hospital. The blood examination was negative. Iodide of potassium was given in full doses for several weeks without effect, and the patient finally disappeared unaffected by treatment. Phenacetin, even in 10 gr. doses, failed to relieve the pain.

In this case, paralysis was complete in the first eight cranial nerves with the possible exception of the fourth. By way of explanation I can only suggest a diffuse bone sarcoma, such as has been found in a number of the small series of these cases already reported.

HALLUCINATION OF SNAKES.

By W. MOSER, M.D.,
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PHYSICIAN TO THE GERMAN HOSPITAL.

It is well known that certain hallucinations are intimately associated with a morbid mental state, as for instance the visual hallucination of "seeing snakes" in delirium tremens. A recent observation has convinced me that this symptom is not peculiar to alcoholic delirium, but may occur in a form of insanity independent of alcoholism.

The affection or symptom was noted in two members of the same family suggesting its hereditary nature. Both saw snakes either on the floor, or "in heaven," as the girl remarked. The symptom was first noted in the boy and girl about the age of puberty. In addition to this symptom they were also impulsive, so that when annoyed they might prove dangerous, and for this reason need watching. The parents were not addicted to drink. The prognosis, which must cautiously be given in cases of mental alienation, is apparently better than in that condition in which the individual believes his abdomen to be inhabited by the reptile. This form is associated with gastric disturbance and sensory delusions of pain, and with auditory hallucinations arising from the false conception (Bechterew).

It is worthy of remark that in so-called alcoholic insanity this peculiar hallucination does not occur, or to be more conservative, it is certainly not a part of its clinical history. It is not my object to describe a new disease or to class everything with hysteria, but this is described with the hope that it may be of some practical value in diagnosis and prognosis, and stimulate therapeutic research.

A PERSONAL EXPERIENCE WITH MUSHROOM POISONING.

By E. A. BLOUNT M.D.,
OAK PARK, ILL.

One day last month the Man of Science of our house came home with a fine specimen of large white mushroom which he took to the library and identified as "horse mushroom." As this was pronounced edible by the authority consulted, a few from the fine patch were collected and prepared for dinner. While collecting them in the vacant lot at 2 P.M., the Man of Science ate a small piece of one, raw, as a trial dose. At 5 P.M., feeling entirely well, he tried another piece, this time taking a piece as large as the little finger, likewise raw. At 6 P.M. he felt generally ill, and could not eat a mouthful of supper. Half an hour later he began to have profuse, but painless, watery bowel movements. He attributed his ill-feeling to drugs used by the dentist that afternoon, as the taste of them was continuous; but I was strongly suspicious that mushrooms were at the bottom of the trouble.

Observing the feeble effect of the amount taken, I resolved to test the matter. Forbidding the family to partake of the fungi, I took two small portions, each as large as a pea, and swallowed the juice of two other portions of like size, though the pulp I could not bring myself to swallow. The first taste was pleasant, but the after-taste created an immediate loathing. This was at 6 P.M. Immediately they caused symptoms of discomfort. There was a warm, heavy sensation, similar to that first experienced upon taking acetanilid; also a slight spasm of the pharyngeal muscles, with difficulty and disinclination in swallowing.

Immediate loss of appetite was resisted, and the meal was finished. The next hour was spent with a sense of indescribable discomfort in the stomach, and at 7 P.M. I resolved to end it by gastric lavage. Before this process could be begun, however, I had vomited twice with great force, and after several unsuccessful attempts, the idea of washing the stomach was abandoned. During the next two hours, vomiting continued at intervals of five to ten minutes, and toward nine o'clock vigorous medication was commenced. By this time there had been several watery movements of the bowels, and these continued throughout the next day.

The violence of the paroxysms of vomiting I have only seen equaled in one case of tropical malaria. I felt as though each one must end with a convulsion, but it never came to that. The burning pain in the stomach was intense and indescribable. Feelings of lassitude and exhaustion intervened between the paroxysms, but the rest was spoiled by the haunting horror of the next attack, which began with dread of its being the last.

At 9 P.M., or about that time, a professional friend began to administer vigorous hypodermic medica-

tion, which, together with $\frac{1}{8}$ gr. of cocaine by the mouth, produced immediate relief. Only two paroxysms of vomiting followed, at considerable intervals. By 11 I had sunk into quiet slumber.

The drugs administered were: Cocaine, per os, gr. $\frac{1}{8}$; and strychnine, gr. $\frac{1}{30}$; atropine, gr. 100, and morphine sulphate, gr. $\frac{1}{4}$, hypodermatically. The pulse was weak and rapid, and perspiration free at this time. Slight exertions were extremely exhausting.

The Man of Science vomited three times during the evening, and his diarrhœa continued through the night. He did not lie down at all, and felt as usual the next day.

The striking point in this report to me is the extreme smallness of the dose which I took, and the violent symptoms produced, as well as the mildness of the symptoms of the Man of Science, from a much larger quantity of mushroom.

The mushrooms were identified by C. V. Chesnut of the Department of Agriculture as lepiota morgani, or green-spored lepiota.

CASE OF TORSION OF THE SPERMATIC CORD.

BY A. B. ATHERTON, M.D.,
FREDERICTON, N. B., CANADA.

SINCE torsion of the spermatic cord is rarely met with, and as it is only in recent years that the attention of the profession has been called to its occurrence, I have thought it might be well to place on record a case in which I have recently operated.

On October 14 last, I was called by telephone to see, in consultation with Dr. Camp, a boy, aged fourteen years, who was supposed to be suffering from a strangulated hernia. After a drive of some seventeen miles, I arrived on the scene at 7 A.M. From Dr. Camp I got the following history of the case: The boy had been as well as usual until the morning before, when he felt some pain in a swelling in the left groin. He went about, however, as usual, without making much complaint till the evening. Dr. Camp was sent for in the night, and made an attempt to reduce the supposed hernia under chloroform. After coming out of the anæsthesia the boy vomited for the first time. The only cause assigned for the appearance of the swelling was the fact that the day preceding it he had engaged in a jumping contest.

On examination I found the abdomen quite flat and neither tender nor painful on palpation. All the complaint was of a swelling in the left groin. The pain did not seem very severe. The boy's countenance and pulse were good. The lump in the left groin extended from the top of the testicle, being continuous with it, up to a point nearly two inches above the external inguinal ring. It was about one and one-half inches in diameter, and felt somewhat softish and very tender to the touch. It was dull on percussion and gave no impulse on coughing. The left testicle was not so low in the scrotum as the right. At the operation, chloroform was given by Dr. Camp, who also assisted otherwise. An oblique incision one and one-half inches long was made, and a thin, dark sac was soon reached, which, on being opened, gave exit to some serous fluid, and then a dark bluish congested epidermis popped out. On drawing upon this, there followed the upper part of the congested epididymis, with the cord from above and the testicle from below. The cord was twisted twice on itself, and it and the epididymis were engorged and thrombosed, like the neck and base of a twisted ovarian tumor. The testicle, on incision, presented a dark maroon surface. The cord was ligatured in three sections with catgut, and cut away, the swollen epididymis and the testicle being also removed. Part of the tunica vaginalis was likewise taken away, the edges of the remainder being sutured with catgut. The skin edges were brought together with interrupted wire sutures, and an antiseptic dressing was applied.

The after-treatment was carried out entirely by Dr. Camp, who reported healing in a few days without suppuration.

Poisoning from Anilin Oil Used in the Ear.—Homer Dupuy reports the case of a girl of seventeen years with diffused inflammation in the right auditory canal following a mastoid attack. A mixture of cocaine 15 grs. in 1 ounce of the oil was ordered, 15 drops to be instilled in the meatus hourly. After about five instillations, the patient became drowsy, suddenly cried out, lost consciousness, became blue in the face, had a cold and clammy skin with a profuse perspiration. The ear was washed out, atropine and strychnine were given with aromatic spirit of amonia, hot bottles were applied, and brandy was given. The patient was out of danger in twenty-four hours, but remained weak for some days. Dupuy states that in spite of this untoward occurrence he has used the combination given in the ear without any bad symptoms. He adds that in the last eight months the solution composed of cocaine 20 grs., absolute alcohol and anilin oil 50 minims each, has been used on a hundred cases for tympanotomy in acute otitis media, and yet not a single instance of drug poisoning, even in the milder form referred to, has come to his notice. From this rather extensive experience, he believes that he is fully justified in using the mixture for operative work on the drum and contiguous parts; on the other hand, we cannot with impunity place so toxic and so readily absorbed an agent as anilin in the hands of patients for purposes of frequent instillation. Tympanotomy once performed, the canal should be thoroughly syringed, thus removing the danger of further absorption.—*The Laryngoscope.*

Recurrent Peritonsillar Abscess.—According to H. J. Hartz, this condition is due to abnormal anatomical relationship of the plica triangularis, supratonsillar fossa, and tonsils. Fibrous adhesions between these organs predispose to lacunar abscess, which, burrowing into cellular tissue investing the tonsils, cause peritonsillar abscess. Adhesions and an enlarged upper portion of the tonsil obstruct the outlet of the supratonsillar fossa, causing suppuration in this space, which extends into the pharyngomaxillary space, producing a chronic abscess which ultimately discharges through a fistula in the soft palate region. The tonsil region, like the vermiform appendix, is subject to abscess formation through inflammatory adhesions. The pent-up secretion becomes a culture medium for pathogenic germs. Surgical measures are the indications for treatment. Excision of the upper portion of the tonsil obstructing the supratonsillar fossa and the removal of the plica triangularis are necessary. Adhesions must be broken up or removed by punch forceps.—*The Laryngoscope.*

Poison of Tapeworm.—Messineo and Calamida (*Rif. Med.*, July 17, 1901) believe that the effects of tapeworm are not due so much to mechanical reasons as to some toxic substance in a secretion by the tænia itself. They found that by injections and inoculations of extract of tapeworm, constant and characteristic symptoms were produced—for example, tremor, depression, paresis of posterior extremity, somnolence, etc. These symptoms were more marked in the case of non-stored extracts than in those where the extracts had been kept at temperature of 40° to 45° F. Control extracts showed that the results were not due to the injection of proteid substances merely, but especially related to the tapeworm. All the species tried gave the same result.

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SOME RECENT STATISTICS OF CARCINOMA OF THE TONGUE.

So far, in spite of considerable effort, bacteriology has not succeeded in incriminating any microorganism as the causative agent of carcinoma, and consequently surgery remains our most important resource in the treatment of malignant disease. It is, therefore, a satisfactory fact that recent statistics show that, with modern technique, the period of immunity from recurrence after radical operation is lengthening, and the percentage of apparent cures is reaching a more and more satisfactory figure. Some figures in *Beiträge zur klinischen Chirurgie*, Band XXXI, Heft 2, in an article by Roediger of Czerny's clinic, show what has been done in one prominent surgical institution with a form of disease which is justly much dreaded.

From 1888 to 1900, thirty cases of carcinoma of the tongue were operated upon in this clinic, and the results given in Roediger's paper are worth analyzing. Nothing new in regard to etiology seems to have been elicited, and the usual factors are mentioned, such as carious teeth, smoking, and hereditary influences; but it is interesting to note that the first manifestation of the disease was a nodule in fourteen instances, and an ulcer in ten. The comparatively favorable fact is mentioned that metastases are rare, and that the lymphatic glands in the neighborhood are involved early by continuity of tissue.

The most interesting and noteworthy part of the paper is that devoted to the subject of treatment, which was invariably some form of operation. The methods chosen were both simple, through the mouth, with scissors and cautery, and extensive, with resection of the jaw and other such radical measures; and it is shown, without doubt, by the figures in this series, that the latter plans of treatment offer greater prospect of immunity from secondary trouble than any of the less radical methods. No patient died from inhalation pneumonia, but four died very soon after the operation from shock and collapse—a very favorable showing. The subsequent history of the other cases which could be traced presents many points of interest, and some of encouragement. In regard to eight, no information was obtainable, so they must be removed from consideration; in five cases early secondary operation, on account of recurrence, was required; in seven instances, death is known to have occurred from recurrent disease; and in seven others, good health and freedom from recurrence persisted through periods varying from eleven months to three and one-half years. The remaining cases are known to have died, but the circumstances were not discoverable. Thus, seven cases out of thirty remained free from recurrence after operation for periods so long that they may be put down as cures; and these figures represent an encouraging percentage, especially when we remember that there may have been one or two patients among the eight who were lost sight of, that remained free from disease. A very important fact is that among the seven patients who remained free from any sign of disease for the periods mentioned there were two, out of the nine, who had been subjected to the less extensive operations through the mouth, and five, out of the sixteen, upon whom severe operative work, involving such procedures as resection of the jaw, was done. This represents a very decided percentage in favor of radical operation, an *a fortiori* of early diagnosis. Other operators, among whom may be mentioned Wölfler, have reported corresponding results.

This experience, with one variety of malignant disease, only confirms what is readily deducible from every such collection of statistics, and that is, that, in order to hope reasonably for improvement in the figures of the period of immunity, the diagnosis must be made early, and, above all, the operation must be radical. The percentage of "cures" in this series is comparatively very favorable, and gives promise of still better results when the conditions of early diagnosis and radical operation are more often united in the same patient. A good word might be added for the thermocautery in operations upon the tongue. Its good possibilities do not seem to be generally appreciated.

ADAMI ON KOCH.

WHEN, last summer, Professor Koch announced his belief in the probable non-identity of bovine and human tuberculosis, the MEDICAL RECORD showed that the discovery—if discovery it was—belonged in no sense to Koch, for he was neither the first to make it, nor the first to proclaim it, having been anticipated by several American workers. In the current issue of the *Canadian Journal of Medicine and Surgery*, Professor J. George Adami writes at length on the same subject, and shows that Koch must have known that the investigations made by himself and Schütz were simply a repetition of those of Frothingham, Theobald Smith, and Dinwiddie. Adami, in August, 1899, read a paper on this subject before the Canadian Medical Association, in which he reviewed the work that had been done, and discussed the arguments *pro* and *con* at considerable length. It is hardly conceivable that Koch failed to see this paper, for the German Consul at Montreal asked for and received copies of it for transmission to his government. It is a serious fact that it was just about this time that Koch and Schütz began their inoculation experiments at Berlin.

In discussing this charge of plagiarism, to which Koch has so often laid himself open, Adami says:

"It is very possible, and it happens not infrequently, that an active worker and writer occasionally, and by accident, fails to credit his fellow-workers; but when this failure to acknowledge the observations of others is frequently repeated, no excuse can be asked or can be accepted. Either the individual who commits the crime is absolutely callous, and has callously determined to aggrandize himself at the expense of others, or he suffers from a form of disease—from

megalomania, by which we mean that such an individual becomes so full of his subject, and of himself, that he regards every idea and every fact as his own, whether the idea has previously been enunciated, or is the natural and independent development of his own line of work and thought, or has been, in the first place, obtained from the work and the writings of others. We are inclined to think that the second is the more probable explanation in the case of Professor Koch. When, for example, he announced the discovery of tuberculin, he had not a word to say with regard to the observations of the other workers who had previously investigated the action of the products of growth of the tubercle bacillus, among whom I may mention Crookshank of London and, if I mistake not, Büchner of Munich. He took all the credit to himself. When next he described (and described imperfectly) his method of preparation of tuberculin, no credit was given to Roux and Nocard for the discovery that the tubercle bacilli would grow in media to which glycerin had been added, glycerinated broth being the medium from which he prepared the tuberculin. When, later, he gave his observations upon the chemical nature of tuberculin, not a word was said about the previous careful observations of Hunter and of others, who had before him reached practically identical results, and, indeed, had made fuller researches. Only recently, taking up the subject of malaria, he has had the hardihood to take to himself all the credit for the discovery of the important part played by mosquitos in the propagation of this disease, and has refrained from saying a word of due praise concerning the prior observations of Ross, and Italian and yet earlier American workers. These facts are well known to those conversant with bacteriological literature, but such is Professor Koch's power and influence in Germany that younger men dare not disclose these matters in the public press, for fear lest their careers should be injured, while his colleagues of professorial rank say nothing about the matter, fearing lest it should be thought that their motive was one of mere jealousy. It is left to those of other nationalities to bring forward these facts, unpleasant as they are."

It does certainly seem to be "up to" Professor Koch to disprove, if he can, the repeated charges that most, if not all, of his discoveries of late years have really been only inventions.

THE IMPROVEMENT OF TOWNS AND CITIES.

There is no evading the fact that one of the most conspicuous features of the present age is the rush of people from the country to towns. By the census recently taken, throughout the whole civilized world, it has been conclusively shown that the tendency to prefer an urban to a rural life is decided and widespread, and in no countries has this disposition been more strikingly evinced than by the inhabitants of the United States and Germany.

Into the reasons for this wholesale desertion of the country, this is no place to enter, nor is there need for discussion as to whether this movement is for good or evil. Suffice it to say that it is so, the reason must be accepted, and it only remains for physicians, sanitarians, and philanthropists to endeavor to render the conditions of life in cities and towns as morally and physically healthy as possible.

The first necessity of any area crowded with human beings is that it should be above suspicion from the standpoint of hygiene, that is, drainage should be effective, water supply plentiful and pure, and, in short, that all sanitary arrangements should be conceived and carried out with the sole view of safeguarding the lives and health of the population.

For many years now, in the most enlightened countries of the earth, men of light and learning have been slowly but surely arriving at the truth that the municipal problem is the one deserving of the closest attention, and for a nation chiefly dwelling in cities, the necessity is obvious that these cities must be made healthy places of abode. If this be not done, the race will rapidly deteriorate physically, and be unable to compete on equal terms with the inhabitants of countries who live under a more intelligent sanitary rule. Thus earnest and sensible social reformers have been bending their energies toward converting large centers of population into comparatively salubrious places of residence.

Mr. C. M. Robinson has lately published a book in this country, on the improvement of cities and towns, in which he sets forth a mass of statistics and details concerning the subject. The book in question, while it does not neglect to insist upon the paramount importance of hygiene, gives much space to advocating the cultivation of the beautiful in the construction and arrangement of cities.

The writer aptly points out that in most countries of the European Continent rigid laws are enforced to prevent contractors and builders from offending too grossly against the æsthetic sense. Paris, perhaps the most artistic city of the world, was rendered so by the efforts of Napoleon III, ably seconded by Baron Hausmann. Modern Berlin has been to a great extent rebuilt and greatly beautified by the Kaiser. London, though its buildings are, as a rule, incongruous to a degree, within recent years has been refurbished and brought somewhat into line with the ideas of modern progress through the public-spirited action of the civic authorities, while some of the other large cities of Great Britain are models of how such places should be managed. Many of the cities of this country are on a par with, or even superior to their European rivals, and it is evident that throughout the world, the dominating note in municipal reform is to make the conditions of city life desirable from a physical, moral, and æsthetic point of view.

The most difficult problem with which to deal in cities and towns is how to repress noise. In American cities this feature is even more prevalent than in Europe, and constitutes the most serious objection to living among the "madding crowd." It should, however, be clearly understood that many of the numerous and varied noises which shatter the nerves and shorten the lives of the inhabitants of towns are altogether unnecessary, and could be promptly ended if a strong stand were made against their continuance.

With the abolition of needless noises, and with the various improvements which have been suggested put into force, city life will have been robbed of many of its terrors, and may in time become the ideal place of residence. There is, nevertheless, much to be done to bring this Elysian dream to pass.

Children and Tuberculous Milk.

Dr. George F. Still of London has always contended that tuberculous milk was an infrequent cause of infection in the young, and claims that the commonest channel of infection with tuberculosis in childhood is through the lung.

Dr. Boivard, Jr., of New York read a paper before the Section on Pediatrics at the New York Academy of Medicine relating to this question, and has likewise concluded that milk from tuberculous cows is responsible for but few cases of tuberculosis among children. In support of his contention, Dr. Boivard quoted statistics of the New York Foundling Hospital, which has regularly in its care about 2,000 children. In 250 autopsies performed at that institution upon the bodies of children who had died of tuberculosis, it was found that but five cases, or 2 per cent., of definitely primary intestinal infection occurred among them.

Nocard's conclusions are practically identical, as are those of many other authorities.

Nevertheless, if it be allowed that these distinguished men are right, it should by no means follow that efforts to banish tuberculosis from cattle should not be pursued as vigorously as ever.

That milk from a cow infected with tuberculosis is not as wholesome as that drawn from a healthy animal is obvious enough even to the non-scientific individual.

Football in America.

The football season is now at its height, and the results of the matches between the different college teams are eagerly followed by an army of partisans and other devotees of the game.

The reports of the condition of the players after a particularly brisk match between two noted elevens, as given by the press, would be amusing, were it not sad. When one reads that such and such a man is in hospital from the effects of injuries received in a former game, but that the coach trusts that he will be sufficiently recovered to take part in the match of the season; that another man has had his shoulder dislocated; that several more are suffering from sprained ankles and slight hurts of that description, and, finally, that out of the whole number some two thirds are rendered temporarily *hors de combat*, the fact is irresistibly borne upon one's mind that this game of football has decidedly its serious, not to say brutal, aspects.

Of course, it is quite right that youths should not be coddled, and should take a part in manly games; but the increasing vehemence with which football is played, and the manner in which the contestants are frequently maimed, have given rise to grave doubts as to whether the so-called game of football, as now conducted in this country, is not somewhat too strenuous.

The Plague.

The news comes from various quarters of the world that where present the plague shows but small signs of abating, and that the disease is constantly cropping up in fresh localities. In India, the Eastern pest rages with as much virulence as when it first occurred on a large scale, while the surmise is shrewdly made, from the meager accounts which are allowed to leak out by the military censors in South Africa, that there are a large number of cases in that country. Glasgow has had a recrudescence of the epidemic, Liverpool has been invaded, and ominous rumors have been recently current that for the first time for many years the disease has gained an entrance into London.

The plague situation in San Francisco is at the present time somewhat of a mystery, but there can be no doubt that several Chinese in the Pacific Coast capital are plague-stricken. Civilized countries in which the laws of sanitation are properly observed, need be in no fear of an extended epidemic; but at the same time, the strictest precautionary measures should be enforced to prevent the disease from gaining a foothold, and promptly to stamp it out if, perchance, such an event should happen.

Tetanus from Antitoxin.

In Milan, Italy, some few months ago, many persons died from tetanus, the poison having been introduced into their systems by the agency of impure anti-diphtheritic serum. This unfortunate accident has been reduplicated recently at St. Louis, where twenty individuals developed tetanus with fatal results after antitoxin treatment for diphtheria. The infection with the germs of lockjaw has been traced to contaminated antitoxin, procured from a horse, whose blood was tainted with the bacilli of tetanus.

Such occurrences are most unfortunate, as they tend to give a handle to the animadversions of the opponents of methods of this nature, and create in the public mind an unwarranted prejudice against prophylactic measures which have been proved of the utmost value in preventing disease and insuring the health of the whole community.

It is to be hoped that the lesson taught by the unhappy incident in St. Louis will be taken to heart by boards of health everywhere, and that extraordinary precautions will be taken to provide against a similar catastrophe.

Spurious Grippe in New York.

Reports have appeared from time to time in the New York lay journals recently that grippe was prevalent in the city. It appears, however, that these accounts were false, or rather founded upon insufficient premises.

Numerous persons have been and many are yet troubled with colds, which simulate grippe in many particulars, but, nevertheless, are not of specific character. These affections are usually sudden in their attacks, but fail to present the distinctive features of infection by the microbe of epidemic influenza. There are lacking the high fever, the racking pains, the lassitude, and the many other symptoms which distinguish that insidious disease from all others. The malady from which a large number of the inhabitants of New York is at present suffering is probably what used to be known as an ordinary autumnal cold, and for which the changeable weather at this season of the year is responsible. The specific disease so aptly termed the grippe is happily absent from New York and neighborhood.

The Water Supply of New York City.

The question of a pure water supply intimately concerns every inhabitant of New York, and is perhaps of greater vital importance than any of the numerous matters which will confront the new administration when it comes into power. Analysis has shown that the water supplied to the metropolitan city contains, even when at its worst, no germs especially injurious to health, and as regards quantity, there can be no grounds for adverse criticism.

Nevertheless, although satisfactory from a sanitary standpoint, the fact cannot be denied that at times the water supply of New York offends both the sense of smell and of taste. The remedy for this lies in filtration, as has been pointed out in the Medical Record many times. The outlay to improve the water supply by these means would undoubtedly be large, but after all it would be to the ultimate benefit of the population at large.

News of the Week.

An Epidemic of Tetanus.—Seven or more children have died in Camden and one in Atlantic City, N. J., from tetanus following vaccination. The disease in each instance appeared two or three weeks after the vaccination, but the mode of infection has not been discovered. Two themes have been offered to account for the outbreak; one, that the vaccine was pure, and that the wounds became infected, after the maturation of the virides, through the deposit of tetanus bacilli from the dust of the streets; it is urged that the interval of time which elapsed between the vaccination and the appearance of the first symptoms of tetanus, was too long to warrant the assumption that the virus was impure. The other theory is that the virus contained in sealed tubes afforded a good culture medium for the anaerobic tetanus bacilli with which it had in some way been infected. As the source of most of the virus is well known or can be easily ascertained, it ought to be a not impossible task to determine whether or not it is pure or contaminated with the germs of tetanus. The occurrence of two epidemics of tetanus, one following the injection of diphtheria antitoxin, and the other seemingly caused by vaccination, is most unfortunate in that it will furnish ammunition to the half-informed or fanatical opponents of these two life-saving measures. The cause of the St. Louis outbreak has been determined, and its moral is obvious. The origin of the Camden epidemic must, in the interest of public health, be determined with the least possible delay.

Insanity Among Teachers.—A communication to the *New York Times* notes that, according to the statistics of the State Hospital for the Insane at Elgin contained in the last biennial report, one person in every sixty admitted during the last two years had been a school teacher. In that period 660 persons were received at the asylum, ten of them being women teachers. At the Kankakee institution, 1,061 persons were admitted during the last two years. Of these eighty-three were accredited to the "professions," no division being made for teachers. Prof. Zimmer of Berlin said in a report of investigations he had made in Austria, Switzerland, Russia, and Germany, that in every eighty-five woman insane patients one was a school teacher.

Montefiore Home.—Dr. Alfred Wiener has been appointed adjunct neurologist to the Montefiore Home.

The Plague.—The Health Committee of Liverpool declared on November 14 that the city was free from the bubonic plague. A river boatman employed on a tug working on the River Lee was admitted on the same day into a London hospital for treatment for what was suspected to be the plague. The Peninsular and Oriental Steamship Company's steamship *Peninsula*, from Bombay to London, arrived at Marseilles November 18 with bubonic plague aboard. One patient died at sea. The health authorities of St. Petersburg and Odessa have reported the occurrence of one death from the disease in each of these cities. In Rio de Janeiro several new cases are reported almost daily. The Canadian quarantine authorities now require the surgeon on every ship arriving at any port in the Dominion to take the temperature of every one of the passengers and crew within twenty-four hours prior to the arrival of the vessel. By this means the surgeon will be enabled to examine closely every person on board, and the quarantine officers will be aided in detecting any case of illness of a possibly suspicious nature. In the annual report of the San Francisco Board of Health, Dr. J. M. Williamson advocates the complete destruction of Chinatown which, he says, "cannot be rendered sanitary except by total obliteration. It should be depopulated, its buildings levelled by fire, and its tunnels and cellars laid bare. Its occupants should be colonized on some distant portion of the peninsula, where every violation of sanitary laws could at once be detected. In this and no other way will there be safety from the invasion and propagation of Oriental diseases. The day has passed," he says, "when a progressive city like San Francisco should feel compelled to tolerate in its midst a foreign community perpetuated in filth for the curiosity of tourists, the cupidity of lawyers, and the adoration of artists."

Cholera is epidemic in the Island of Java, over a hundred cases being reported daily at Surabaya, a town of about 150,000 inhabitants.

Cablegrams received in Washington state that bubonic plague has broken out in Odessa. Reports from Manila state that the plague epidemic there, and also at Hong-Kong and Amoy, is a thing of the past. No fresh cases of plague have occurred in Glasgow since November 1st.

The New York Obstetrical Society.—At the meeting of the New York Obstetrical Society held November 12, Drs. A. Jacobi and Paul F. Mundé were elected Honorary Fellows.

University of Pennsylvania.—Dr. Charles K. Mills has been elected Professor of the Diseases of the Nervous System; Dr. Charles W. Burr, Professor of Diseases of the Mind, and Dr. Wm. G. Spiller, Assistant Professor of the Diseases of the Nervous System.

The sum of $500,000 has been pledged by friends of the University for the improvement of Franklin Field, the erection of a gymnasium, and a general increase in athletic facilities.

Dr. George Woodward has made a gift of $20,000 for the establishment of the Woodward Fellowship in Physiological Chemistry.

Investigations carried out during the summer under the auspices of the Rockefeller Institute of Preventive Medicine have disclosed the presence of the specific bacillus of disentery in the disease prevailing in the United States, thus demonstrating the fact that the dysenteries of tropical and temperate climates are identical.

Burial of Soldiers.—Instructions have recently been issued by the War Department to insure uniform sanitary methods for the burial of the remains of soldiers dying outside the limits of the United States, and to facilitate their subsequent disinterment for removal to this country for final burial. For this purpose, wooden coffins are used, having holes bored in the bottom to facilitate the escape of fluids. The remains are clad for burial in ordinary clothing, and the space remaining in the coffin is filled with freshly burned lime. As it is desirable that the soft parts shall disintegrate as rapidly as possible, the use of hermetically sealed metallic coffins is discouraged. The remains of soldiers who have died of contagious disease are wrapped in sheets wet with corrosive sublimate solution or formalin and buried without coffins in graves packed with lime, the bodies being covered to a depth of six inches with the same material. On disinterment for return to the United States, the remains, usually left undisturbed for a year after burial, are at once wrapped in sheets wet with a disinfectant solution. The remains of each soldier are then placed in a metallic casket with a movable top which is tightly clamped down against a rubber gasket, previously thickly coated with white lead. An air-tight joint is thus formed. The casket is

then inclosed in a stout box for shipment, being packed around with sawdust to prevent injury to, or movement of, the casket. During the first fiscal year, the remains of 1,825 officers, soldiers, sailors, and civilians have in this way been returned from the West Indies and the Pacific Islands, and given honorable burial in the United States.

Philadelphia County Medical Society.—At a stated meeting held November 14, Dr. J. Dutton Steele read a paper entitled "Gastroptosis and Gastric Motor Insufficiency." Both of these conditions, which are often associated, may be unattended with any change in the chemism of the stomach, and the treatment is principally mechanical, by means of supporters and the like, and in part medicinal; the principal remedy being strychnine, preferably in the form of nux vomica in ascending doses. The general condition and general measures should not be neglected. Dr. H. C. Wood, Jr., read a paper entitled "Quinine Rashes," reporting an illustrative case in which an exanthem appeared after the ingestion of two drachms of compound tincture of cinchona, which contains but a small amount of quinine. Drs. Wm. M. Welch and Jay F. Schamberg read a paper entitled "The Characteristics of Genuine Vaccination; Some Statistics of the Prevalent Smallpox Epidemic." It was again shown that the disease, as well as the fatal cases, occurred only in small proportion in those who had been vaccinated, and in these with relatively lesser frequency in accordance with the character of the scar.

A New Hospital for St. John's Guild.—At the thirty-fifth annual meeting of this society, held last week, Mr. William Sherer, President of the guild, said that the reports of the standing committees showed an increase in membership of 23½ per cent. and a balance of $31,839, as compared to the deficit of last year. He outlined the plan of the convalescent hospital, which the society intends building on its grounds at New Dorp, Staten Island. The present Seaside Hospital is a frame building, and has proved inadequate owing to the growing work of the society. Sufficient funds to defray the cost of building the new plant have not yet been obtained, but the trustees are confident of the success of the plan when its need becomes generally known. It includes a much enlarged and improved hospital, nurses' and physicians' dormitories, and quarters for the male and female help employed by the society.

Hudson River State Hospital, Poughkeepsie, N.Y.—Dr. J. Elvin Courtney has resigned the position of Chief of Staff of Hudson River State Hospital, Poughkeepsie, N. Y., and removed to Denver, Col.

Addition to Hospital.—The Roberts Memorial Annex to St. Timothy's Hospital, Roxborough, Philadelphia, built at a cost of $85,000, was formally opened and dedicated on November 16. The building is of red brick and steel, and has a frontage of forty-nine feet on Ridge Avenue and one hundred and twelve feet on Rector Street. It is four stories high, with a basement, and is fitted throughout with the latest approved appliances. The basement contains an *X*-ray room, a museum, storeroom, and a boiler-room, while on the first floor are situated a storeroom, two bath-rooms, a kitchen, surgical, medical, and receiving wards, a dressing-room, and a quiet room for patients fatally injured or hopelessly ill. The second floor is like the first, with the addition of three private rooms. On the third floor are eight private rooms, drying, bath and store rooms, and on the fourth floor, two commodious bedrooms and an attic. On the Ridge Avenue front is a double sun parlor, 17x149 feet. The building will be heated by the indirect steam system, with forced draught, from boilers situated off from the Annex. All of the rooms and corridors will be flushed automatically with pure air four times an hour.

Assistant Professor of Hygiene.—Captain E. L. Munson, Assistant Surgeon U. S. A., has recently been appointed Assistant Professor of Military Hygiene in the Army Medical School in Washington, D. C.

Fourteenth International Medical Congress.—Circulars and announcements relating to this Congress, which is to meet in Madrid, April 23-30, 1903, have already been issued by the Secretary, Dr. Angel Fernandez-Caro, and the President, Dr. Julian Calleja. Every effort is being made to secure a large attendance at the Congress, as the sending out of circulars eighteen month before the date set for the meeting would imply.

Pathological Society of Philadelphia.—At a stated meeting held November 14, Dr. M. B. Hartzell made a "Report of a Case of Fibroma Molluscum," exhibiting most extensive tumor formation. Drs. Jos. McFarland and Geo. M. Boyd presented a specimen of "Hypernephroma of the Kidney." Dr. Roland G. Curtin exhibited the "Largest Recorded Aneurysm of the Heart," and also a specimen of "Anæmic Necrosis of the Wall of the Left Ventricle." Dr. David L. Edsall reported the results of a "Study of the Urine in a Case of Family Periodic Paralysis." In this case he found a marked reduction in the amount of creatinin excreted prior to and during the attack, with a rise approaching the normal in the sequence of attack. He infers that there must be some derangement of metabolism responsible for these changes, and that they are at the bottom of the muscular disability. Dr. D. J. McCarthy presented a communication entitled "Experimental Lead Encephalopathy with Microscopic Lesions in the Brain." The histologic sections exhibited cellular and vascular proliferation in the subcortical layer of the brain. Dr. W. T. Longcope exhibited a stained preparation and cultures upon various media of the "Streptococcus Mucosus." Dr. David Riesman exhibited a specimen of "Albuminous Expectoration" from a case in which the evacuation of fluid from the pleural cavity was followed by the expectoration in a short time of a considerable amount of viscid fluid of gelatinous consistency, which yielded reactions almost identical with those of the aspirated fluid. In this instance, it was thought the phenomenon was the result of puncture of the lung, though in other instances it has been thought to be due to an acute œdema of the lung.

The Rudolph Virchow Fund.—This fund was started ten years ago to celebrate the seventieth birthday of Professor Virchow, by establishing scholarships and by encouraging special medical and biological studies. Subscriptions to this addition to the fund were asked from physicians in all parts of the world, and committees were formed in every country to take charge of the local collections. It was decided some time ago to celebrate the great scientist's eightieth birthday by an increase of this fund, and subscriptions for this object are looked for from Virchow's admirers in every country. The scholarships, when they are founded, are to be awarded to students of any nationality, who stand first in a competitive examination which will be held once in a given period in Berlin. The number of scholarships and the details in regard to the examinations have not yet been decided upon. Subscriptions from Ameri-

cans should be sent to Dr. A. Jacobi, 19 East Forty-seventh Street, New York. The American committee in charge of the subscriptions consists of Drs. C. A. L. Reed of Cincinnati, H. P. Bowditch of Boston, W. K. Welch of Baltimore, and R. F. Weir and A. Jacobi of New York City.

The Society of the Jewish Hospital of Brooklyn has recently been incorporated at Albany. The object of the society is to erect and conduct a hospital in which medical and surgical care will be given to the sick without distinction as to creed or nationality.

The Harvard Veterinary School.—Several students, who had not yet completed their course in veterinary medicine when the Harvard Trustees decided to close that department, have been transferred to the University of Pennsylvania Veterinary School, Harvard paying for their tuition there. When the students complete their course at the University of Pennsylvania, they will receive a diploma which will be accepted as the equal of that given by Harvard, and the connection of Harvard University with the teaching of veterinary medicine will then cease. Prof. Lyman, who was dean of the Harvard School, accepting the place for life, has been pensioned.

The Pasteur Monument in Paris.—It is stated in *Nature* that a difficulty has arisen, concerning the site on which the new Pasteur statue in Paris shall be erected. The use of a space in the Square Médicis in the Quartier Latin has been granted, but this spot is being tunneled for a railway, and it is feared, in consequence, that the statue may be too weighty for it. Other places, such as the Place du Panthéon, the Place de la Sorbonne, and the entrance of the Avenue de l'Observatoire, are under consideration.

Measles in Alaska.—It is reported from Nome that the natives of western Alaska are rapidly disappearing as the result of disease. At least one-third of the native population at Cape Nome, Prince of Wales, Nome, Port Clarence, St. Michaels, Kuskokwim, Unalaska, Pribyloff Islands, Nunivaki Island, and St. Lawrence Island, and those along the Yukon River have suffered from the effects of an epidemic, which at first was thought to be smallpox, but upon investigation proved to be measles.

Investigation of a "Vita Physician."—The Coroner of Philadelphia recently summoned Victor B. Hall, who designates himself a "Vita Physician," to explain by what authority he issued a death certificate in the case of a woman who died of what was termed "tubercular deposit." The man stated that he was the founder and chief instructor of the Order of Vital Friends, which had been organized in Canada seventeen years ago, and had a Canadian charter. The Philadelphia branch was organized twelve years, and includes eighty-two families in its membership. In addition to a secretary and treasurer, there is an officer known as "Vital Dietist." The avowed purpose of the society is to do away entirely with the use of drugs in the treatment of diseases, and to substitute the life-giving properties of pure food and air. The annual membership fee is $5, which insures attendance in case of sickness. The three cardinal principles of the treatment are said to be "adaptation, application, and operation."

Philadelphia Teachers Must Be Vaccinated.—A teacher in the Philadelphia Girls' High School recently applied to the courts for an injunction against the Board of Education, which suspended her for refusing to comply with its order to procure a certificate of successful vaccination within the last five years or else submit to an inoculation. The court denied the injunction, and now the teacher must submit to vaccination or resign her charge.

The Diploma Mill in Jersey City.—The President of the "Central University of Medicine and Science" in Jersey City, John W. Norton-Smith, who appends to his name most of the degrees conferred for a consideration by his "university," was arrested a few days ago on a charge of attempting to obtain money under false pretenses. He had been distributing letters throughout the country, offering a diploma and a degree of M.D., Ph.D., or LL.D. for the moderate sum of $15. The same man was arrested for the same offense last summer.

A Rare Case.—A man died suddenly in the street, one day last week, of a profuse hæmoptysis. In his pocket was found a rough draft of a letter to a physician whose name did not appear, which read as follows: "I trust you have not thought me a 'dead beat.' I have had a hard time getting along, and when you asked me for some money on account of my bill, I was ashamed to tell you I was 'broke.' Rather than do that, I stopped your treatment, for I could not ask further lenience about the bill. The lack of treatment has put me back in my old condition, but now, thank God! I can ask you to take my case again. I inclose $10 on account, for I have now 'got on my feet.' I am sure you will cure me, though I am very weak for lack of medical attention. I thank you for your many kindnesses."

The St. Louis Tetanus Cases.—The report of the bacteriologists appointed to investigate the recent deaths in St. Louis from tetanus, following the use of diphtheria antitoxin proposed by the City Board of Health, says that the serum given out in the first three weeks of October was impure. "From the facts stated," the report runs, "we are forced to conclude that the diphtheria antitoxin prepared by the City Health Department had been issued before it was possible to have obtained results from the absolutely necessary tests. Had these tests been performed, the results upon animals would have been such that the serum would not have been dispensed, and the cases of tetanus forming the basis of this report could not have resulted."

Heredity and Cancer.—The German National Committee for the study of cancer has announced its conclusion that cancer is rarely, if ever, hereditary, but it has not formulated any opinion as to the pathogenesis of the disease. It has been announced that the German emperor has requested Professor Ehrlich to devote his whole time and energies to the study of cancer. At the same time, the Professor will have the advantage of a magnificently appointed chemical and bacteriological institute, while a competent bacteriologist and pathologist has been appointed as his assistant.

Philadelphia Pediatric Society.—At a stated meeting held November 12, Dr. James K. Young exhibited a patient on whom "Astragalectomy for Inveterate Clubfoot" had been performed, with a good functional result. Dr. John H. Jopson reported "Two Cases of Operation for Impacted Calculus in the Urethra." In one, extravasation of urine occurred and death ensued, in spite of operation, while in the other recovery took place. Dr. F. A. Packard presented a communication entitled "Methods of Vaccination."

The method preferred consists in thorough asepsis, and the use of a special scarifier carried in abolute alcohol. and of glycerinated lymph followed by the application of a protective shield of some sort, which should, however, not be permitted to remain in place for too long a time. Dr. Morris J. Lewis read a paper entitled "Remarks on What Constitutes a Successful Vaccination." It was pointed out that the typical lesion of primary vaccination is not,as a rule, produced by secondary vaccination. The latter was successful in nearly 85 per cent. of cases, in many of which vaccination had been practised successfully only a few years ago. Dr. J. Frank Wallis exhibited a number of wax models illustrating the lesions of smallpox and of vaccinia at different stages and of varying type. Dr. Arthur Van Harlingen read a paper entitled "Remarks on Vaccination in Relation to Skin Diseases and Eruptions following Vaccination."

Obituary Notes.—Dr. Jarvis S. Wight died at his home in Brooklyn on November 17. He was born in Centreville, Allegany County, N. Y., in 1834, and, after being graduated from Tufts College in 1861, studied medicine at the College of Physicians and Surgeons, in this city, and later at the Long Island College Hospital, where he received his degree in 1864. During the Civil War he served as assistant surgeon in a volunteer regiment, and at the close of the war became surgeon to the Long Island College Hospital Dispensary, and was successively lecturer on skin diseases, professor of materia medica, of the principles and practices of surgery, and professor of operative and clinical surgery—a position which he held up to the time of his death. For many years he was the registrar of the college. He was consulting surgeon at St. Mary's Hospital and at the Eastern District Hospital.

Dr. Isaac R. Small died at his home in Brooklyn on November 13 at the age of 77 years. He was a graduate of the College of Physicians in this city and practised medicine for nearly forty years in Greenpoint. He served one term as coroner in the Eastern District of Brooklyn.

Dr. Calvin Edwards Hull, a retired physician of Brooklyn, died at his summer home in Black Rock, Conn., on November 13, at the age of 89 years.

Dr. George H. Marmion died at his home in Washington, on November 13, of apoplexy. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1866. He was a son of Dr. Nicholas Marmion, who was a very well-known physician of Harper's Ferry, and a brother of Drs. W. V. Marmion of Washington and Robert A. Marmion of the Navy.

Dr. Stuart Eldridge, Acting Assistant Surgeon of the Marine Hospital Service, who was on duty in the office of the United States Consul-General at Yokohama, Japan, died November 18. Dr. Eldridge was a native of New York, but had resided in Japan for many years. At the time of his appointment in the Marine Hospital Service, he was a member of the Imperial Board of Health, of the Tokio Health Office, and sanitary adviser to the Japanese Government. He was an honorary member of the Medical Society of the State of New York and the Bellevue Hospital Alumni Association.

Dr. William Fisher Norris of Philadelphia died at his home in that city November 18, aged sixty-three years. Death was due to pneumonia. Dr. Norris was graduated from the Medical Department of the University of Pennsylvania in 1861. He was appointed an Assistant Surgeon in the Union Army and served throughout the Civil War, being in charge of the Douglas Hospital at Washington in 1864. He was a former President of the American Ophthalmology Society, and was for thirty years attending surgeon of the Wills Eye Hospital. He was Professor of Ophthalmology at the University of Pennsylvania at the time of his death. Dr. Norris was a prolific writer and a recognized authority on diseases of the eye.

Dr. David C. Reynolds died at Philadelphia of apoplexy on November 12 at the age of seventy-one years. He was graduated from the Medical Department of the University of Pennsylvania in the year 1852, and engaged in the practice of medicine at McVeytown, subsequently removing to Lockhaven, and finally to Philadelphia.

Dr. Samuel Ashhurst of Philadelphia died in London, Eng., on November 13, of an attack of bronchitis complicating fatty heart, at the age of sixty-one years. He was graduated from the Medical Department of the University of Pennsylvania in 1861.

Obituary.

ALBERT LEARY GIHON, M.D., U. S. NAVY.

Dr. Albert Leary Gihon, Medical Director, U. S. Navy, retired, died in this city, of cerebral apoplexy, on Sunday, November 17, at the age of 68 years. He was born in Philadelphia, September 28, 1833, and was graduated from the Philadelphia College of Medicine and Surgery in 1853. He was professor of chemistry and toxicology in the same college for two years, when he entered the navy as assistant surgeon in 1855. He was serving on the sloop-of-war *Portsmouth*, and took part in the engagements which resulted in the capture of the Barrier forts at Canton in November, 1856. He served in various ships until 1860, when he was assigned to the Brooklyn Naval Hospital for a year. When the brig *Perry* captured the Confederate privateer *Savannah*, he was on board the former vessel. He was on the *St. Louis* in its hunt after the privateers *Alabama*, *Florida*, and *Georgia*, and in 1865 was assigned to do duty at the Portsmouth yard as senior medical officer. He was on board the *Idaho* at Nagasaki, when she was wrecked in the big typhoon of September 21, 1869. For his work in the Portuguese colony at Dilly, on the island of Timor, and on the Portuguese men-of-war *Principe Dom Carlos* and *Sa da Bandeira* he received from the King of Portugal the decoration of Knight of the Military Order of Christ. Dr. Gihon designed the model hospital ship which was exhibited at the Centennial Exposition of 1876, and the ambulance cot approved and used by the navy was designed by him. He was made Surgeon in 1861, Medical Inspector in 1872, and became Medical Director in 1879, and later served at Washington, Mare Island, Brooklyn, and New York. In 1893, he was transferred to the post at Washington in charge of the medical headquarters. He was then senior medical officer of the navy, and was placed on the retired list in 1895, having reached the age limit of sixty-two years.

Dr. Gihon was an accomplished writer, and was the author of many works on medicine and travel. He was a man of companionable disposition and lovable nature, and surrounded himself with warm friends wherever he was stationed in his forty years of naval service. He was a frequent attendant at medical meetings, where he was sent as official representative of the navy. His earnest but futile appeals in behalf of the Rush monument were for many years a feature of the successive meetings of the American Medical Association.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ELECTIONS—HEALTH OF THE KING—SMALLPOX—PLAGUE—THE CONTROVERSY—CLINICAL SOCIETY'S EXHIBITS—HÆMATURIA IN CHILDHOOD.

LONDON, November 1, 1901.

THIS is the month of elections. The provincial municipalities are to-day engaged in them, and in town the Lord Mayor's show approaches.

The General Medical Council election is also exciting a languid interest, the formal notices have been issued that nominations must be delivered by the 21st instant, and the candidates are busy stating their claims in speeches and circulars. The retiring members for England are Dr. Glover and Mr. G. Brown. Both offer themselves for re-election, and three other candidates have also declared themselves.

For Scotland, Dr. Bruce is to be opposed by two candidates so far as at present known.

The health of the King has been made the subject of many newspaper paragraphs—some of them of a very disquieting nature, but there seems no foundation for the sinister rumors. The doctors, who could not fail to know, say that His Majesty's health is excellent, and certainly the activity he displays supports their assertion.

Smallpox has increased all through the week. From ten new cases with which Saturday closed last week, this week began with nineteen on Sunday, which was followed by twenty-five, twenty-eight, twenty-nine, and twenty-one on successive days. Last night there were 279 cases under treatment in the isolation hospitals.

The increase has thoroughly alarmed a considerable section of the public, and there is quite a rush on vaccination, showing how hollow is the outcry of the faddists. This has caused a run on lymph. The local Government Board has ordered 250 calves within a fortnight, and fifty-three were inoculated last week. But this is not all the demand, and private institutions for providing us with lymph are having unusual prosperity.

The occurrence of plague at Liverpool has been much talked of. From time to time during the last two years a case has been imported, which is not surprising considering that ships put in at the port from every part of the world. During the week, two children died of what is shown to be plague by bacteriological evidence. Three other cases are isolated in hospital. It is suggested that the infection came from Glasgow in a patient who lately died from what was thought to be influenza. But the period of incubation does not support this, and other evidence fails. However, the authorities are wide awake, all contacts of the known and suspected cases are being watched, and Dr. Hope, the M. O. H., is satisfied that the public need not fear an extension of the disease.

The Registrar-General's returns for the quarter ending September 30 have just been issued. The rate of mortality in the urban districts was 18.2 per thousand; in the rural parts, 14.2. In London the rate was 17.1. In the thirty-two next largest towns it averaged 20.5.

Do you remember the Imlach controversy? It is almost like ancient history, for it was thought to be closed some fifteen years ago, but it is cropping up again. All that time ago, Dr. Imlach was treating pelvic hæmatocele in the manner which is now held to be the best by a great number of gynecologists. But he seems to have been in advance of his contemporaries and to have had to bear the penalty of opposition to an extreme degree. The opponents of his views took the matter to the Liverpool Medical Institution, which appointed a committee to consider his proceedings. That committee's report was in effect a censure, but did not close the controversy, though it is said to have ruined Dr. Imlach. Pamphlets have been issued by his defenders and opponents in which many side issues are discussed—one of which is whether the Liverpool Medical Institution had any *locus standi* in such a matter and consequently whether the committee was not throughout acting *ultra vires*. A far more important point would seem to be whether any such committee of surgeons or physicians was at that date competent to pronounce a decisive verdict on new gynecological operations. Be that as it may, the inquiry was made by the committee and Dr. Imlach censured, though it is now said this was on the ground that he did not sufficiently explain to his patients the effects of his operations. It is difficult to believe that this was the sole motive of the censure, which had the effect of depriving Dr. Imlach of his hospital appointment. Seeing that leading gynecologists are now continually performing the operations he practised, his friends ask the Liverpool Institution to delete from their records their proceedings in the matter. They decline to do so on various grounds—such as that after so long a time re-inquiry is impracticable and deletion would be censuring the committee. Arbitration has been proposed, but this also the Institution declines. We have certainly not heard the last of the question. Already many are comparing the proceedings of the Institution with those of the War Office, which has just caused indignation throughout the country and weakened the Government by dismissing General Buller after an equally star-chamber sort of inquiry.

Dr. Imlach does not seem to be making a very unreasonable demand in asking for arbitration in the light of the advance of gynecology. The *British Medical Journal* opposes this, and counsels not to ask the Institution to abase itself. Yet in 1886 the *Journal* spoke out very vigorously against the assumption of the Institution.

The cases exhibited at the Clinical Society's last meeting included one of right-sided hemiparesis with atrophy of left optic disc, the nature of which seemed very obscure. It was suggested that the patient might have had thrombosis in the neighborhood of the left motor tract with recto-bulbar neuritis of left optic nerve, or perhaps the condition might be due to early disseminated sclerosis.

Another person—scarcely to be termed a patient—shown had incomplete development of both clavicles. On each side the sternal ends with the attachments of the sterno-mastoids can be felt; there seems some attempt at development toward the acromial ends. The intervening space seems occupied by fibrous structure, perhaps representing the costo-coracoid membrane. The defect does not interfere with the occupation of the subject of it, who is a clerk, aged twenty; nor has it hindered him from playing cricket, and he can bowl as well as others. He can do what his companions cannot, viz., brings his shoulders so near to the median line that the tips of the deltoids touch.

Two cases involving joints may be compared. One, an old man with osteo-arthritis; his ligamentum patellæ has been ruptured and previous to that the bone had been twice fractured; it can now be felt some distance up the thigh. There is a large fluid swelling in front of the knee-joint which has been aspirated three times and pressure applied. This has not reduced the fluid. The man gets about with comparative ease, and perhaps the fluid in the joint cavity may help rather than hinder.

The other arthropathy is in a young woman of twenty-six, who has suffered from bronchitis for eighteen months. The sputum from the first was offensive, but became more and more copious twelve months ago, and the ankles began to swell. The wrists, knees, and fingers became involved subsequently, and muscular debility was well marked. The offensive sputum has lost its factor and is less in quantity.

Mr. Bowlby remarked on the case as relating to those resembling osteo-arthritis and which have been traced to sepsis. Some other cases of arthritic symptoms set up by sepsis were mentioned by members.

Hæmaturia in childhood has given most practitioners a degree of anxiety on account of its numerous causes and the alarm it excites in parents, who are apt to demand an immediate answer to their questions as to its origin and prognosis. The subject was brought before the Harveian Society on October 17 by Mr. Campbell Williams in a paper remarkable for its completeness, which, however, necessitated a degree of conciseness that made it very difficult to follow.

In some cases, Mr. Williams encountered the difficulty of deciding, if not on the source of the hemorrhage, at least on its cause, even with the aid of sound, microscope, skiagraph, and cystoscope, if it can be introduced. By watching the patient pass urine into a glass beaker, he had sometimes been able to determine whether the blood came from the urethra, bladder, or kidneys. The character of the blood or clots may give a clue, but not always. The smoky or porter tint of the textbooks characterizes a renal origin, but if very copious such a hemorrhage may simulate one of vesical or urethral source. Hæmaturia is often surgical, but may be medical. Thus it occurs in children's complaints. Rickets, scurvy, hæmophilia, anæmia, tuberculosis, purpura, Raynaud's disease, may present the symptom, which also occurs in renal infarction, pneumonia, nephritis, typhus, variola, malaria, diphtheria, and scarlet fever. Sometimes it is due to parasites, and sometimes to drugs.

Passing all these by with a mere mention, Mr. Williams proceeded to consider cases within the domain of surgery, and to state his experience and views regarding them. The only fault to be found with this paper is that it is almost too condensed.

OUR PARIS LETTER.

(From Our Special Correspondent.)

THE FIGHT IN FRANCE AGAINST CONSUMPTION—GAUTIER'S METHOD OF GIVING CACODYLATE OF SODA—THE SULTAN'S HEALTH—PINARD ON THE TREATMENT OF ECLAMPSIA—NEW REMEDIES IN DIABETES (LÉPINE OF LYONS)—FREQUENCY OF KOPLIK'S SIGN—ARTIFICIAL LARYNX—GUINARD'S MODIFICATION OF TUFFIER'S TECHNIQUE.

PARIS, November 8, 1901.

EFFORTS are being made in France to fight consumption by different prophylactic measures. In the army, for instance, the Minister of War has ordered the use of spittoons in the rooms occupied by the soldiers, as well as in the passages in the barracks. These spittoons are to be made out of zinc, and their dimensions are certainly generous enough. They are to be a foot long, and half a foot high. The Minister of Public Works has sent a circular to the railway companies insisting on the selection already carried out in the choice of the employees, on the necessity of giving outdoor work to those who are tuberculous, and of sending such as may need it to the sanatoria already in existence. Consumption is very rife among school teachers, and at a recent meeting held by the different mutual help societies of school teachers, at the Sorbonne, it was decided that it would be well to found a sanatorium of 110 beds, for which an annual endowment fund of 40,000 francs will be furnished by the different societies.

Cacodylate of soda is talked of as much as usual. Dr. Armand Gautier has been indicating recently the symptoms which indicate intolerance, and which are congestion, with general excitation, buzzing in the ears, and vertigo. There would seem to be hardly any counterindications, even fever, diarrhœa and vomiting not seriously interfering with its use. Cardiac insufficiency, however, and hypertrophy of the heart, as well as cirrhosis of the liver, would be conditions that would justify abstaining from using this drug. Professor Gautier recommends using at the same time the following preparations:

Chloride of sodium	6 gm.
Iodide of potassium	
Bromide of potassium	ãã 1 gm.
Water	q. s. for 100 c.c.

Take an hour before lunch a dessertspoonful of this preparation.

During the course of the meal, a soupspoonful of the following mixture should be taken in half a tumblerful of water:

Phosphate of calcium	30 gm.
Hydrochloric acid	30 gm.
Chloride of sodium	15 gm.
Ammonium magnesian phosphate	10 gm.
Ammonium fluoride	15 gm.
Crystallized citric acid	12 gm.
Sugar	100 gm.
Water	100 gm.

Several works have been published recently on the use of cacodylate of soda. In Dr. Jalaquier's work the following results are noted: rapid increase in the number of blood globules, better nutrition of the skin and mucous membranes, amelioration of the digestive functions. Dr. Jalaquier advises using not more than 5 centigrams a day in a 5-per-cent. solution.

The internate of the hospitals of Paris will celebrate next year its one hundredth anniversary, and researches have been made to find out what became of the first of the thirteen internes named in 1802. His name was Alin, and he was a friend of the poet Lamartine, who described the latter part of his life and his death in his work called "Raphael." Dr. Alin occupied himself about works of charity, and died in poverty.

According to one of the French papers, the *Rappel*, the Sultan has been suffering during the last three months from a recurrence of nephritis. A specialist from Munich has been called, and has declared that an operation was necessary. It would also seem that the Pope's health is far from good. He can now hardly write, experiencing difficulty in writing the three letters of his name. He has also fainting spells, which become more and more frequent.

The recent discussion at the Congress of Obstetrics as to the best treatment of eclampsia shows how much the opinions of various French accoucheurs are at variance on this subject. Hirigoyen of Bordeaux posed as the partisan of active measures, insisting as he did upon immediate dilatation and extraction of the child. The latter's life was assured thereby in certain cases. Professor Pinard argued that there was no systematic treatment. Complete statistics should be published, with a large number of cases where the same treatment had been followed out. He was not in favor of venesection or obstetrical operations. The prognosis of this affection depended upon the condition of the liver cells, and when the latter were much altered, death would surely take place. As for the children that would be obtained by obstetrical operations, they were apt to die soon after, or to prove a source of expense to their family, or to the state.

Dr. Ollive of Nantes remarked that he had so far had the good fortune never to lose a case of eclampsia, and had always noticed distinct improvement after venesection.

Professor Lépine of Lyons has just published in the *Semaine Médicale* an article on the treatment of diabetes. He remarked that it was well to have the quantity of sugar verified not only with the polarimeter, as done usually by druggists, but also with the Fehling test, as maltine sometimes modified the results obtained with the polarimeter. The quantity of urea excreted is also an important factor, especially after the regimen has been changed. If the ratio observed between urea and sugar remain high, then a severe form of diabetes may be predicted.

Gerhardt's reaction is much insisted on by Professor Lépine. It consists in acting upon the urine with a solution of perchloride of iron. If the urine becomes dark red, the presence of diacetic acid is demonstrated, provided no drug is being administered which can produce this change. According to Lépine, this is much more important than the acetone reaction. If, after treatment, this test is still found, the prognosis is well-nigh fatal. Professor Lépine thought it well to use a mixed diet, so as to avoid the irritating action on the kidneys. To suppress the diacetic acid, carbo-hydrates are of some value, but they increase the quantity of sugar. Schultzen has recommended glycerin, and Schwarz of Prague has just tried gluconic acid with excellent results. The patient, a man twenty-four years old, was twice treated with this preparation, while in a comatose condition and recovered, diacetic acid disappearing from his urine. The third time, however, there was no gluconic acid to be had, and the patient died the third day. The dose given was 70 grams of gluconic acid neutralized with bicarbonate of soda and administered in half a lifer of water. A certain amount of bicarbonate of soda was also given by the mouth and rectum.

A symptom in measles, called Koplik's sign, has been recently investigated by several specialists in children's diseases. This consists in the appearance on the inner surface of the cheeks and on the tongue of small red spots, slightly prominent.

Widowitz, a physician of Gratz, has found it in 140 cases out of 158, *i. e.* in 88.6 per cent. of the cases. He has verified its existence ten times in German measles, once in a case of follicular tonsillitis, and once in stridulous laryngitis. Dr. Moizard, one of the physicians at the Enfants Malades Hôpital, has been looking for this sign in measles, and he has recently noticed this symptom without measles taking place afterward.

At a recent meeting of the Academy of Medicine, Professor Le Dentu presented a patient whose larynx had been removed on account of syphilis. An artificial larynx had been put in, consisting of a canula with resonator and furnished with two rubber plates, which were made to vibrate under the influence of the current of air. Speech is possible, it seems, with this apparatus.

At the Congress of Surgery, held on the 21st of October, 1901, a modification of Tuffier's technique in medullar cocainization was proposed by Dr. Guinard of Paris. Dr. Guinard said that most of the accidents, such as cephalalgia, syncope, or pyrexia, were due to the injection of water, and so he began by tapping the patient and drawing off sixty to eighty drops, which were mixed with six or seven drops of a solution containing one centigram of cocaine to two drops of water. This solution is then injected. Dr. Guinard has already performed fifty operations in this manner without any post-operative incidents.

The Mosquito and Disease.—The *Indian Medical Gazette* says the mosquito is going to be made responsible for leprosy also. In a French exchange we read that Dr. Blanchard stated at the Paris Academy of Medicine that leprosy "could be transmitted by mosquitos," and Dr. Chantemesse remarked that "leprosy was caught generally at night." What the latter statement means, or how such could possibly be proved, we are unable to guess; "other vermin," it is said, are the carriers of "Malta fever," relapsing fever, typhus, and perhaps several skin diseases (R. Ross). Such is the new etiology.

Progress of Medical Science.

Boston Medical and Surgical Journal, November 14, 1901.

Two Cases of Chronic Pancreatitis Cured by Cholecystotomy.—J. W. Elliott reports two cases. Chronic pancreatitis is probably often caused by gallstones. These cause a cholangitis which extends into the duct of the pancreas, giving rise to a chronic pancreatitis, which may obstruct the gall duct, resulting in jaundice, when the gallstones may or may not have wholly disappeared from the gall ducts. Cholecystotomy, by draining the gall ducts and the pancreatic ducts, improves their condition, relieves the back pressure on the pancreas, and finally leads to a cure of pancreatitis.

Medicolegal Examination of Blood Stains.—Edward S. Wood gives practical points in connection with the medicolegal examination of blood stains. Preliminary examination consists in observation of the color, the exact form, the position, and the dryness or moisture of the stain. The systematic examination includes three methods—the chemical tests, the optical method, and the microscopic examination for the detection of the red blood cells. The guaiacum test is chiefly valuable as a preliminary test and as a negative test; for, while other substances give the blue coloration, if no such reaction be obtained, we know that blood is not present. The hæmin test for blood crystals should be used to confirm the guaiacum test. The sodium tungstate test is of great value in cases of washed blood stains, or when a liquid has to be tested for blood. The spectroscopic test requires a considerable volume of blood to deal with. For the new agglutination test it is claimed that it renders it possible to distinguish accurately between human blood and that of other animals.

Journal of the American Medical Association, Nov. 16, 1901.

Suggestions for Lessening the Frequency of Relapses After Treatment of Morphinism.—A. J. Pressey advocates the method of gradual withdrawal. Nearly always when more than ten grains daily have been taken by the patient, he will be comfortable on about one-half the accustomed quantity. After a short continuance with the smaller quantity we again reduce, and so on until we get the patient so that he is comfortable on so small a dose as $\frac{1}{120}$ gr., when we try to discontinue it entirely. Static electricity is a valuable adjuvant in treatment.

Total Retroflexion of the Iris.—A. A. Hubbell reports the case of a man of fifty-five years who two weeks before coming under observation had fallen from a wagon and struck the left side of his head and face against the pavement. At the time of his first visit the left eyelids were ecchymotic, the cornea slightly hazy, and the aqueous chamber filled with blood, so that no view of the fundus could be obtained. The subsequent clearing up of the eye showed that the probable train of occurrences had been as follows: A violent concussion of a previously normal eye, followed by aphakia, and disappearance of the iris. The crystalline lens was either dislocated to a point where it could not be found, or else it had become absorbed. The latter supposition is the one accepted. The iris was thrown entirely out of view, and this could only be done by being reflected back against the ciliary body. The mechanism of retroflexion is very obscure, but in this case it evidently consisted, in part, (1) In the destruction of the posterior support of the iris by a laceration of the zonule in a large part of its extent, and thus permitting a sinking backward of the lens whether lacerated or not; (2) In rupturing the pupillary margin of the iris, probably at several points, allowing this membrane to become easily turned back and superimposed over the ciliary body; and (3) After being torn at its pupillary margin, and thrown backward against the ciliary body, the effusion of blood which attended the lacerations necessarily filled the space between the iris and cornea, and thus crowded upon the already reflected iris, and held it firmly in its new position till it became so fixed there that it could not replace itself.

Injuries, Feigned and Real, with Their Differentiation and Medicolegal Aspect.—Commenting on the difficulty of ascertaining the truth in many cases of the nature suggested by the title, Lambert Ott calls attention to the fact that electrical examination will enable us to determine whether there is actual loss of power in cases of supposed paralysis, that is, determine between real and feigned injuries. More difficult is it to get at the exact facts where there is no visible lesion, and where we must depend on the statements of the patient as to the site and degree of his pain. In regions where persistent pain has been complained of, we should find the following: (1) Primarily an increased electromuscular contractility and later a lessened electromuscular contractility, a result uninfluenced by the patient's will; (2) An increased electrosensibility, a result easily influenced by the patient's will; (3) A glazed, sometimes puffed and bleached, skin over the area of pain; (4) Perverted nutrition of the hair follicles and nails over the region of pain; (5) Possibly some muscular atrophy and flabbiness; (6) Increased skin and muscular reflexes; (7) Unnatural tremor induced by the effort to hold the member absolutely immobile; (8) General lowered nutrition necessarily produced by prolonged suffering; (9) Hyperæsthesia or anæsthesia and variable sensibility to temperature, and (10) The locality of pain bears a close relationship to the distribution of nerves. It must be noted whether the pain and complaint conform to any of the well-known clinical types. If we find the major part of all these signs and symptoms in a region presenting a persistent and prolonged pain; the suffering is real. Ott believes that such cases should come before a jury of physicians instead of laymen.

New York Medical Journal, November 16, 1901.

Social Aspects of Dermatology.—In the tenth Lane Lecture, Malcolm Morris continues his discussion of eczema and speaks also of trade eruptions, psoriasis, mycosis fungoids, pityriasis rubra, malignant affections of the skin, and acanthosis nigricans. He believes that the cause of psoriasis is still unknown. He cannot accept the gouty theory, and no parasite has yet been discovered as having a causative relation to the malady. The neurotic theory derives some support from the association of the disease with arthropathies, which are presumed to be of nervous origin. It may be that in the case of psoriasis, as was suggested in regard to eczema, there are two factors at work—the nervous, which diminishes the resistance of the skin, and the parasitic, which actually gives rise to the disease. The disease is said to be much more common in Europe than in North America.

An X-Ray Stereoscope.—L. A. Weigel says that the correct interpretation of *x*-ray negatives frequently presents considerable difficulty, because all parts of an object lying in different planes are projected into one, and there is practically no way of determining the order of superposition of the various planes and of the distance that separates them. This defect of the ordinary skiagraph is readily overcome by making two stereoscopic negatives, which, when placed in a suitable stereoscope, virtually reconstitute the object in space. Every detail of the negative is seen in its proper place, the surfaces appear in their natural form, and the various planes are correctly separated from each other. The ordinary hand stereoscope is useless for the purpose, because it is too much trouble to obtain prints small enough and much of the fine detail of the original negative is lost in the reduction. The instrument devised by Weigel is figured in his paper, to which we must refer the reader for detailed description. It brings into play the principle that when two plane pictures representing slightly different views of an object are superimposed, they appear to the eye as giving the same relief as the object itself.

Pyopericarditis.—H. O. Collins gives a general description of the disease inclining to regard it, not as a separate malady, but rather as a local manifestation of a pre-existing septic condition in some other part of the body. The primary sepsis may result from mediastinal disease, caries of the ribs, Pott's disease, etc. Cancer or abscess of the lungs, empyema, cancer or abscess of the œsophagus, inflammation of the breasts, and bronchopneumonia should be included in the list of diseases of the chest apt to result in pyopericardium, while myocarditis and abscess of the heart wall are probably to blame for some of the so-called "idiopathic" cases. Those cases which result from external wounds usually fall into the hands of the surgeon in connection with the original injury. Analogous and sometimes perplexing cases are those which result from the perforation of foreign bodies from the œsophagus or the perforation of a small gastric ulcer. The possibility of its being the result of infectious trouble at the navel should not be lost sight of in the new-born. Angina, abscess of the brain, suppurative otitis media, furunculosis, and even vaccination have been known to cause it. Among abdominal troubles, a hepatic abscess may rupture through the diaphragm, or it may result from enteric fever, peritonitis, puerperal fever, abscess of the spleen, appendicitis, or any septic condition of the pelvis. It has also been found in connection with phlegmonous erysipelas, acute osteomyelitis, variola, scarlet fever, typhus, diphtheria, and the malignant form of measles. In those cases where purulent pericarditis complicates gonorrhœal infection, the endocardium is usually first affected, the process being a true metastasis of the gonorrhœal germs. It is generally preceded by the symptoms of gonorrhœal rheumatism, and is more frequently

found in women. In connection with pyæmia, infections of the endocardium and pericardium are responsible for a large proportion of the deaths. Treatment resolves itself into a choice of operative method, either aspiration, simple puncture, incision through an intercostal space, or incision with resection of one or more ribs and through drainage. These methods are described in full by the author.

Medical News, November 16, 1901.

Infantile Pleurisy with Effusion.—W. T. English, in speaking of the difficulties of diagnosing infantile pleurisy, states that one reliable aid is always near at hand, to wit, the exploring needle. The ordinary hypodermic needle is never efficient. A large needle is necessary, but it need not be over one and a half inches in length. It must be small enough to enter between the ribs without unnecessarily enlarging the wound. If fluid is not obtained at the first puncture, a second should be tried at the end of forty-eight hours. If it is thought that purulent fluid or pus is present, the needle should be large enough for its passage. Early evacuation of serous fluid should leave no other evidence than the scar. Always when there is a relapse or slow convalescence, an exploratory puncture should be made to determine if purulent fluid is present. If pus is present, evacuation is demanded. Drainage tubes should be inserted. Incision is called for, although resection may be required. Tonic treatment, fresh air, and sunshine are indicated. Efforts to prevent deformities, so common as sequelæ, should be made. Passive exercise, active exercise, and deep breathing are most essential. The shoulder should be raised from the thorax during sleep, and the clothing must never be suspended from the shoulder of the injured side.

Tendon and Muscle Transference and Arthrodesis in Infantile Paralysis.—E. H. Bradford mentions three methods in the surgical treatment of the results of anterior poliomyelitis—mechanical treatment, muscle and tendon transference, and the stiffening of the joint. The appropriate application of these methods demands both skill and judgment. Although there are many differences in the palsies following anterior poliomyelitis, in many cases certain muscles retain some power which is capable of development. The muscles of the leg often retaining some power are the sartorius, the adductor group, and the hamstrings. The sartorius can be transferred to the rectus without difficulty. When the sartorius is weak, the outer hamstring or adductor can be inserted on the outer side into the fascia and tendon of the extensor cruris. In the paralysis of the muscles controlling the movements of the feet, the combined employment of arthrodesis and tendon transference is most valuable. When all the muscles in the front of the foot are paralyzed, the tendo Achillis can be split and a part be transferred and attached to the peroneus tertius or to the tibialis anticus or both. Tendon transference is valuable in preventing the dropping of the front of the foot, or in cases in which the muscles of the anterior group have been weakened. In valgus and varus deformities, arthrodesis of the midtarsal articulation is of special service. If these measures are used with skill and judgment, the surgeon may look forward to beneficial results in a large percentage of cases.

American Medicine, November 16, 1901.

Infection in a General Surgical Sense.—Daniel N. Eisendrath summarizes his treatment of infection as follows: 1. Ample incisions to lay bare every portion of the infected area, and counterincisions to relieve the collateral œdema. 2. General anæsthesia and a bloodless method of operating whenever possible. 3. The disinfection of an infected wound with strong antiseptics, etc., is of little avail, and may do great harm. 4. We should place most dependence upon free drainage and moist dressings, with the use of mild antiseptics. No powder should be used until granulation is well established. 5. Absolute rest and elevation of the infected area are necessary. 6. After-treatment shall be by secondary suture and early active and passive motion. 7. General treatment consists in the administration of strychnine and whiskey, and in securing proper action of the excretory organs.

Why Should the Oculist Be Consulted?—Fred. D. Lewis believes that the importance of the eye in relation to the general health is not sufficiently understood by most physicians. He thinks that children's eyes should be examined before their hard schoolwork begins. The sense of vision uses up more nerve energy than any other sense that we possess. The waste of nerve energy in overcoming even a slight ocular defect is enormous, when multiplied by years. As a result of eyestrain, the whole physical development of the child may be retarded. The time will undoubtedly come when no physician will treat a case of chronic disease of long standing, such as indigestion, rheumatism, gout, or chronic ovarian or uterine trouble, without first having the patient's eyes examined to see if they are not an important agent in causing the trouble. The writer cites various cases in which the patient was cured of obscure troubles by simply having the eyes attended to, although there had been no subjective symptoms to call attention to the real cause of the disturbance.

Granular Lids.—J. C. Huizinga gives as the predisposing causes of this affection an inflamed and already pathological condition of the conjunctiva; a weak and debilitated condition of the system in which the powers of resistance have become greatly diminished; racial predisposition, noted among individuals belonging to the Irish, Jewish, or Eastern races. The writer speaks of three forms of this disease: (1) An acute light form; (2) A chronic light form; (3) A chronic form with severe complications. In the catarrhal stage the congestion should be relieved. It is well to instil hourly a solution of 20 grains each of boric acid and borax in an ounce each of camphor water and distilled water. An astringent solution should be applied at least once a day by the physician. An ointment of ichthyol may be applied at night before retiring. In the second stage of the disease, the contents of the follicles should be expressed. Some have practised excision of the redundant folds of the conjunctiva. The writer has for years employed metallic electrolysis in the treatment of trachoma. The results are uniformly good and sometimes surprising. In ordinary cases, a cure is accomplished in from four weeks to four or five months.

Philadelphia Medical Journal, November 16, 1901.

Neurasthenia.—Jay G. Roberts calls attention to the fact that neurasthenia and hysteria are two distinct entities. The former is a condition of nervous exhaustion or pathological fatigue, while the latter is a disease with well-marked stigmata. The etiology of neurasthenia includes various factors, although heredity stands at the head. Education is a potent cause, both in the school on account of the modern methods of cramming, and in the home where neurotic parents give way to bursts of temper or continually nag their children. Worry, excitement, overwork, psychic shock, and pelvic disorders in women are among the causes. Men are more frequently affected than women. As to the pathology of this disease, the primary morbid change seems to be not in the nervous system, but in the entire organism. Loss of substance in the cells has been noted. Impaired metabolism and impaired excretion cause autointoxication. This is first felt by the neurons and the nervous system. The most important symptom is fatigue. Headache is very common. Vision is the most often affected of the special senses. Palpitation of the heart is generally present. Gastric symptoms are important. Uncomplicated cases rarely present any difficulty in diagnosis. In the treatment, rest is most important, although absolute rest is seldom indicated. Exercise should be attended to. The diet must be carefully regulated, and tea and coffee are to be avoided entirely. The carbohydrates should be removed from the diet as far as possible. Bathing is very valuable, especially the cold shower or sponge. Constipation should be overcome. Tonics often give excellent results. Morphine should not be used, except in the case of unbearable pain. Much can often be accomplished by suggestion or psychotherapy, and here the personality of the physician is a marked factor for good or evil.

Bovine Tuberculosis and Milk Supplies.—H. L. Russell considers this subject from two points of view: (1) From the standpoint of animal industry, and (2) From that of public health. Successful animal industry, especially with cattle, requires that herds shall be kept free from all taint of this disease. Although the causative organisms found in tuberculosis in man and animals have many common characteristics, there are also differential characteristics which show that they belong at least to different types or varieties, and are not identically the same. The virulence of the bovine type is much greater than that of the human variety. It seems probable that the danger of infection from the bovine to the human would be greater than from the human to the bovine. It will take some time to gather sufficient evidence to prove this point, since the subject cannot be studied experimentally. In the meantime all possible danger should be avoided. The danger comes from meat and milk. Generally speaking, tuberculosis is a disease of the visceral organs and serous surfaces. Often the muscular parts of an animal affected do not contain the seeds of the disease. Cooking will also destroy the vitality of the organism. As to the prevalence of tubercle bacilli in milk, American data are very meager. It is possible that an animal may react to the tuberculin test, and yet deliver milk, even for a long

time, containing no tubercle bacilli. If these bacilli are at all numerous in the milk, cheese and butter made from the same milk must contain them. The methods of avoiding the consumption of the bacilli are exclusion and destruction. They may be destroyed by sterilization and by pasteurization. Experiments have shown that, when milk is pasteurized in a closed rotating commercial pasteurizer with a ten-minute exposure at 60° C., the vitality of the organism is destroyed, so that no trace of the disease develops. These facts do not hold when open vessels are used, and a surface film is formed. The pasteurization at 60° C. does not change the consistency of the liquid, which is a great advantage.

The Lancet, November 9, 1901.

The Treatment of Ozœna by Cupric Electrolysis.—E. S. Yonge has utilized this method of treatment in fifteen cases. Two patients were cured, five were much improved, six were temporarily improved, and two showed no improvement whatever. Yonge considers the method the best one at our disposal for the treatment of this intractable disease.

A Case of Thrombosis in a Cystic Dilatation of the Saphena Vein.—G. A. Clarkson reports the case, which occurred in a man of fifty-one years. He was seen twenty-four hours after the onset of symptoms, and on examination presented redness, swelling, and tenderness on the inside of the leg from the knee down. Over the inner tuberosity of the tibia was a mass the size of a walnut, hard and very tender, and at the junction of the middle with the lower third of the leg was a smaller thrombus. The intervening vein was tender and thickened, but not enlarged or varicose. Rest, hot fomentations, etc., reduced the inflammation. One week later, under ether, incisions were made over the thrombi, the latter dissected out, and the vein ligated above and below. Recovery was uneventful. Clarkson thinks that this case exemplifies very well the superiority of this form of treatment over that by prolonged rest, which is more commonly pursued, for the following reasons: (1) The patient is effectually relieved from the risk of any dislodgment of clot with its accompanying dangers; (2) It prevents extension of the clot to the deeper veins and main venous trunks; (3) It reduces the necessary rest in bed to a minimum; (4) It leaves the patient afterward less liable to a second attack; (5) It relieves the surgeon of the difficult task of deciding when, without incurring undue risk, the patient may begin to use the limb.

The Freezing Point of the Blood and Secretions as an Aid to Prognosis.—A. Ogston describes some experiments he has made along the line suggested by the title of his paper, using the term cryoscopy as the designating name of the process. He has experimented with blood, urine, and saliva, using Beckman's freezing-point apparatus which is figured and described in the text. Connected with the apparatus is a thermometer of a short range, but large enough to be divided into numerous registers. The freezing-point of normal blood is determined, and then that of the various fluids examined is compared with this standard. In cases in which the point is below normal, operation is contraindicated. Van't Hoffs and Raoult have pointed out that fluids freeze at a lower temperature in proportion to the impurities dissolved in them. Korányi, applying the law to the blood and urine, showed that normal blood possessed a fixed freezing-point of 0.56° C. below that of distilled water, which forms the zero of that thermometrical scale. From this point it does not vary more than by one-hundredth of a degree up or down. Urine is not so steadfast, varying in its freezing-point about a whole degree, from —1° to —2° C., in proportion to the solids which it contains in a state of solution. Conclusions may be thus briefly stated. So long as the blood is healthy and has its effete constituents adequately eliminated, it retains, as already said, its normal freezing-point, viz., —0.56°, or within $\frac{1}{100}$° of that figure, varying, that is to say, from —0.55° to —0.57°, but if elimination becomes defective, the freezing-point sinks below this, to—0.58°, —0.60°, even to —0.71°, in one case observed by Kümmell. The attention of these observers appears to have been mainly directed to the purification of the blood effected by the kidneys, regarding the measurement of which our present knowledge is admittedly defective, and where, consequently, the value of cryoscopy promises to be great.

Acute Dilatation of the Stomach with an Account of Two Cases.—The cases are reported by C. R. Box and C. S. Wallace. They are respectively designated as follows: Case 1.—Lacerated wound of the knee joint, cellulitis of the leg and thigh; ultimate amputation of the limb; acute dilatation of the stomach and of part of the duodenum. Case 2.—Pleuropneumonia with severe toxic symptoms; acute dilatation of the stomach and duodenum. The authors suggest that in acute dilatation of the stomach two factors come into play. The first is a paralytic condition of the viscus which leads to distention, and the second an obstruction produced at a certain stage by the pressure of the distended organ upon the duodenum on the front and left of the spinal column. The presence of the power to vomit in these patients is no proof that the stomach is not paralyzed. The condition has been mistaken for (1) Intestinal obstruction, (2) Perforative peritonitis, (3) Perforation of bowel with encysted abscess, (4) Pancreatic cyst, (5) Uræmia, and (6) Post-anæsthetic vomiting. 1. Of obstruction it doubtless is a form, but of obstruction high up, with obtrusive abdominal signs in the form of gastric dilatation. It must be noted, however, that diarrhœa is present and severe in some cases. 2, 3, and 4. The intense abdominal pain which is usually present, the vomiting, the increasing abdominal distention, and the very marked collapse closely mimic general peritonitis. The position of the percussion dulness in the lower part of the abdomen and right iliac region may, on a superficial examination, appear to confirm this suspicion. The enormously distended stomach has even been mistaken for an encysted abscess. 5. The incessant vomiting, the partial suppression of urine, the occasional albuminuria, the condition of somnolent delirium which may mark the approaching termination, and the "collapse" temperature which is sometimes but not always present, may well give rise to suspicions of uræmia. 6. In those cases which occur after operations, there is a great danger of attributing the vomiting to the anæsthetic and the collapse to the operation. Careful examination of the abdomen in these cases is the only safeguard.

British Medical Journal, November 9, 1901.

A Case of Recurrence of Laryngeal Papillomata in a Child After Tracheotomy.—E. Mansel Sympson reports this case. The patient was a girl aged seven years, who had been suffering for about two and one-half years from laryngeal obstruction due to multiple papillomata. Tracheotomy was performed, but the obstruction returned and the larynx became choked with papillomata. She was operated on again, and the papillomata were completely scraped away with a sharp spoon. She is now in excellent health and voice.

Treatment of Intussusception by Inflation and Succussion.—E. Blacker describes this case. The child showed all the usual signs of the malady, vomiting, tenesmus, with blood and mucus passing from the anus. This attack was the sequel to an attack of diarrhœa. No fæces had been passed for hours. The child's condition was precarious. The rubber part of an ether spray apparatus was attached to a No. 12 gum-elastic catheter. The point of the catheter was passed through the anus, and air was forced steadily into the rectum. The catheter was gradually passed higher and higher, till it seemed unwise to go farther. The child was then gradually inverted, and gentle succussion was practised. Almost before the inversion was complete, there was a forcible escape of air and fæces. All unpleasant symptoms vanished, and the relief was complete.

The Comparative Frequency of Syphilis Among the Circumcised and the Uncircumcised.—Arthur Powell of Bombay states that the police of that city are a mixed force of Hindus and Mussulmans in the usual proportion of 3 to 1. In the past nine years, there have been admitted to the police hospital 209 cases of primary syphilis from an average strength of 1,570 Hindus, and 105 cases from an average strength of 523 Mussulmans. Had the incidence been the same, the Mussulmans should have had only 70 cases. According to these numbers, instead of protection in equal populations, there should be more than 150 cases of syphilis among the circumcised for 100 among the uncircumcised. These figures are opposed to one's preconceived opinion. The proportion of married men is much the same in both sections. The comparative sexual morality is a negligible quantity.

Some Symptoms Produced by Tumors of the Optic Thalamus, with a Case.—J. Michell Clarke gives the following symptoms which occur in some cases of tumor of the optic thalamus, and which are valuable for diagnosis: (1) A sensation of heat or burning in the opposite upper extremity; (2) A marked intentional tremor in the same limb, absent during rest, and exactly resembling during movement the tremor of disseminated sclerosis; (3) Hemiplegia of the opposite side, of gradual onset, affecting the upper extremity only for a considerable time and predominating in this limb throughout. Other symptoms must, of course, be considered in making the diagnosis. Instead of the intention tremor, there may be choreiform movements. When the intention tremor is present, a differential diagnosis must be made between tumors of the optic thalamus, of the corpora quadrigemina, or of the

cerebellum. There is another symptom said to be characteristic of lesions of the thalamus, but apparently not invariably present; this is a loss of the emotional movements of the face, while the voluntary movements are preserved. The writer then reports a case remarkable for the absence of the three cardinal symptoms of intracranial tumor—severe headache, vomiting, and optic neuritis.

Berliner klinische Wochenschrift, October 28, 1901.

The Effect of Biliary Retention on the Secretory Activity of the Gastric Cells.—S. Simnitzky made eighty-one analyses of the gastric contents in catarrhal jaundice, hypertrophic cirrhosis, Weil's disease, and obstructive jaundice, due to a pancreatic tumor. He also made a series of observations on a number of dogs with œsophageal fistulæ, and with a portion of the stomach isolated in the Heidenhain-Pawlow method. The results of both methods of investigation showed that there is an intimate connection between the biliary organs and gastric secretion, retention of bile always inducing gastric hyperchlorhydria, which subsided again when the gall-passages returned to a normal state.

False Tumors of the Abdomen.—Max Einhorn avoids the term "phantom tumor," because what he describes is not the tympanitic distention seen in hysterics, and to which this term is applied, but a much more deceptive condition. Out of a total of 6,045 patients, the author observed it in eight men and thirty-four women, and five characteristic case histories are given in brief. In each, there was a mass in the upper part of the abdomen, which might easily have been mistaken for a new growth. The structures simulating such a condition may be a prolapsed left lobe of the liver, a thickened and exposed abdominal aorta, hypertrophy of isolated portions of the abdominal musculature, or adhesions (?) about the lesser curvature of the stomach. The following points are of value in making the differential diagnosis: The surface of the tumor is smooth, or at least presents no distinct nodules, and at times it may wholly or in part elude palpation. Enteroptosis is usually associated with it, while the condition is likely to be of long standing, and may occur at any period, from late youth to old age. In difficult cases, time gives the only absolute clue, and observation during several weeks will show increase in size of the tumor and aggravation of the symptoms in the case of a true neoplasm, while apparent tumors remain unchanged, or may, under suitable treatment, show improvement. Enteroptosis is a potent etiological factor, and improving the nutrition is of great importance in the treatment.

Münchener medicinische Wochenschrift, October 29, 1901.

A Case of Puerperal Sneezing.—K. Heil describes the case of a woman who, during two successive pregnancies, suffered severely from prolonged attacks of sneezing. This was so violent that in the first instance abortion resulted, but when the trouble recurred it was checked completely by the local application of 5-per-cent. cocaine solution. The author's explanation of the phenomenon is that the circulatory disturbances accompanying pregnancy caused relaxation and congestion of the nasal mucous membrane, which, in its turn, led to pressure on the filaments of the sensory nerves with the production of sneezing.

Some Observations on the Specificity of Bacteria.—P. Klemm, in a contribution intended mainly as a refutation of Jordan's observations on the organism of erysipelas, says that there are no radical differences in the effects produced by the various bacteria after their penetration into the human body. Totally different irritations can produce similar results, and erythema and serous infiltration, diffuse or in vesicles, follow mechanical injury, burns, freezing, chemical action, bacterial infections, etc. According to the severity and duration of the injury, the tissues may completely recover or go on to gangrene, necrosis, and liquefaction. There is, therefore, no obligatory specificity of the bacteria, but there is facultative specificity, and the action of various bacterial forms produces characteristic reactions in the tissues.

The Genesis of Tumors, Tuberculosis, and Other Organic Diseases After Blunt Trauma.—Jordan says that from the material available, the conclusion seems justified that in a general way blunt trauma may be of effect in producing tumors, but exact knowledge as to the actual part played is wanting. The latest statistics show great unanimity in indicating that a single injury only very rarely has the formation of tumors as a result. In 502 recorded cases of carcinoma at the clinic of Tübingen, not a single one was referable to the traumatism, so that it seems that in this form of growth such injuries play only a small part. The percentage of traumatic sarcomata is very small, but still is larger than that for cancer. In tuberculous joint diseases it is impossible to be sure that the disease did not exist before the injury, and was aroused from its latency by the formation of a *locus minoris resistentiæ*. Osteomyelitis may occur in close connection to injury, as also appendicitis, though in both cases the evidence cannot be regarded as conclusive unless the symptoms develop very soon after the accident.

Deutsche medicinische Wochenschrift, October 31, 1901.

The Theory of Fat Staining.—L. Michaelis says that a general rule may be expressed about as follows. Fat solubility and water solubility are reciprocal. Markedly basic or acid bodies are more soluble in water than their indifferent mother substances, and water solubility decreases and fat solubility increases proportionately as acidity or basicity is decreased by the abstraction of salt-forming groups. More definitely, the neutral dyes are, as a rule, specific fat stains. There are also weakly basic and weakly acid bodies which stain fat, viz., first, those which are so faintly acid or alkaline that the fat can extract the free base even from their salts, and secondly, those whose reactions are a little more pronounced, so that only the free base or acid has staining properties.

The Excretion of Typhoid Bacilli in the Urine.—Schüder examined the urine of twenty-two typhoid-fever patients, and found the typhoid bacillus present in five (22.7 per cent.). In all, 671 examinations were made, and the results showed that typhoid bacilli may be excreted in the urine in enormous numbers. It is particularly the more severe cases with albuminuric complications that are likely to give positive results, but the organism may be found even in less serious forms. The excretion of the bacilli may take place during the illness itself, or during convalescence. The latter seems to be the more common, and even weeks after defervescence, typhoid bacilli may be found in the urine. The practical application of these conclusions, which are confirmed by those of various other observers, like Chantemesse and Widal, Merkel and Goldschmitt, and others, is that very thorough disinfection of typhoid urine is necessary for a period of weeks after defervescence; and that this excretion, no less than the stools, is always to be regarded as a source of danger. It is particularly those who come in personal contact with the patient, *e. g.* in giving baths, who are exposed to infection from this source, and they should always be warned of its possibility.

French Journals.

Treatment of Varicose Ulcers by Fascicular Dissociation of the Sciatic Nerve.—A. Silvy shows that the varicose ulcer has a triple pathogeny—arterial, venous, and nervous. On account of the fact that this ulcer is a consequence of a disturbance of the trophic nervous system, he advocates as a rational method of treatment the fascicular dissociation of the sciatic nerve. The incision is made and the nerve exposed. It is supported on a blunt instrument, while its fasciculi are dissociated by a sound. The length of the nerve thus treated ought to be from 4 to 5 cm., and each one of the bundles separated ought to have a diameter of about 3 mm. In this operation only the fibrous tissue is torn; the continuity of the nerve is not destroyed. Sometimes the vessels are torn, but the hemorrhage is soon arrested. The operation is simple and rapid, and may be performed for this trouble, whatever may be the position of the ulcer.—*Journal de Médecine de Paris*, November 3, 1901.

Sarcoma of the Breast, Coincident with a Large Goiter.—H. Morestin reports this interesting case. The patient was a woman of fifty years. Since her youth, she had had a goiter which had developed very much during her two pregnancies, but since the last one it had remained stationary. The goiter was about the size of two fists, and occupied the right lobe. Palpation showed it to be a large thyroid cyst. It was not for the goiter, however, that the patient sought aid, but for a tumor of the left breast. This she had also had for a long time, and it had had two distinct periods of evolution. Over twenty years before she had noticed a small, hard nodule above the breast. At one time she had it treated by caustics; and although it had sloughed off, it returned again. It had now attained the volume of an adult head. The diagnosis of sarcoma was made, and this was later confirmed by histological examination. The tumor was extirpated, and a large wound was left. The goiter was incised and evacuated, and the large skin flap thus obtained was grafted on to the chest wound. The result was excellent, but the prognosis is undoubtedly bad, as recurrence is probable. This case is an example of the plurality of neoplasms, a coincidence of a benign and a malignant tumor associated in the same subject.—*Gazette des Hôpitaux*, October 31, 1901.

Surgical Interventions in Cases of Dystocia from Fibromata.—André Boursier states that fibromata can cause

dystocia in several ways: They may cause abnormal presentations (fetal dystocia); they may disturb uterine contractions (uterine dystocia); or, by their position, they may present a mechanical obstacle to the passage of the fœtus (fibrous dystocia). This last condition is most often caused by fibromata in the lower part of the uterus and the cervix. Pregnancy modifies fibromata in relation to their structure, their consistence, and their position. Consequently, the diagnosis of dystocia is often made only at term of or even during labor. Both fetal and uterine dystocia are suitable for obstetrical intervention. Fibrous dystocia calls for the same treatment when it is not severe. In severe cases it should be treated by surgical intervention. Fibromata of vaginal origin should be removed by the vaginal route. Those of the pelvic-abdominal type ought to be operated on through the abdomen. Symphysiotomy ought to be absolutely rejected in the treatment of fibrous dystocia. Cæsarian section is justifiable only in exceptional cases. It is, on the contrary, a good operation when it can be efficiently completed by myomectomy. The Porro operation ought to be reserved for certain particular cases, which are well limited. Total abdominal hysterectomy, a radical operation and truly curative, constitutes the method of choice and ought always to be employed when possible, whether the child be living or dead.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, November 3, 1901.

A Large Suppurating Hydatid Cyst of the Neck.—Léon Thévenot declares that hydatid cysts which develop in the soft parts of the neck, outside of the thyroid gland, constitute a rare affection. He reports the case of a man of fifty-five years who had noticed the presence of a tumor in the left side of the neck for the last four years. There was nothing significant in the family history. The growth had developed without apparent cause, without pain, without functional troubles, and, in fact, it was only by chance that the patient had discovered it. It was at first about the size of a hazelnut, and was deeply situated in the upper part of the neck. It was freely movable, and entirely independent of the superficial parts. It continued to develop until within two years it had reached the size of an apple. Its growth then ceased. After an attack of grippe, severe general symptoms developed, high fever, gastric disturbance, headache, and a systemic condition that was rather alarming. At the same time the tumor became larger and painful. On examination, there was seen a large phlegmon involving the left half of the neck. The region was hot, red, and painful. The skin was œdematous. Fluctuation showed the presence of pus. The abscess seemed to point toward the skin. The diagnosis, as far as the determination of a cyst was concerned, was easy enough; but its precise nature was more difficult to determine. An operation was performed. The cyst was found to be hydatid; it was evacuated and drained, and the patient made a good recovery.—*Gazette des Hôpitaux Civils et Militaires*, October 29, 1901.

The Scottish Medical and Surgical Journal, November, 1901.

The Study of Individual Cases.—Charles W. Cathcart urges the clinical study of surgical cases for undergraduates. Recollection of what a teacher says is one thing, and valuable in its way, but actual knowledge acquired by personal observation is a totally different thing, on an infinitely higher platform. He warns his students that at class examinations he will, in addition to having a written paper upon subjects which have been discussed at lectures, expect them to tell from naked eye and microscopic specimens what they are, and to give the clinical history of the patients from whom they were taken. Instruments will be shown, and the students will be asked to explain the uses to which they were put during the session, as well as the purposes for which they are usually applied. They will be asked to apply some bandage or splint, and to answer questions about what has been seen in ward visits and clinics.

Some Observations Upon Dietetics in Pulmonary Tuberculosis.—Noel D. Bardwell made researches on the effects of ordinary and forced feeding upon metabolism in tuberculous patients. He found (1) That patients when not closely supervised did not get a sufficient amount of food, though plenty was given, so that patients on the hospital routine improved quicker when under closer observation; (2) The patients in the special sanatorium wards did excellently in every respect. The diet, three meals daily, was made up of meat, 7 oz.; bacon, 2 oz.; egg, 1 oz.; milk, 3 pts.; butter, 3 oz.; bread, 7 oz.; sugar, 1 oz.; pudding, 5 oz.; vegetables, 6 oz.; (3) Patients on this diet, when given a considerable larger amount of food, such as 6 or 7 pints of milk, 12 oz. or more of meat, in a few cases with several ounces of somatose or lactose in addition, did not give such satisfactory results. Weight was gained at a greater rate, but often was associatep with deterioration of general health and laboratory results indicating deranged metabolism.

Heredity.—Robert Park holds that environmental influences can reach the embryo only through the medium of the vascular and nervous system of the female; and similarly, in both male and female, the germplasm is protected by the somatic structures, and it is but reasonable to suppose that only very intent or very prolonged and repeated alterations of these can effect alteration of it. And then, when such has been achieved, it must be seized upon by natural selectivity before becoming phylogenetically efficient to induce variation. The rôle of the parent, thus, in regard of the germplasm is rather that of a trustee than of a testator, and it would be difficult to exaggerate the fruitfulness of this idea from an ethical point of view. The great bulk of acquired characters are not inherited, as a matter of course, for if they were, there would be no stability of species. Only those are transmitted normally which are, so to speak, approved for the species by N. S. (letters used conventionally apparently to personify the unknown influence exerted), and which thereafter succeed in running numerous dangers in the preconceptional and ante-natal struggles for existence. The exceptions to this must be classed as abnormal, howsoever numerous they may be.

New Orleans Medical and Surgical Journal, Nov., 1901.

Thirty Cases of Acute Lobar Pneumonia with Twenty-nine Recoveries.—E. D. Newell ascribes his excellent results to the following treatment: A dose of five to ten grains of calomel was given and was followed by magnesium sulphate, if the bowels did not move freely. Strychnine sulphate ($\frac{1}{16}$ grain) was begun on the first day in every case, and given every fourth hour day and night. When the pulse was 135 or above and weak, $\frac{1}{30}$ grain strychnine sulphate was given every four hours; when above 145, every three hours, and when 160, and scarcely perceptible at wrist, and when the patient was cold, clammy, dimly conscious and panting for air, then $\frac{1}{20}$ grain strychnine was given every three hours, and one ounce of the best whiskey every two hours.

Malarial Hæmoglobinuria.—Otto Lerch says that in the treatment of this condition, it must be borne in mind that quinine has no curative influence; it destroys the plasmodia, but if enough has been taken to accomplish this object, we aggravate the case by adding one more toxic substance to those already present. Absolute rest is of paramount importance. Fresh air is the next indication. The primary lesion is an intense anæmia; the red blood corpuscles are enormously decreased in number, their chemical composition is changed, and they are especially deficient in hæmoglobin, so that the physician should see to it that every corpuscle that is able to carry oxygen should have a chance to grasp it. Pure air is the best thing, but inhalations of oxygen may also be tried. The emunctories must be cleared, the anæmia is to be treated with iron and arsenic, and the diet must be carefully regulated.

The Ultimate or Predisposing Cause of Dermatoneuroses.—J. N. Roussel makes a distinction between nerve matter and nervous matter, comparing the former to the storage battery and its component parts, and the latter to the current. The nervous matter is an example of the homogeneous in nature and of the unstable. All functions are presided over by nerve centers, in which is locked up a quantity of the unstable nervous matter, placed most favorably for being acted on. Every excitation of a nerve center reduces, for a time, this quantity of locked-up nervous matter, leaving a decreased readiness to undergo changes when disturbed, as well as a decreased stock of molecular motion to be liberated. The perfect execution of the functions of any particular organ or set of organs depends ultimately on the perfect development of their governing centers in the brain. The nerve matter also, as well as the nervous matter, being in the beginning homogeneous and unstable, must necessarily, in the process of development, undergo a change to heterogeneity or stability properly to govern the more unstable nervous matter; and, according as the development of these specific portions of nerve matter is or is not perfect, so will the function over which they preside be normal or otherwise. The proposition follows that in that condition of unstable equilibrium which these centers obtain from lack of development lies the ultimate or predisposing cause of all the affections of the skin and other organs depending upon derangements in the nervous apparatus, and their cure lies in our ability to restore their equilibrium when disturbed.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

One Hundred and Sixty-fifth Regular Meeting, Held on Friday, October 11, 1901.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

A Case of Tuberculous Pericarditis, with Presentation of Specimen. Reported by Dr. BEVERLEY ROBINSON. The patient was a colored man, twenty-three years old, a native of the United States, who was admitted to the hospital on April 15, 1899. His family history was negative. He was formerly a heavy smoker, but for a number of years had neither smoked nor drunk. He had gonorrhœa two years ago. There was no history of syphilis or rheumatism.

The patient considered himself perfectly well until one week previous to his admission, when he thought he "caught cold." He had no chill, but complained of a pain in the lower chest, anteriorly, and great difficulty in breathing. He had a short cough with scanty expectoration, and the sputum was not rusty. He could lie on either side, but did not rest comfortably on his back.

Examination showed an area of dulness, about the size of the palm of the hand, in the region of the left nipple, with a few subcrepitant and sonorous râles, and prolonged and high-pitched breathing. There was a corresponding area in the posterior chest and high up in the left axilla. The tongue was moderately coated. The pulse was rapid (120) and irregular. His temperature on admission was 103° F.; respirations, 30. There was considerable pain on both sides of the chest. The urine was acid; sp. gr., 1030; it contained 2 per cent. of albumin, together with hyaline and granular casts; no sugar.

On the second day, dulness and feeble breathing were found at the right base, posteriorly. A needle was introduced and clear fluid withdrawn. On the following day the heart sounds were very feeble. Cardiac dulness extended two inches to the right of the sternum. The apex could not be made out, and no murmurs were heard. The Widal test gave a negative result. On April 25, the urine showed 15 per cent. of albumin and many casts. The cough was becoming more troublesome. Sibilant and sonorous râles were heard over both chests. There was no fluid in the right chest.

On May 3, a radiograph verified the area of cardiac dulness mapped out by percussion. The dulness extended four inches to the right of the mid-line at the fourth rib, and eight inches to the left. At the second interspace, it extended three and one-half inches to the right, and five inches to the left. In the nipple line the dulness extended to the seventh rib.

On May 4, 1899, the pericardium was aspirated in the fifth space, two inches from the mid-line, and forty ounces of a reddish-brown fluid withdrawn. Following this, the respirations became easier and deeper, and there was great improvement in the force and character of the heart-beats. Four days later he developed a phlebitis in the left leg, and the pericardial friction sounds became more distinct. On May 17, the expectoration was blood-streaked. No tubercle bacilli were found. The pericardium was again aspirated, and forty ounces of maroon-colored fluid obtained. After aspiration, cardiac dulness extended five inches to the right and five inches to the left of the mid-line. The temperature was now more irregular, falling to normal in the morning and going up to 101° or 102° F. in the afternoon. A phlebitis developed in the right forearm. The friction sounds were moderately loud.

During the next two weeks, the patient was much improved and was able to sit up in a chair. The heart's action was more forcible and regular. On June 2, fluid was found in the pericardium by exploration. The temperature remained below 101° F., but was still irregular. The urine contained from 50 per cent. to 60 per cent. of albumin and many casts. Its specific gravity ranged from 1020 to 1025.

On June 20, the pericardium was again aspirated, and twenty-eight ounces of brownish fluid obtained. The bacteriological examination of the blood was negative. The heart's action was rapid, feeble, and irregular. On July 16, a radiograph showed that the right border of the heart extended beyond the right nipple line. A needle was inserted just below the right nipple, and brownish fluid found, which contained tubercle bacilli. The patient died on July 18.

After death, the heart showed nothing abnormal except a thick coating of fibrin and granulation tissue, which contained tubercle bacilli and giant cells. This layer measures from 1 to 2 cm. in thickness all over the surface of the heart. It is quite spongy and rough, with long shaggy masses of fibrin hanging from the outer surface. The pericardial sac is thickened quite symmetrically and distended so as to form a large oval sac, with its greatest diameter in a transverse position. The dimensions are 20x18x15 cm., roughly. The heart is not adherent to the pericardium, but hangs quite free in the sac. The walls of the pericardial sac are from 3 to 5 mm. in diameter. Microscopical sections show tubercle tissue and giant cells.

The bronchial lymph nodes are tuberculous, which suggest the source of infection, many of the cases showing advanced lymphatic tuberculosis, with a beginning pericardial lesion.

Dr. ROBINSON referred to the comparative rarity of cases of tubercular pericarditis, and discussed the question of the position of the heart when there is pericardial effusion. In purulent pericarditis, which more particularly interests the surgeon, it has been pretty well determined by observation and experiment that the heart is compressed against the thoracic wall. With serous exudations, however, it is more difficult to make out the exact position of the heart. It is not easy, at times, to distinguish between an enlarged heart and a pericardial effusion unless the latter be very considerable in quantity. When the heart is suspended in a serous exudation, there is only a thin layer of fluid between its anterior surface and the pericardium; and hence, on aspiration, only a small quantity of fluid may be obtained even in cases where the effusion is very great. This point was emphasized in a paper by Dr. Shattuck of Boston, which he read before the Association of American Physicians some years ago.

With reference to the site of puncture in cases of pericardial effusion: The classical site is in the fourth or fifth interspace, two inches from the mid-line. Sometimes we get fluid at that point, but there are observers who think it wiser and more judicious to puncture rather farther toward the left, while in some cases the fluid extends considerably beyond the right sternal margin.

As regards the danger of puncturing the heart, Dr. Robinson said that, while it was not a desirable accident to happen, he recalled one case where his aspirating needle punctured the ventricular wall without apparent injury.

In connection with effusions in the pericardial sac, the questions arise, When shall we do the radical operation, and when should we depend on simple puncture? In the purulent cases, the latter procedure will probably be of only temporary value, as the fluid rapidly re-accumulates. In the case just reported, life was doubtless prolonged by the aspirations. In purulent pleural effusions, it is true, the patient may ultimately recover after two or three tappings; but this same rule cannot be applied to the heart, and is even very exceptionally to the pleura;

it is wise to remember that there is only one heart, while there are two lungs.

In the case of tubercular pericarditis, which came under the speaker's observation last spring, the pericardial effusion was left undisturbed. The autopsy showed a layer of fat underlying the cellular tissue and infiltrating the heart muscle. In that case, life might possibly have been prolonged by aspirating. Dr. Robinson said that, when once the diagnosis of tubercular pericarditis is established, the case should either be aspirated or turned over to the surgeon.

Dr. George L. Peabody said that, in his experience, tuberculous pericarditis is likely to be accompanied by very copious effusion. When the fluid reaccumulates after one or two tappings, especially in youthful patients, one is apt to suspect the tuberculous character of the disease. As to where the heart lies in cases of serous effusion, the speaker said he had found that the organ follows the ordinary law of gravity, and is usually found in the most dependent portion of the pericardial sac, the subject lying upon its back. When the heart is much enlarged, there is great liability of puncturing it. Dr. Peabody said, he could recall several instances where this accident occurred; but it is not apt to be followed by serious results, if the needle is clean and not of unusual size. He did not think it advisable, in cases of pericardial effusion, to make an open wound and establish drainage, unless there was suppuration. As to the site of puncture, the favorite point is to the left of the sternum, in the fourth or fifth interspace. When there is an enormous area of dulness, we will probably get fluid by puncturing to the right of the sternum, and are less likely to injure the heart.

Dr. Edward G. Janeway said that, as a rule, he thought it was preferable to select the left side for puncture, being careful to avoid the internal mammary artery. We should endeavor to ascertain beforehand from the history whether or not the heart was enlarged; if it was not, we might go lower than the fifth interspace and strike upward. The speaker said he preferred the needle to the trocar and canula for the purpose of tapping the pericardial sac.

As regards puncturing the heart, Dr. Janeway said he had done this occasionally for diagnostic purposes; he recalled one case, that of a man, who was cyanotic and in a desperate condition, where a needle was inserted for the purpose of determining whether the area of dulness was due to a dilated heart or to the presence of pericardial fluid. In another case, one of emphysema, he introduced the needle into the right ventricle without doing any harm. A few years ago a physician in Brooklyn, Dr. Westbrook, proposed aspiration of the right heart for the relief of overdistention. In the case of serous effusions of the pericardium, Dr. Janeway thought that aspiration was sufficient, while in the purulent cases an incision and drainage would be preferable.

Dr. W. Gilman Thompson said he certainly was not in favor of surgical intervention in cases of simple serous exudations into the pericardial sac. Aspiration was sufficient and preferable to an open wound. He mentioned a case in which he had accidentally punctured the heart, without resulting harm.

Dr. Robert Abbe said that if he was brought face to face with a case of pericardial effusion of the tuberculous type, and the symptoms were urgent, he would feel strongly inclined, on general principles, to advise surgical interference. We know that purulent effusions are perfectly curable by free drainage of the pericardial sac, and that to produce fibrous occlusion of the sac, as we do with the peritoneum, is in nowise disastrous. The speaker said that while he has had no experience with this operation personally, he thought it could be undertaken with a fair expectation of success. When the effusion is serous, simple aspiration would probably be sufficient.

Dr William M Polk said he wished to add his testimony to the innocuousness of puncturing the heart. In 1878, he saw a case of pneumonia on the left side. The dulness was attributed by mistake to the presence of a pericardial effusion, and a needle was introduced. No fluid was found, and the movements of the needle showed that it had entered the heart muscle. Subsequently, the patient died of pneumonia, and the autopsy revealed the fact that the left ventricle had been punctured without apparently doing any harm. There was a simple puncture, without any tearing of the muscle.

Dr. Peabody reported the case of a middle-aged man who was suffering from rheumatic pericarditis. The pericardial sac was apparently much distended, the area of dulness increasing day by day, so that it was reasonably certain that fluid was present. Upon the insertion of a needle, however, no fluid was obtained, and the man complained of a great deal of pain. It was thereupon decided to postpone further efforts until the following day. Subsequently, upon examining the needle, it was found that its tip was tightly plugged by a bit of hyaline cartilage, which had evidently prevented the entrance of fluid. It had lodged there during the introduction of the needle, which had been passed through the edge of the costal cartilage. The outcome of this case, Dr. Peabody said, was interesting. After the ineffectual attempt at aspiration, the fluid in the pericardial sac rapidly subsided, and the patient recovered without the necessity of further puncture.

The President, Dr. Bryant, said he thought the best site for puncturing the pericardial sac was between the sixth and seventh ribs, close to the left edge of the sternum; at this point we escape the mammary artery without, and there is no danger of wounding the pleura, or heart, as the parts concerned bear a substantially normal relation with each other. The speaker said there were cases of suppurative pericarditis on record which had been treated by free incision.

The Interpretation at the Bedside of Clinical Laboratory Tests.—Dr. W. Gilman Thompson read an interesting paper on this subject, in which he discussed the value of the various laboratory tests which are now commonly employed in connection with clinical work.

Dr. James said that the growing tendency on the part of the profession to lean too heavily upon laboratory examinations as aids to diagnosis was a result of the natural craving for some more simple and certain method of establishing the nature of disease than by the use of the old-fashioned clinical examinations.

In a great many cases, however, such confidence leads to errors, chiefly from failure to realize two facts: First, that in most cases a laboratory test, the result of which is negative, does not exclude the presence of the disease in question. Second, that in most cases the personal element of the examiner enters into the result just as it does in the case of auscultation and percussion, and other ordinary methods of investigation. The value of a Widal test in typhoid fever, or of an examination of blood for the malarial organisms, depends largely upon the personality of the examiner.

The speaker said that during the past few months he had seen a number of cases in which the correct diagnosis would probably have been arrived at, had the attending physician limited himself to the simpler methods of investigation, and not had his mind clouded by the failure to get a positive laboratory report.

Dr. James said that he did not wish to disparage in any way the excellent work that is being done in the laboratory, nor the influence of this work in aiding thorough medical study. He wished merely to emphasize the necessity of a more critical judgment on the part of practitioners of medicine in estimating at the bedside the value of these tests, and in coming to know more clearly their limitations. We should probably make fewer errors of this kind if we bore constantly in mind the

excellent advice of Sir Thomas Browne, when he urges to "look not for whales in the Euxine sea."

Dr. Robert Abbe said that, while he resorted to the test-meal in cases of suspected cancer of the stomach, he regarded this measure as of comparatively insignificant value. In cases of early carcinoma of the stomach, when we most need its assistance, it fails us, and when the disease has advanced to the point where the clinician recognizes it, the condition is usually inoperable, except for palliative measures.

Increased leucocytosis, Dr. Abbe said, he regarded as a very valuable aid in the diagnosis of suppurative conditions, but it is secondary in value to the temperature chart. Blood examination furnishes us with early and accurate information to differentiate other processes occurring after surgical operations, and in the diagnosis of such conditions as malaria or typhoid, coming on during convalescence.

Dr. Hermann M. Biggs said that in determining the value of these clinical tests, there are a number of factors that are often overlooked. First, there arises the question of the accuracy of the procedure. In the New York Health Department cases are of common occurrence where wrong bacteriological findings resulted from the fact that the physicians did not carefully follow directions in preparing the specimens. It is of the greatest importance that the directions given, as to preparation of all kinds of microscopical bacteriological specimens, be exactly followed. Then, again, we should be able to place absolute reliance upon the competence of the bacteriologist. Unless the examiner is thoroughly capable, we are certain to be led astray, and the examinations are worse than worthless. Again, a distinction must be made between a positive result and a negative result. A positive result, made by a competent man, leaves no question as to its interpretation. Negative results may be valuable, or they may be absolutely valueless. The results of a blood examination, when they are positive, are of great value.

Dr. Biggs said that many errors in the examination of cultures from the throat for the diphtheria bacillus were due to the fact that the cultures were not properly made. Ofttimes the practitioner does not take the time carefully to read the instructions of the Health Board, or else fails to follow them.

Dr. Charles L. Dana spoke of the relation of uric acid to lithæmia and kindred conditions. He had observed a class of patients, generally middle-aged or elderly, who had neurasthenic symptoms, such as migraine, insomnia, mental depression, vague pains, paræsthesia, etc. The symptoms progressed rather steadily, often becoming associated with some evidences of arterial sclerosis; sometimes they developed a slight amount of glycosuria. The symptoms in these cases were always associated with a real and constant increase of uric acid. This appears to be the most constant factor in metabolism discovered. He did not attempt to interpret it.

Dr. Dana said he had examined the urine for indican in a routine way for many years, but only occasionally had it apparently borne any relation to the condition of the patient. In a recent case of sensory multiple neuritis there was persistent and marked indicanuria, and when this disappeared, after several months' treatment, the neuritis gradually abated.

Dr. Dana said that some years ago, while investigating the subject of the alcoholic wet-brain or serous meningitis, he found that with the ordinary wet-brain there was no leucocytosis; but when true meningitis developed, the leucocytosis appeared. This proved of much help in the diagnosis, and it is also very valuable in the recognition of obscure cases of serous meningitis and encephalitis, and to determine the presence or absence of brain abscess.

Dr. Janeway said he was in general accord with the statements contained in Dr. Thompson's paper, and had long felt and said so. He had seen many failures result from a single bacteriological examination, and even in very good laboratories, at times, mistakes are made. He recalled a case of post-cæcal abscess from a gangrenous appendix which had been positively pronounced typhoid fever by the pathologist, who reported that there was no leucocytosis and that he had obtained a distinct Widal reaction, and that the case was an undoubted one of typhoid fever. The pathologist in this case was a reliable man, and it is probable that he got his specimens mixed, as no Widal reaction could be found, and the leucocytosis was 34,000, when I saw him.

During the past three years, Dr. Janeway said, he had seen three cases of typhoid fever which were mistaken for appendicitis and operated on, and had knowledge of other similar mistakes. Such an error, he thought, could usually be avoided by a leucocytic count, as a low leucocytic count should, as a rule, make one delay, unless in a doubtful case of urgent nature. In malarial conditions, the blood examinations often give unsatisfactory results and must be repeated. In one case where the clinical symptoms of malaria were very clear, the parasites were not found in the blood until the third and fifth examinations. Dr. Janeway said he could recall four cases where tubercle bacilli were found in the sputum of persons who gave no other evidences of tuberculosis at the time or subsequently. How did they get there? One case was that of a boy who was brought to the hospital in an unconscious condition. He had a high fever, and râles were heard over the chest. His sputum was sent to the laboratory, and the report came back that it contained tubercle bacilli. Prior to this, his history was obtained and showed that he was ill with a fever such as several of the family had, one having died with typhoid fever. The case proved to be one of typhoid fever, and there were no further evidences of tuberculosis. In another case, one of bronchitis, the tubercle bacilli were found in the sputum by one observer. Examinations in two laboratories were negative, and chemical phenomena warranted the diagnosis of bronchitis only.

The search for malarial parasites in the blood should be made by one who is thoroughly competent. In a case which came to the speaker's knowledge, the patient, a woman, developed a high fever after childbirth. A specimen of her blood was sent to a laboratory, and the pathologist reported that the case was one of malaria. Three days later her physician put in a needle, and drew a quart of pus out of the peritoneal cavity.

Dr. M. Allen Starr said that, as the result of his observations, he did not think there was any necessary relation between neurasthenia and the presence of uric acid in the urine. A couple of glasses of sherry, or too free indulgence in a meat, acid, or tomato diet, will produce an excess of uric acid, but there may be no increase in the neurasthenic symptoms. Any intestinal indigestion will, however, cause a decided aggravation, and be shown by the appearance of indicans in the urine.

As regards the use of the Röntgen ray for diagnostic purposes, Dr. Starr said he knew of three cases of tumor of the brain where the Röntgen ray had been employed and had not given any indication of the presence of the growth.

Dr. Peabody said that his experience coincided with that of Dr. Thompson in regard to the late occurrence of the Widal reaction in many cases of typhoid fever. We usually cannot expect it until the end of the third week, and hence it is worthless as a means of early diagnosis. As to stomach reactions, we can state that the persistent absence of hydrochloric acid in the stomach contents is corroborative evidence of carcinoma, while its persistent presence is corroborative of the absence of carcinoma.

The reliance that is placed by many physicians upon the results of laboratory tests is often to the detriment of the patient. He knew of cases of undoubted malaria, where the patient was allowed to have chill after chill,

quinine being withheld until the report of the pathologist was received.

Dr. Peabody asked Dr. Biggs how much importance should be placed upon the persistence of the Klebs-Loeffler bacillus in the mouth of a patient who has had diphtheria, but who has been perfectly well for two or three weeks. It is known that the bacillus may persist in the mouth for many months.

Dr. Biggs replied that this question had been discussed by the members of the Health Department several years ago, and it was decided that the matter of isolating patients living in a private house after the bacillus had persisted in the throat for a certain length of time should be left entirely with the attending physician, with the proviso that the family should be informed of the possibility of infection, and that the patient should not be permitted to come in contact with children. In the case of children, however, it was decided that they should not be permitted to attend a school of any kind as long as bacilli persisted in the throat. There is no possible question that these cases are dangerous sources of infection, and that the severest types of diphtheria may originate from them.

Dr. Robinson said that in blood examinations he considered it important to have the specimens in a certain case examined by the same pathologist, as each one follows a certain technique which probably causes an appreciable difference in the result obtained.

SOUTHERN SURGICAL AND GYNECOLOGICAL SOCIETY.

Proceedings of the Fourteenth Annual Meeting, Held in Richmond, Virginia, November 12, 13, and 14, 1901.

First Day, November 12—Morning Session.

The Association met in the Robert E. Lee Hall on Broad Street, under the Presidency of Dr. Manning Simons of Charleston, S. C.

A short but eloquent address of welcome was delivered by Hon. Eppa Hunton, a distinguished member of the Constitutional Convention, which was responded to by President Simons.

After a brief report from the Chairman of the Committee of Arrangements, Dr. Johnston, the reading of papers was proceeded with.

Laceration of Cervix.—Dr. E. S. Lewis of New Orleans, La., read a paper entitled "Laceration of the Cervix and Its Consequences." He said that lacerations of the cervix were productive of more functional and organic disturbances than had heretofore been supposed. Emmet was the first to draw attention to the more frequent occurrence of cancer upon a lacerated than upon a nulliparous cervix. The fascination of abdominal surgery, the brilliant results achieved, and the increasing scope of this work had, in a measure, diverted attention from these minor injuries, which, when neglected, proved most serious, and had an important bearing upon the health, happiness, and life of women. It was not the author's intention to add anything to the literature of this subject, but simply to awaken attention to the importance of the topic which had, in a measure, been lost sight of, and to emphasize what had been so emphatically and graphically described by Emmet. Lacerations of the cervix were of frequent occurrence. There was no question as to the course to be pursued by the accoucheur in lacerations of the perineum, although of less significance than tears of the cervix, as to final results. The different forms of cervical lacerations were described. In moderately recent cases, the classical Emmet operation could not be improved upon; yet, in certain long-standing cases, where the cervix had become thickened enormously from hyperplasia, the Emmet operation would fail to afford relief. In such cases he had used the Schroeder operation, or a modification of it, with gratifying results.

Vaginal Puncture or Incisions for Puriform Disease or Exploratory Purposes are Unsurgical Procedures.—Dr. Joseph Price of Philadelphia, Pa., read a paper with this title. He said the members were familiar with the results of an ideal and complete suprapubic procedure. He had been asked frequently during the past year to see and re-operate on patients upon whom vaginal incisions or puncture methods had been practised. In three very recent operations for the removal of pelvic contents, puncture and vaginal incisions complicated the sections that would have been otherwise comparatively easy. The vaginal fixation, closure of the openings, refilling of puriform or serous sacs, were only local complications; the general condition of the patient became rapidly unfavorable for favorable abdominal work. He was satisfied that the ancient methods of evacuating puriform accumulations, that of cautery or caustics, was much more scientific than the present methods of vaginal incision. Operators, who practised vaginal incisions, never know the precise pathological conditions; they puncture or incise a puriform accumulation and guess at a name, ovarian abscess, pus tube, or pelvic abscess; if the fluid evacuated was serous in nature, they called it encysted serous effusion. The probabilities were that it was a dropsy of the tube or hydrosalpinx. Puriform tubes, as large and tortuous as one's flexed thumb, should never be overlooked or punctured, in his estimation. The error of puncturing an ovarian abscess, or small dermoid—two conditions very commonly found, and both easily enucleated—should never be made. He had never known a patient cured by the methods referred to. The general condition of patients, the rapid restoration to health following clean extirpations from either above or below, were striking when compared with the patients traveling around, seeking relief and health, after the timid, incomplete procedures under discussion.

Dr. Geo. H. Noble of Atlanta, Ga., stated, as a contrast to the experience of the essayist, that he had treated six cases by vaginal incision and drainage, with very good results, but favored operating through the abdomen, and doing more complete procedures where the condition of patients permitted.

Dr. Rufus B. Hall of Cincinnati, Ohio, said he had practised vaginal puncture and drainage in cases in which it was not prudent to do more radical operations on account of the condition of the patients. He had always emphasized the fact to both patients and friends that this operation was not done for curative purposes; that it was a makeshift, and that a more radical operation by the abdomen would have to be done later to afford permanent relief. It was his experience that a large majority of such women returned for radical operations, sooner or later.

Dr. W. D. Haggard, Jr., of Nashville, Tenn., said there were patients who completely recovered from vaginal incision and drainage, and cited an interesting case in point. He fully expected to do an abdominal section in this case to remove a diseased tube and ovary, but apparently the disease had expended its course.

Dr. Lewis S. McMurtry of Louisville, Ky., spoke of the great change that professional opinion had undergone in late years in regard to the operative treatment of pus in the pelvis in women. He referred to the early history of the vaginal operation and its great popularity for years; but, now, French and German surgeons were resorting to the suprapubic route in dealing with puriform collections in the pelvis. These operators were compelled to adopt this route, as their patients only partially recovered from vaginal incision and drainage.

Dr. Edwin Ricketts of Cincinnati, Ohio, did vaginal puncture in a case in 1886. After her first delivery, the woman had a severe pelvic inflammation with pus, and her condition was such as to contraindicate an abdominal operation. She recovered and subsequently bore four

children. When patients did not get well from vaginal puncture and drainage, the abdomen should be opened, and the diseased appendages removed.

Dr. George S. Brown of Birmingham, Alabama, held that vaginal puncture and drainage in some cases should be practised as a life-saving measure. He mentioned six cases that he had in the last four or five years in young or recently married women of gonorrhœal infection of the tubes. In these he resorted to vaginal puncture; most of the patients were treated as emergency cases, and, so far as he knew, only two or three of them had been re-operated.

Dr. Price, in closing, said he had practically abandoned vaginal puncture and drainage in the class of cases referred to in the discussion, as it was not only a blind, but an incomplete, procedure.

First Day—Afternoon Session.

Treatment of Pelvic and Abdominal Tumors Complicating Pregnancy, with Report of Cases.—Dr. Rufus B. Hall of Cincinnati, Ohio, read a paper with this title in which he reported four cases. The conclusions arrived at from the cases narrated may be summarized briefly as follows:

In the very small percentage of cases, in which malignant tumors are the cause of the obstruction, they should be dealt with according to the well-established principles of modern surgery. The operation should be made at once without any reference to the child, if, by so doing, there is any additional chance of saving the life of the mother. If the ovarian tumor is thin-walled, of large size, and rapid growth, and the patient is not near her full term of gestation, an operation should be advised, even if the uterus is below the tumor. If the tumor is thick-walled and of slow growth, is not causing much, if any, inconvenience, and rides above the enlarged uterus, an operation is not urgently demanded. If the tumor is small in size, is situated below the uterus, and is fixed either by adhesions or impaction, an immediate operation is demanded. Tapping the tumor for temporary relief should not be done. In fibroid tumors of the uterus, associated with pregnancy, where there are but one or two large nodules, and they are located in the upper half of the uterus, an operation should be advised only in rare instances. These patients can be delivered safely and be operated later, if necessary. If the tumor is below the pregnant uterus and a large nodule blocks up the passage, an operation should be advised and made early. Myomectomy is usually not to be considered in these cases on account of the increased blood supply. The writer would advise it only when an exceptionally favorable tumor for this method is encountered.

Dr. Virgil O. Hardin of Atlanta said he had had some experience with the tumors described complicating pregnancy, and that his conclusions were essentially the same as those enunciated by the essayist. He mentioned two cases of ovarian tumor complicating pregnancy, in which he thought it advisable to operate. These cases were singularly alike; both were primiparæ, and operated during the fourth month of pregnancy. The tumors were removed; the woman recovered, went to full term, and the children are living. He had seen many cases of fibroid tumors complicating pregnancy; but where the fibroid is so situated as to exert no pressure upon the uterus and thereby not to interfere with pregnancy, he thought there was no indication for operation in such cases until pregnancy had been completed.

Dr. Geo. H. Noble of Atlanta said his observations were practically the same as those that had been given. The removal of a fibroid tumor complicating pregnancy should be based upon mechanical obstruction to labor. Ordinarily, of course, there were exceptions, as a twisted pedicle, inflammatory conditions, etc.; then the tumor should be removed. If the tumor or tumors were in the lower segment of the pelvis in advance of the fœtus, it was necessary to remove them, or the uterus must be evacuated; and as these tumors can be removed with considerable safety and with a chance of saving the life of the child, it was a feasible operation. Dr. Noble narrated cases in point.

Dr. W. D. Haggard of Nashville cited a case which he saw with Dr. Fort, in which a myomectomy was done. The patient was a colored woman, who had been married ten years, and was sterile. She was three and a half months advanced in pregnancy, and had two subserous fibroid tumors—one about the size of an orange on the right side, on the anterior face of the uterus, the other one about the size of a baby's head on the left side, and near the fundus. Both tumors were removed easily without any deleterious effects; the woman was subsequently delivered of a full-grown, living child.

Dr. Hall, in closing, said there were some cases of fibroid tumors complicating pregnancy; also ovarian tumors, that had better not be operated during gestation for the reasons given in this paper. The case mentioned by Dr. Haggard was a favorable one for myomectomy.

A Unique Case of Extrauterine Pregnancy.—Dr. H. Tuholske of St. Louis, Mo., contributed a paper with this title, which was read by Dr. Jonas in the absence of the author. The following is a résumé of the case: Tubal pregnancy (ampullar) of the right side. Tubal abortion with complete extrusion of the gestation sac, unruptured and containing fœtus; hemorrhage and position carried the sac up to the diaphragm between the right lobe of the liver and upper end of the kidney. Implantation of the parietal peritoneum of the diaphragm as far forward as the attachment of the coronary ligament, and in the liver from its upper border to the transverse fissure, down the diaphragm posteriorly and in the upper end of the kidney. Establishment of placental connections, allowing the development of a well-grown living child, and pushing the liver in its growth toward the left and turning it upon its axis, with the coronary ligament as a fixed point, until the right margin of the liver becomes the anterior. Histological examination showed original implantation in the ampulla of the right tube, and the formation of a placenta by efficient transformation of the peritoneum and the liver tissue adjacent. The diagnosis of the case from its history was confirmed by clinical, operative, pathological, and histological evidence.

The Surgical Treatment of Painful Menstruation.—Dr. Henry D. Fry of Washington, D. C., in this paper stated that pain should not occur at the menstrual period in a healthy woman with healthy pelvic organs. This dual relation between the general health and the generative organs must be constantly kept in mind. One or the other may be at fault, or the trouble may be with both in the same cases. In such cases as demand both medical and surgical care, it is important not to overlook the former. The concentration of attention too closely to the surgical aspect of the case is often the cause of failure to give relief. Surgical treatment carries with it the need of making an examination of the pelvic organs. As these sufferers are nearly always young girls or unmarried women, the indications must be clearly manifest. The character and severity of the pain, its duration and the condition of the patient during the intermenstrual period, must be considered. What results can be expected from surgical treatment? In the discussion of this subject before the last meeting of the American Gynecological Society, the reflected opinions presented a gloomy picture for the woman. His object in presenting this paper is to protest against that verdict rather than offer any original method His experience has been just the opposite. Failure to give relief has been due, as a rule, to some complication, the removal of which subsequently resulted in cure. The line of treatment followed with such satisfactory results is that pointed out in the main by Gill

Wylie: First. thorough dilatation of the cervical canal; then the endometrium is gone over carefully with the sharp curette; irrigation, and often a second curettage; the application of pure carbolic acid; irrigation and dilatation repeated, if necessary. A Wylie drainage plug as large as will readily pass is inserted into the cervical canal, and kept in position by a Smith pessary. For a number of years he was accustomed to leave the plug *in situ* six days, but following the suggestion of Wylie, he now allows it to remain from three to six weeks. He usually keeps the patient in bed two or three weeks after the operation, and if no discomfort be experienced, permits her to get up and go around wearing the plug several weeks longer. He believes the use of the hard-rubber plug does much to aid in the permanency of the relief obtained. It causes the formation of a cicatricial ring of tissue at the point of constriction which insures patulency. He had not seen any bad results follow its use. In a few cases it causes pain, and on that account must be removed sooner than the time mentioned. He attributes the failure of those who deplore their results to the omission of some important point in the technique of the operation. For instance, they simply dilate the cervix, or dilate and curette. Another cause of failure is the unfortunate division and subdivision of the disease into varieties; each variety being described with its appropriate method of treatment. The desire to avoid empiricism has made the subject complex and unpractical.

For all necessary purposes, dysmenorrhœa can be divided into two classes—simple and complicated. The simple, comprises about 80 per cent. of the cases, and the treatment described cures or greatly relieves three out of every four.

The conditions usually found on examination are as follows: The external genitalia are undeveloped; the vagina, cervix, and uterus are small. There is stenosis of the cervical canal and endometritis. The uterus is normal in position or one of exaggerated anteflexion; it is movable and the appendages are healthy. The accompanying endometritis is chronic and due to deficient drainage of the cervix uteri in consequence of stenosis of the cervical canal. The undeveloped condition of the generative organs in young women is very common and parallel to deficient growth of the mammary gland, and its consequent failure to perform the function of lactation.

The second class comprises the cases in which some complication exists. It may be displacement, small fibroids in the body of the uterus, or disease of the tube or ovaries. These complications must be recognized and corrected. In a very small proportion of cases, as in cirrhotic ovaries, operators are driven to produce the menopause artificially. In such cases he believes it advisable to amputate the uterus at the same time, as the subsequent reflex nervous symptoms are diminished, and the period of suffering shortened.

Repair of a Complete Laceration of the Perineum in a Girl of Nine Years.—Dr. H. A. Royster of Raleigh, N. C., reported this case. The laceration was produced by the finger of the obstetrician at the patient's birth. The patient was a well-nourished girl of nine years. At her birth, her perineum was torn completely through the recto-vaginal septum, and the explanation of this occurrence is stated to be as follows: the child's grandfather, a very aged physician, acted as accoucheur. Owing probably to dimmed eyesight and infirmity, a breech presentation was evidently mistaken for a vertex position, and the obstetrician, introducing his finger into what he thought was the child's mouth, but which was really its vagina, exerted traction, and the result was a complete laceration of the baby's perineum. No immediate harm came from the accident, and it was resolved not to attempt a restoration of the injured region until the girl was considerably older. During the fall of 1900, she came first under the observation of Dr. Hubert Haywood, who related the above facts, and kindly referred the patient to the speaker for operation.

The parts on examination showed a quantity of dense scar tissue. The tear extended into the vagina to the depth of a half-inch, and the sphincter-ends were plainly seen on either side. No incontinence of fæces had occurred. On November 15, 1900, under chloroform anæsthesia, a butterfly-shaped denudation was made in the vagina, and the exposed edges of the rectum pared, taking pains to dissect out the torn sphincters. The rectal tear was then united with catgut sutures, which were tied inside the bowel and cut short. Silkworm gut was used for closing the vaginal surfaces and bringing together the ends of the sphincter muscle. Perfect apposition was obtained, and rigid asepsis observed in all the details of the technique. In spite of these precautions only partial success resulted, due to the fact that the patient's bowels became unmanageable just at the beginning of the operation, and the denuded area was constantly and unavoidably bathed by a stream of fæces. This unlooked-for disaster was brought about by faulty preparation of the patient before admission. A purgative had been administered the day before, and on the morning of the operation an enema was given, with the report that the bowels had been thoroughly emptied. The continual discharges were a source of much annoyance, but having begun it was considered best to complete the operation. At the end of two weeks it was found that the external sutures did not hold, although union of the upper part of the denuded tissue was secured.

A second operation was attempted April 18, 1901. The same method of procedure was employed, but modified to suit the changed relations. The child was prepared under direct personal supervision, and no fecal contamination occurred. The parts healed promptly, and the result was perfect.

The author could find no parallel to this case in the literature of the subject.

Second Day, November 13—Morning Session

Dr. E. G. Williams of Richmond, Va., reported a case of aneurysm of the abdominal aorta, which was treated by injections of a solution of gelatin into the intracellular tissue with marked beneficial results.

Closure of the Abdominal Incision, with Remarks Upon the Cause and Treatment of Ventral Hernia.—Dr. I. S. Stone of Washington, D. C., read this paper Ventral hernia following abdominal operations is generally due to wound infection and suppuration, with loss of fat and cellular tissue. Hernia may, however, result from imperfect wound coaptation, or may be a result of some accident after operation. It is not infrequently due to enteroptosis, which may prove an obstacle to success and may defeat all attempts at relief, however well planned In all ventral hernias the skin and peritoneum will be found united, a condition which doubtless began soon after the wound was closed. Wound infection will usually result in suppuration with loss of tissue, which leaves a space between the parts, and also permits the sutures to become loosened. This space is filled with granulation tissue as healing progresses, but an important change has already occurred, namely, the peritoneum and skin are nearer together than before, and the separation of the muscle and fascia has, perhaps, allowed the entrance of a wedge of peritoneum to enter and to separate still farther the walls of the wound It is easily seen that in this way a ventral hernia is practically assured before the wound has entirely healed, or, at least, before firm union has taken place. In fat subjects, the greater liability of wound infection increases the danger of hernia, and in these we have the additional factor of greater intra-abdominal pressure. The author has had excellent results with both buried and through and through transfixion sutures. He prefers the latter because the material

is sterilized with more certainty, and the closure requires less time. He prefers to make the incision in or near the median line, but does not avoid the muscle, but divides the fibers directly down to the peritoneum.

One of the precautions taken by the writer is to excise the long flap of peritoneum before placing the sutures. This excessively long flap is not well nourished, and, if allowed to remain, favors a collection of blood or serum between it and the muscle in front. In any wound of from three to six inches in length, a strip of peritoneum of one or two inches in width may be removed with advantage. This disposes of that portion of the peritoneum which has been overstretched during the operation, which has possibly been infected, and which is not well nourished. The removal of the flap permits a perfect edge-to-edge coaptation and prevents, to some extent, the wedge of peritoneum, which is the beginning of a ventral hernia.

My First Abdominal Section.—Dr. Thad. A. Reamy of Cincinnati, Ohio, read a paper with this title. The operation was done in February, 1864, at the patient's house. She was sixty years of age; married, the mother of three children. The cyst removed proved to be multilocular, weighing with contents forty-six pounds. The incision was made in the median line, and was five inches in length. Adhesions to the parietal peritoneum were extensive and at many points comparatively firm. On their separation, which was done by the fingers, sponge, and handle of a scalpel, considerable and persistent hemorrhage supervened. Before attempting to deliver the tumor, it was tapped with an ordinary trocar, patient turned upon her side to deliver the fluid into a vessel. The pedicle was ligated *en masse* by a heavy cord of shoemaker's thread (not silk). One interesting feature was the manner in which hemorrhage was controlled in this case. Regarding this point, Dr. Reamy says: "The weather was cold, with an abundance of clean snow on the ground. I ordered some brought in. Compressing it with my hands into firm balls, it was held against the bleeding surfaces. The bottom of the pelvic cavity soon contained quantities of water from the melting snow, mixed with blood. This was sponged out and the compression with snowballs continued. In a comparatively short time, to my delight, the hemorrhage ceased; when I dried the cavity with sponges, and closed, without drainage, except what could be secured by the ligature already referred to, which was left protruding from the lower angle of the abdominal incision. The abdominal incision was closed by through-and-through sutures of the same material and size as that used for ligating the pedicle." Patient made an excellent recovery.

Dr. Reamy then briefly compared some of his more recent work with his earlier work, and said that the results have certainly not been better than those secured by other operators equally favorably situated. In his last series of one hundred cases of abdominal section for all causes, the mortality was 6 per cent. In the preceding one hundred cases the mortality was 8 per cent., three of these being bad pus cases. In the series of one hundred cases preceding this, the mortality was 9 per cent. Excluding other conditions and selecting only cases of simple and compound ovarian tumors, out of three hundred cases above quoted, the mortality is but 2 per cent. In making his estimate of the value of the above experience, he desired to state that within the last six years more than ever before he had selected his cases. He declines operation on cases of far-advanced malignant disease of the uterus where others will operate.

The whole number of abdominal sections made by him within the thirty-seven years intervening since the case reported is 1,600. This does not include 204 vaginal hysterectomies done by him, with six deaths, and 198 recoveries from operations.

Some of the Avoidable Causes for Disaster in Appendicitis Work.—Dr. Robert T. Morris of New York City read a paper on this subject. Among other things, the author said: "If we step out upon the street and get ten healthy policemen, and put half a yard of gauze into their abdominal cavities to-day, we shall find at the end of a week that 'we did not get them in time.' That is an excuse which is so often offered when we try to make a weak and poisoned appendicitis patient bear what strong men cannot bear. If, in addition to the mechanical insult offered by gauze packing, we add the chemical insult of iodoform, we should have still fewer of these policemen in time. They would have, what most house surgeons call, septicæmia. The differential diagnosis between septicæmia and dangerous iodoform poisoning is difficult to make, excepting on the objective evidence offered by the presence of iodoform in the wound, the presence of free iodine in the urine, and a wound of healthy appearance while the patient is failing. In insidious iodoform poisoning the wound looks well, while the patient does not. In septicæmia neither the wound nor the patient looks well. That is a constant diagnostic difference. Gauze packing shocks the patient, lessens his natural resistance, and consequently interferes with his manufacture of phagocytes. Treatment of to-day should avoid interference with the patient's ability to furnish abundant leucocytes. Accessible statistics show us that we do not need to employ gauze packing in our appendicitis work.

Extensive and multiple incisions lessen the patient's ability to furnish leucocytes for the occasion, when all of his natural protective powers need to be respected by the surgeon. A beginner needs a great deal of room at the patient's expense, but it is in the interest of the patient to work chiefly by the sense of touch through small incisions. In other words, to come as nearly as possible to letting the patient alone. Another approach toward the idea of letting the patient alone consists in rapid work, without much exposure or handling of bowel. Almost any appendicitis operation, no matter what the complications, should be completed in from fifteen to thirty minutes. Many a patient who is holding finely to his natural resistance at the end of fifteen minutes has lost it at the end of forty-five minutes. The idea that the surgeon must get all of the pus out of the peritoneal cavity is out of date. The leucocytes will attend to the matter more effectually. The principle is this: the bacteria and the leucocytes are at warfare with each other in any case of infection. The leucocytes may be almost on the point of winning, but not quite. If we step in and help the leucocytes by removing most of the pus, with its army of bacteria and toxins, the balance of power is transferred to the phagocytes, and they are competent to care for the case, as a rule, if the surgeon himself has not disabled the patient's resistance. It is a constant surprise to see how well appendicitis patients recover, and without post-operative complications, if we make the way easy for them. The best way, of course, to avoid disaster is for the surgeon to do the operation before the bacteria have operated very much. Physicians sometimes overlook the fact that the patient is undergoing an operation all the while that bacteria are at work upon the appendix, so that it really comes to be a question as to who shall be allowed to operate in the case, the bacteria or the surgeon."

President's Address.—This was delivered by Dr. Manning Simons of Charleston, South Carolina. Attention was directed to the deaths of Drs. Hunter McGuire of Richmond and W. D. Haggard of Nashville, both founders of the association, who had died during the year. These gentlemen were eminent in their profession, honorable and upright in their private lives, and their death is an irreparable loss to the association.

Speaking of medical societies, the President stated that they are the natural outcome of the development of the science and art of medicine and surgery, and for this reason they have multiplied in recent years to fulfill the purpose of discussing propositions bearing on the pro-

motion of more systematic observation and plans of operation, and of greater uniformity in the mode of publishing results, as well as for the consideration of matters on which the co-operation of corresponding societies is desired. To the wonderful development of medicine and surgery during the nineteenth century may be traced the increase of such organizations. Private scientific societies have originated chiefly during the past century, the demand for their existence being due to the necessity of increased organization, of rapidly developing knowledge, and the desire among workers for a common ground to meet, discuss, and compare results, and collect facts for future generalization.

There has been a general demand for specialism in every department of life in recent years, and in medicine and surgery particularly has this demand been evident both in the profession and among the laity. Patients now demand and require special treatment of their ailments, and this requirement has been met by the division of medicine and surgery into many departments. As usual, in the development of a new idea, there is a tendency to go to extremes, and we now find even the recognized specialties undergoing subdivision in accordance with the trend of individual inclination. It is probably admitted that general knowledge is the aggregate of special knowledge, but conversely individual special knowledge is attained at the expense of general information.

Accurate diagnosis naturally forms the basis upon which successful operative work must rest, and it must be admitted that skilful diagnosis depends upon extensive general knowledge. Acuteness in diagnosis is the result of general learning and familiarity with all the elements conducive to a true appreciation of symptomatology and pathology.

With reference to qualifications, the speaker said that there should be some provision of a like kind for special examinations to determine the qualifications of those who desire to enter upon the practice of a specialty, and particularly that of surgery and gynecology. In these days of materialism, it would seem out of season to speak of the sentimental aspect of medicine; but medicine has certainly had its sentimental side.

The times have changed, and physicians have changed with the times. The demands of modern medicine have to a large extent divested the practice of sentiment that formerly surrounded it. It is a question to what degree specialism has led physicians into the paths and methods of ordinary business.

Dr. Simons then discussed the relations of the patient to the doctor, and those of the doctor to the patient, saying that they have changed in conformity to the modernized methods of practice.

In conclusion, he expressed his appreciation of the honor conferred upon him in having elevated him to the office of President of the Association.

(*To be continued.*)

Camphor Eating.—It is surprising, says the *Indian Medical Record*, what a number of camphor-eaters there are among the well-to-do classes. The idea seems to prevail that this gum, taken in small and regular doses, gives a peculiar clear creaminess of complexion, and scores of young women buy it for this purpose. The habit is, moreover, very difficult to cast off, for camphor produces a mild form of exhilaration and stupefaction; and in many instances, where very large doses have been swallowed, the habit has become a sort of slavery. These camphor-eaters all have a dreamy, dazed, and very listless air, and in most of them there is an ever-present longing to sleep, or, at least, to rest. Extreme weakness generally follows the taking of regular doses; and cases have been seen where it has been almost difficult to tell the effects from those of alcohol. As to the complexion, if a ghastly pallor be an improvement, camphor certainly produces it.

New Instruments.

A NEW OPERATING TABLE.

By W. I. LeFevre, M.D.,
Cleveland, Ohio.

The table illustrated was designed especially for rectal examinations. By placing the patient on his side, in the Sims' position, with the table flat, as shown in figure 1, and then adjusting the side-shelf, as shown

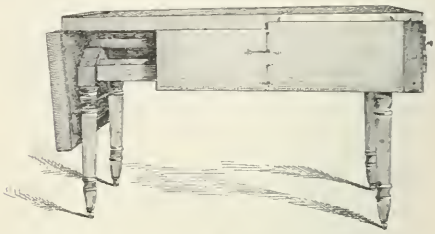

Fig. 1.

in figure 2, he can readily be changed to practically a knee-chest posture. The position is quite comfortable for the patient, and the table is easily manipulated by the operator, being so balanced that the weight of the patient holds it up. The table is 4 feet long, 2 feet wide, 31 inches high, with an extension shelf on one end 1½ feet long. The side-shelf is 10 inches wide, and so hinged that it will fold upon itself, and then fold under the edge of the table, when

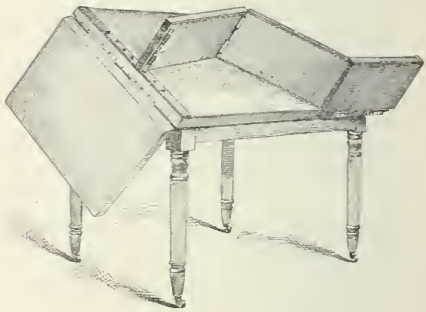

Fig. 2.

down. When up, it is held by a slip bolt at each end, the head one being adjustable, as shown in figure 2. The top is hinged 11 inches from the shelf side, and tilts to an angle of 90°. The top locks down with an elbow catch, and, when up, is held securely by a hinge piece on the high side. The table can be made right or left, as desired.

Cure of Poisonous Snake Bite.—A cure of this description was recorded in the London *Times* a short time ago by a correspondent, who explains that the medical man in India, having been called to see a coolie woman who had been bitten by a large snake, supposed to be a cobra, injected a full dose of Dr. Calmette's antivenene, but was not sanguine as to the result, the patient's condition being apparently hopeless. The effect of the remedy was marvelous. Consciousness returned in fifteen minutes, and he was so encouraged by the result of the first injection that he decided to give another dose of the serum. It acted like magic, and within three hours of the first injection the patient was well. The operator is satisfied that even in desperate cases Dr. Calmette's serum is a reliable remedy for the bites of poisonous snakes.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 16, 1901:

	Cases.	Deaths.
Measles	277	8
Diphtheria and croup	269	37
Scarlet fever	183	13
Smallpox	8	3
Chickenpox	19	..
Tuberculosis	219	156
Typhoid fever	89	18
Cerebrospinal meningitis	..	2

Viability of the Bacillus Pestis.—The conclusions arrived at as the result of investigations into, and experiments with regard to, the above subject, undertaken by the direction of Passed Assistant Surgeon M. J. Rosenau, director of the hygienic laboratory of the Marine Hospital Service, are as follows:

1. The bacillus pestis is not a frail organism. It resembles the hemorrhagic septicæmic group or the coccobacilli, as far as its viability is concerned.

2. Temperature is the most important factor in the viability of the plague bacillus. It keeps alive in the cold, under 190° C., a very long time. It dies quickly, especially when dried, at the body temperature, 37° C.

3. Moisture favors the life of the bacillus pestis. It usually dies in a few days when dry, even in the presence of albuminous matter, provided the temperature is above 30° C. It may keep alive and virulent when dry for months in the cold, under 19° C.

4. Sunlight kills the organism within a few hours, provided the sun shines directly upon the organism and the temperature in the sun is over 30° C. The effect of sunlight is not very penetrating.

5. The virulence of the bacillus pestis is often lost before its vegetability.

6. It is unlikely that new dry merchandise would carry the infection. The organism usually dies in a few days on the surface of objects such as wood, sawdust, bone, paper, etc.

7. Clothing and bedding can harbor the infection for a long time and may act as fomites. The bacillus lives for months, when dry, in albuminous media at temperatures under 20° C.

8. Food products may carry the infection of plague. The bacillus lives a long time in milk, cheese, and butter. It usually dies quickly on the surface of fruits and prepared foods.

9. The organism may live a long time in water, although plague is not a water-borne disease.

10. The plague bacillus does not live long on paper, and first-class mail is therefore not apt to convey the infection.

11. The colder the climate, the greater the danger of conveying the infection on fomites—clothing, bedding, food, merchandise, etc.—and more extensive disinfection is required in such a climate in combating the disease than in tropical regions.

12. The plague bacillus is destroyed by sulphur fumigation and by formaldehyde gas in the strengths in which these disinfectants are usually employed. The gases can only be depended upon as surface disinfectants. In disinfecting ships, warehouses, dwellings, and other places infested with rats, fleas, and vermin, sulphur is better than formaldehyde, because formaldehyde gas fails to kill the higher forms of animal life.

13. A temperature of 70° C. continued a short time is invariably fatal for the plague bacillus. The ordinary antiseptics are all efficacious in their usual strength for non-spore-bearing organisms. Efficient surface disinfection may be accomplished by exposing objects to the direct sunshine on warm days. The temperature in the sun must be above 30° C.

Suicide in France.—The number of suicides for 1898 showed as light increase, namely, 9,438, as against 9,356 in 1897, or an increase of 82. The figures for a period of five years before, and including 1898, were as follows: 1894, 9,703; 1898, 9,263; 1897, 9,356; and 1898, 9,438. It seems fair to conclude from these figures that the diminution which began in 1895 was the commencement of a real diminution, and not merely of a temporary one. The Department of the Seine supplied one-sixth of the total number of the suicides in 1898, namely, 1,566, or 64 less than in 1897. Of the persons committing suicide, 85 were under sixteen years of age, 477 were between sixteen and twenty-one years of age, 1,436 were between twenty-one and thirty years of age, 1,285 were between thirty and forty years of age, 1,669 were between forty and fifty years of age, 1,882 were between fifty and sixty years of age, 2,356 more than sixty, and the ages of 278 were unknown. The civil condition of those committing suicide was ascertained only in 8,899 cases. The unmarried numbered 3,008, the married with children 2,502, the married without children 1,422, widows with children 1,113, and widows without children 834. As to employment, 2,436 cases occurred among agriculturists, 1,668 among those employed in various industries, 1,262 among business men and merchants, 1,380 among professional men, 1,511 among domestic servants, and 1,181 among those not in employment or whose employment could not be ascertained. As to motive, 1,537 suicides were set down to poverty and reverses of fortune, 943 to family troubles, 624 to love or jealousy, 1,226 to drink, 2,705 to various troubles (of which physical pain accounted for 1,785), 1,347 to cerebral disease, and in 1,056 the cause remained unknown.—Paris Correspondent to *Lancet*.

Virchow as a Politician.—The *London Spectator* says: "Berlin has been honoring itself by celebrating the eightieth birthday of Professor Virchow, the great pathologist, whose demonstration that the human anatomy was based on cells laid the foundation of modern medicine. He is the son of a little farmer in Pomerania, and his rise from that position to the headship of science in Germany has been marked by a singular peculiarity. Professor Virchow, though devoted to scientific research, has been a weighty politician. He was practically for twenty-five years the leader of the Liberal party, had once the honor of a challenge from Bismarck, and incurred the fiercest anger of the Court, which secured his expulsion from his scientific appointments. He was also a hard worker in the field of local government, having been for forty years a member of the Municipal Council of Berlin, which he induced to undertake and carry through great sanitary reforms. He is now honored by Court and people alike, the Emperor forwarding to him the Grand Gold Medal for Science in a letter, which, though without warmth, acknowledges to the full his scientific rank, and the people complaining that the decoration is insufficient. Here rarely or never do our scientific men or even physicians enter politics."

Entries at British Medical Schools.—The *British Medical Journal*, October 19, says: "We have received returns of some of the medical schools, but as others have not replied to our inquiries, it is not possible to publish a full list of the number of new students at the several schools. We learn, however, that a number of new students who have entered for the full curriculum at the schools in London is as follows: St. Bartholomew's, 84; Charing Cross, 14; Guy's, 68; King's College, 25; London, 64; St. Mary's, 35; Middlesex, 19; St. Thomas, 48. With the exception of St. Thomas, which has one student more, and King's College, which had the same number last year, these returns in each case show a decline as compared

with the corresponding returns made at this time last year. The total for the schools mentioned is for this year 357, as compared with 396 in 1900. The London School of Medicine for Women shows an increase, the number this year being 30, as compared with 22 last year. The returns from the schools in the provinces are also as yet incomplete; the number of students who have entered for the full curriculum is at University of Durham 26, as compared with 25 last year; Bristol University College, 18, as against 13 last year; Owen's College, Manchester, 54, as compared with 47 last year; Yorkshire College, Leeds, 27, as against 38 last year; University College, Sheffield, 12, as against 8 last year; University College, South Wales, Cardiff, 14, as against 19 last year. Total, 151, as against 150 last year.

London Hospital Saturday Fund.—The quarterly meeting of the Board of Delagates of the Metropolitan Hospital Saturday Fund was held on October 5. The report of the Finance Committee showed that the receipts from the workshops, etc., from January to September 14, had amounted to £9,865 ($49,325); as compared with £9,128 ($45,640) at the corresponding period of last year.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended November 16, 1901:

		CASES	DEATHS.
SMALLPOX—UNITED STATES			
California, San Francisco	Oct. 27-Nov. 3	1	
Indiana, Evansville	Nov. 2-9	2	
Kansas, Wichita	Nov. 2-9	1	
Louisiana, New Orleans	Nov. 2-9	7	
Massachusetts, Boston	Nov. 2-9	22	3
Michigan, Detroit	Oct. 27-Nov. 2	1	
Nebraska, Omaha	Nov. 2-9	4	
South Omaha	Nov. 1-8	2	
New Jersey, Camden	Nov. 2-9	3	
Newark	Nov. 2-9	29	2
New York, New York	Nov. 2-9	10	1
Ohio, Cincinnati	Nov. 1-8	1	
Pennsylvania, Allegheny City	Nov. 2-9	2	
New Castle	Oct. 1-31	4	
Norristown	Nov. 2-9	10	1
Philadelphia	Nov. 2-9	72	8
Pittsburg	Nov. 2-9	1	
Tennessee, Memphis	Nov. 2-9	1	
Utah, Salt Lake City	Nov. 2-9	2	
Vermont, Burlington	Nov. 2-9	1	
Wisconsin, Green Bay	Nov. 2-10	1	
SMALLPOX—FOREIGN.			
Austria, Prague	Oct. 19-26	2	
Belgium, Antwerp	Oct. 19-26	3	
Ghent	Oct. 11-18		2
Brazil, Pernambuco	Sept. 6-30		116
Rio de Janeiro	Sept. 15-Oct. 4		205
Canada, Halifax	Nov. 2-9	7	
Quebec	Nov. 2-9	25	
Colombia, Bocas del Toro	Oct. 22-29	3	
Panama	Oct. 27-Nov. 6	125	
Egypt, Cairo	Oct. 7-14		1
Great Britain, Liverpool	Oct. 19-26		
London	Oct. 19-26	182	[illegible]
India, Madras	Oct. 5-11		2
Italy, Naples	Oct. 12-19	[illegible]	[illegible]
Russia, Moscow	Oct. 12-19	4	4
Odessa	Oct. 19-26	3	
St. Petersburg	Oct. 12-26	4	
West Indies, Curaçao	Oct 19-26	4	1
YELLOW FEVER			
Brazil, Rio de Janeiro	Sept. 15-Oct. 13		11
Mexico, Vera Cruz	Oct. 26-Nov. 2		12
CHOLERA.			
India, Bombay	Oct. 8-15		1
Calcutta	Oct. 5-12		28
Madras	Oct. 5-11		40
Java, Batavia	Sept 14-Oct 5	28	183
PLAGUE—INSULAR.			
Philippines, Manila	Sept. 7-28		2
PLAGUE—FOREIGN.			
Brazil, Rio de Janeiro	Sept. 15-Oct. 13		19
India, Bombay	Oct. 8-15		179
Calcutta	Oct. 5-12		12
Russia, Odessa	Nov. 10-present		

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

ATLAS AND PRINCIPLES OF BACTERIOLOGY. By LEHMANN & NEUMANN. 8vo, 511 pages. Part 1 and 2. W. B. Saunders & Co., Philadelphia, Pa. Illustrated. Price, cloth, $5.00 net.

A LABORATORY HANDBOOK OF URINE ANALYSIS AND PHYSIOLOGICAL CHEMISTRY. By CHAS. G. L. WOLF. 8vo, 203 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa., Price, cloth, $1.25 net.

A TEXTBOOK OF PHARMACOLOGY. By TORALD SOLLMANN. 8vo, 892 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa. Price, cloth, $3.75 net.

THE SURGICAL TREATMENT OF DISFIGUREMENTS AND DEFORMITIES OF THE FACE. By J. B. ROBERTS. Second edition. 8vo, 72 pages. Illustrated. The Philadelphia Medical Publishing Co., Philadelphia, Pa.

ON PARALYSIS AGITANS. By R. T. WILLIAMSON, M.D. 8vo, 70 pages. Illustrated. Sherratt & Hughes, Manchester.

DISEASES OF THE INTESTINES. By J. C. HEMMETER. In 2 volumes. Vol. I, 8vo, 742 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $5.00 per vol.

THE ACCESSORY SINUSES OF THE NOSE. By A. LOGAN TURNER. 8vo, 211 pages. Illustrated. William Green & Sons, Edinburgh.

A TEXTBOOK OF MEDICINE. By C. H. FAGGE. 8vo, 1123 pages, Vol. I. P. Blakiston's Son & Co., Philadelphia, Pa.

A TREATISE ON SURGERY BY AMERICAN AUTHORS. By ROSWELL PARK. Third edition. 8vo, 1408 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York. Price, cloth, $7.00 net; leather, $8.00 net.

GUIDE DE L'EXAMEN GYNECOLOGIQUE. By Dr. L. LEON-ARCHAMBAULT. 12mo, 116 pages. Illustrated. A. Maloine, Paris. Price, Fr. 3.00.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. By ALBERT H. BUCK. Imperial octavo, 867 pages. Illustrated. Vol. III. William Wood & Co., New York. Price, cloth, $7.00; leather, $8.00; half morocco, $9.00.

A TRAVERS LA MÉDECINE. By H. GUIMBAIL. 8vo, 135 pages. A. Maloine, Paris, France.

LA FAIBLESSE IRRITABLE SEXUELLE. By V. RENZA. 8vo, 112 pages. G. Sauleau, Paris, France. Price, Fr. 2.50.

PUBLIC HEALTH REPORTS. 8vo, 1,689 pages. By SUPERVISING SURGEON-GENERAL M. H. S. Vol. XV, Part I, Nos. 1 to 26. Washington, D. C.

A TEXTBOOK ON DISEASES OF THE EAR, NOSE AND THROAT. By CHAS. H. BURNETT, M.D. 716 pages. Illustrated. J. B. Lippincott, Philadelphia, Pa.

INFANT-FEEDING IN ITS RELATION TO HEALTH AND DISEASE. By LOUIS FISCHER. Second edition. 8vo, 343 pages. Illustrated. F. A. Davis Company, Philadelphia, Pa.

BATH MATTERS. By PRESTON KING. 8vo, 128 pages. Illustrated. J. W. Arrowsmith, Bristol, England.

THE WISDOM OF PASSION; OR, THE MOTIVES OF HUMAN NATURE. By SALVARONA. 8vo, 248 pages. Mystic River Book Company, Boston, Mass. Price, $2.00

Quinquaid's Sign of Alcoholism.—The test can be made by placing the patient's fingers so that one is separate from the other, and then firmly rest them across the observer's hand at right angles. For several seconds nothing unusual is noted, then follow slight blows, as if the bones of each finger were thrown back suddenly, one upon the other and struck the palm. The pressure on the observer's hand should be moderate. The crepitations vary from a slight rubbing to a true crackling. Aubry maintains that the sign is pathological and may be present in those who have indulged but little in alcoholics. Sometimes it disappears rapidly, after abstinence in some, but may persist for a long time under similar habits in others. It may be absent in some habitual drinkers.

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Original Articles.

VAGINAL CANCER.

By W. ROGER WILLIAMS, F.R.C.S.,
CLIFTON, BRISTOL, ENGLAND.

Of the organs evolved from the different segments of the Müllerian ducts, only the uterus manifests great proclivity to tumor formation, for the vagina and Fallopian tubes are seldom affected. Thus of 9,226 tumors in women tabulated by me, 2,648 were of uterine origin (cancer, 1,571; sarcoma, 2; myoma, 1,073, and cystoma, 2), whereas only 54 arose from the vagina (cancer, 40; sarcoma, 2; myoma, 3; and cystoma, 9). From this it may be inferred that the biological peculiarities which determine a given part to tumor formation depend more upon functional than upon genetic considerations. The vagina, for instance, is physiologically more akin to the vulva than to the uterus, and the results of this similarity are apparent in its pathological neoplastic variations.

Although many cases of vaginal cancer have from time to time been reported in Anglo-American publications, yet no work dealing with the *ensemble* of the subject has hitherto appeared in the English language. Notwithstanding its rarity, cancer of the vagina is by far the commonest form of primary vaginal neoplasm. According to Friedl, the medical journals up to 1896 contain records of 130 cases. Five examples of it have come under my own observation. My data, derived from patients under treatment at the chief London hospitals, show that only 4.3 per cent. of all cancers in women are of vaginal origin. Gurlt, from Vienna hospital experience, gives the percentage as 1.6. Of 7,498 female cancer deaths in Hamburg, lately (1900) tabulated by Reiche, only 29 were of the vagina, or .38 per cent.; and of Hecht's 4,507 cases, 50 were vaginal, or 1.1 per cent. Averaging these results, it may be said that less than 1 per cent. of all cancers in women are of vaginal origin.

Those who believe that "irritation" is the chief determining factor in cancer causation will find these figures a stumbling block; for few parts of the body are more prone to all kinds of "irritation" than the vagina. Moreover, although vaginal prolapse and invagination—when irritative conditions may be presumed to attain their maximum—are of common occurrence, yet remarkably few instances of cancer have been noted in this connection (Zizold, Pchelin, etc.). Just so is it with regard to the wearing of pessaries, for only a very few instances of the association of cancer with this habit have been recorded (Meyer, Hegar, etc.), whereas the number of those who have worn these instruments for years is enormous.

Although the record of cases of vaginal cancer generally leaves much to be desired as regards histological details, yet, from cases in which the minute structure of the tumor has been carefully described, it may be gathered that nearly all primary vaginal cancers are of the squamous epithelial, or, as I prefer to call it, the epidermoidal type. Hence it is to the epithelial elements of the vaginal lining membrane and its derivatives that we must look for the origin of vaginal cancer. This structure is commonly described as a "mucosa," but it is rather a skin-like, dermo-papillary formation, lined by stratified, anastomosing, polymorphic-epithelial cells, which are arranged as in the general integument—except that there are no hairs and no glands. Moreover, cornification is defective; and, judging from the extreme rarity of melanotic neoplasms of vaginal origin, there is also a decided deficiency of pigment. Zizold has ascribed the comparative immunity of the vagina, as compared with the cervix uteri, from cancer to the absence of glandular structures. The vaginal membrane is freely supplied with blood-vessels, lymphatics, and nerves. Cavernous spaces and quasi-erectile structures abound in it. Lymphadenoid structures are also met with, which sometimes take the form of distinct nodules (Dobrowolski). The lubricity of the part appears to be due to the constant deliquescence of its superficial cells, and to exudation from the local lymphatics. A peculiarity of this moisture is its acid reaction, which has been ascribed to the agency of microbes.

Most embryologists describe the vagina as being evolved from the fused posterior extremities of the Müllerian ducts. According to some, however, the Wolffian, as well as the Müllerian ducts, participate in this fusion, which begins at the latter part of the third month, and is completed two months later. The first recognizable rudiment of the vagina consists of a mass of epithelial cells, which, according to Nagel, differ *ab initio* from those whence the uterus is evolved, being shorter, flatter, and less cylindrical. In this cellular mass a cavity is subsequently formed, by absorption of the central cells, canalization being completed by the seventh month. Berry Hart describes the epithelial cells of the lower ends of the Wolffian ducts as forming, by proliferation, during the third month, two swellings—the Wolffian bulbs—which subsequently coalesce. At this time there is no obvious demarkation between uterus and vagina, but early in the fifth month, by the upward extension of Wolffian cells, the rudiments of the portio and the vaginal fornix are sculptured out of the lower part of the Müllerian canal. Similarly, by the downward extension of Wolffian cells, the rudiment for the lower part of the vagina is formed. These Wolffian cells, Hart regards as of epiblastic origin, and thus he explains the skin-like structure of the vaginal membrane, and of the inner layer of the hymen. This hypothesis also explains the occasional presence in the vagina of a congenital transverse septum, of which Konikow has lately reported an instance.

A controversy is still maintained concerning the question of glandular structures in the vaginal membrane. As previously mentioned, most observers have failed to find structures of this kind. Preuschen and others have, however, asserted their existence; while Hennig and Heitzmann have met with epithelial-lined follicles, *culs-de-sac*, and diverticula. Davidsohn, who has recently investigated the subject,

found numerous small cysts, follicles, etc., lined with cylindrical epithelium, which he considers to be aberrant offsets of cervical glands, analogous in origin to the *ovula Nabothii*. These formations were chiefly located in the upper part of the vagina. It is probable that foreign elements of this kind furnish the germs, whence cylinder-celled glandular cancers of the vagina arise, of which instances have been reported. Wolffian and Müllerian "nests," which are of common occurrence in the vaginal walls, may also play a part in the histogenesis of vaginal cancer. In the development of papillated structures, like the vaginal membrane and the cutis, the epidermoidal cells play an important part. Processes of their proliferous cells, growing into the subjacent stratum, cause these structures to arise. Fragments of these processes, detached during the course of development, are the germs of the "epithelial pearls" met with in and beneath the vaginal corium. The chief morphological feature that marks the transformation of simple epithelial hyperplasia into epithelial cancer consists essentially in an indefinitely sustained, modified, superinduced repetition of the above process, affecting at first but a single cell or a small group of such cells. In this way, cancer of the vagina begins by proliferous cells of the interpapillary region of the rete mucosum, or its aberrant extensions, growing into the adjacent stroma. These cells, multiplying and developing in semi-independence, form knobby projections and ingrowing columns. When the new formation does not progress much beyond this initial stage, the ingrowing cells preserve their normal form, and their mutual relations are but little altered; the columns fail to penetrate deeply, and the malady progresses slowly, and dissemination is exceptional. This is the tubular variety.

In the graver and much commoner form of the disease, the departure from the normal is more decided; changes take place in the grouping of the cells, and "nests" are formed; the ingrowing columns become irregularly bulged; they increase rapidly and penetrate deeply, branching and anastomosing, and sooner or later other parts are secondarily affected. This is the lobular variety—the typical form of vaginal cancer. The initial manifestation of vaginal cancer usually takes the form of a small, solitary nodule; but Lange, Schwartz, and others have reported instances of primary multiplicity. Mercantor has met with independent outbreaks of the disease in the vagina and uterus. Most of these multiple manifestations are no doubt due to local dissemination from the primary focus, but it is probable that some of them are due to the spread of the disease by "contact infection." Olshausen has reported an instance of this kind, in which the disease was propagated from the posterior to the anterior vaginal wall.

In most parts of the body in which cancer exists, certain hyperplastic lesions of the epithelia of the locality are commonly found, which in covered parts may eventuate in polypoid formations. In exposed parts—such as the buccal cavity, where the various stages of the process can be followed—lesions of this kind (leucoplasia, ichthyosis, etc.) have often been observed to precede and culminate in cancer. Since these changes are seldom limited to the precise starting point of the cancerous disease, it may be inferred that the biological disturbance of which cancer is the outcome affects also, in a less degree, the epithelia of the vicinity. Several instances of vaginal cancer developing in connection with lesions of this kind have lately been reported (Pichevin and Pettit, Monod, Schwarz, Bex, Reclus, etc.); and in a few cases "kraurosis" has been known to have a similar termination.

Cancer may start from any part of the vaginal walls, but modern statistics show, contrary to the opinion entertained by Cruveilhier, that most cases arise from the posterior wall, especially its upper part. Thus, of seventy-six cases tabulated by Bernard, fifty arose from the posterior wall, and only fifteen from the anterior; while in nine cases the lateral walls were affected (left in five, and right in four cases), and in two the disease was of the annular variety.

At an early stage, vaginal cancer presents clinically either as a papillary excrescence, a firm elastic nodule, or as an infiltration. "Cauliflower," villous, and vascular, quasi-erectile forms are met with. The stroma sometimes undergoes myxomatous metamorphosis, as in the so-called "colloid" cancers, and in this connection pseudo-cysts may arise (Bernard, Pean, etc.). An excess of myomatous elements has also occasionally been noted in the cancer stroma, as in a case of "myocarcinoma," reported by Körte. An instance of "lymphangioendothelioma cavernosum hæmorrhagicum" has been described by Klien.

As a rule, ulceration, having the usual cancerous characteristics, soon supervenes, with fetid sanious discharge. In advanced cases, owing to local extension, a large part, or indeed the whole, of the vaginal wall may be invaded, and I have seen a remarkable instance in which, besides the vagina, the vulva, uterus, and bladder were thus involved. Sometimes the disease disseminates in the vaginal walls as multiple discrete nodules, of which Fenger has reported an instance.

At first, the malady is limited to the vagina; but after a time it spreads to adjacent structures—bladder, urethra, labia, rectum, etc. Its tendency is to spread forward toward the vulva, rather than backward toward the uterus; so that the latter organ generally escapes, except in advanced cases. Under the title of "Épithélioma liminaire," Pozzi has described a form of cancer which, originating in the vaginal *cul-de-sac*, spreads impartially to the uterus and to the vagina.

Posteriorly evolving cancers tend to spread backward and forward involving the rectum, when pain, tenesmus, constipation, and obstruction may result, with the eventual formation of recto-vaginal fistula. Anteriorly evolving cancers are apt to invade the base of the bladder, and the peri-urethral region. These, at an early stage, cause frequent and painful micturition, dysuria, and later retention, with cystitis and vesico-vaginal fistula in some cases. In this form of the disease, the orifices of the ureters are often more or less involved, hence the proneness to hydronephrosis, pyonephrosis, pyelitis, nephritis, etc.

Cancers of the lower part of the vagina nearly always invade the vulva, so that when seen at a late stage, it may be difficult to determine their precise seat of origin. Pelvic peritonitis is a common complication of vaginal cancer; and from the invasion of the peritoneal pouches by the ulcerating growth general peritonitis may ensue. Hydro-, pyo-, and hæmato-salpinx not infrequently complicate the disease; and collections of this kind—discharging into the peritoneal cavity—may cause fatal peritonitis. Owing to thrombosis of the pelvic veins, consequent on dissemination of the disease in the pelvis and inflammatory complications there, œdema of one or both lower extremities may occasionally be met with. In Bellamy's case, a large mass of inflamed cancerous glands on the left side of the pelvis had occluded the left common iliac vein, and caused acute œdema of the left lower limb, when fatal pyæmia rapidly ensued.

Dissemination of the disease in the adjacent lymph glands generally takes place sooner or later, but it is usually of somewhat tardy development. The vagina is well supplied with lymphatics, although not so

abundantly as the uterus. In the corium and the subjacent connective tissue are numerous fine networks, while the musculature is permeated with anastomosing vessels of large size. These networks freely intercommunicate. Their chief efferent trunks are to be found posteriorly between the vagina and the rectum.

Most of the vaginal lymphatics go to the pelvis, where they enter the glands of the ilio-pelvic group. These present as a chain on each side of the pelvis, which extends from the angle of bifurcation of the common iliac artery above to the upper part of the great sacrosciatic foramen below. According to Poirier, efferent vessels from the upper part of the vagina pass, with the cervical lymphatics, to the lower ganglia of this chain. Those from the middle part of the vagina, following the course of the vaginal arteries, enter the lowest ganglia of the ilio-pelvic chain. These glands are situated over the upper part of the great sacrosciatic foramen, where they come into relation with the lateral part of the rectum, the great sciatic nerve, and the blood vessels derived from the anterior division of the internal iliac. The lymphatics from the lower part of the vagina go, with those of the external genitalia, to the internal group of inguinal glands. In vaginal cancer the inguinal glands are also often involved indirectly, by spread of the disease from the pelvis, along the external iliac blood vessels, etc. Thus the great frequency with which the inguinal glands are involved in vaginal cancer—those of both sides often being implicated—may be accounted for.

Lymph-gland enlargements, secondary to vaginal cancer, are often due to septic infection derived from the primary tumor, and thus we may account for the fact that, when invaded by cancer, these glands relating often suppurate at an early stage. Thus, in Herman's case, the glands of both inguinal regions suppurated; and Brückner found the pelvic glands similarly affected.

As in cancer of the uterus, dissemination of the disease in internal organs and distant parts is not very common. I have, however, met with two instances of this kind, in one of which both lungs, pleura, the liver, and the left kidney were involved; while in the other both lungs and the left kidney were affected, as well as the left Fallopian tube, the pelvic, bronchial, and mediastinal glands. In Herman's above-referred-to case, the right ovary was cancerous, and there were secondary deposits in the liver. Warder has found dissemination in the lungs and liver; and in a patient with recurrent disease involving the vagina, labia, rectum, and inguinal glands. Gill saw numerous disseminative nodules form in the integument of the abdomen. In Curtis' case there were metastases in the bones of the skull. Boissier, Recklinghausen, and others have also reported instances of wide-spread dissemination of the disease.

In vaginal cancer, death generally results—when not determined by some such complications as I have previously mentioned—from asthenia, with progressive general enfeeblement, cachexia, and emaciation. The disease usually runs a rapid course, for of the cases in my list the average duration of life—dating from the first noticeable symptoms—was only 16.5 months, the longest period 26.25 months, and the shortest 8 months. Chronic forms, lasting several years, are decidedly rare.

Vaginal cancer is a disease of adult and post-meridian life; but in many cases it occurs at an earlier age than cancer in general. This causes the mean age at onset to be earlier than is usual; thus, of seventeen cases in my list, the average age at onset was only forty years, whereas the corresponding ages for the onset of uterine and mammary cancer, I have found to be forty-four and forty-eight years, respectively. The earliest age at onset was seventeen years; reputed examples of vaginal cancer at earlier ages must be viewed with suspicion; this especially applies to the oft-cited cases by Guersant, in a child three and a half years old, and by Johannovsky, in a girl of nine, in which the disease was evidently sarcomatous.

By adding my seventeen cases to Bernard's fifty-nine, a total of seventy-six cases is arrived at, the age distribution of which is as follows:

Age at onset.	Cases.
20 to 30 years	in 12.
30 to 40 years	in 14.
40 to 50 years	in 12.
50 to 60 years	in 22.
60 to 70 years	in 14.
70 to 80 years	in 2.

Thus, as this table shows, most cases arise long after the menopause; the decennium fifty to sixty being the period of maximum frequency. Hence it may be inferred that the origin of the disease has no direct connection with the incidents of the reproductive life. This is borne out by the fact that nulliparæ are as prone to the disease as multiparæ; for, as Bernard's data show, one-fourth of those affected have never been pregnant.

The mean fertility of vaginal-cancer patients has been estimated by West at 4.7 children per marriage, which is somewhat in excess of the normal; but when allowance has been made for the fact that a certain proportion of those affected die before the completion of the reproductive life, it is evident that their fecundity really is considerably in excess of the normal. In this they resemble female cancer patients in general; for, as I have elsewhere shown, a high degree of fecundity is a biological characteristic of all such. It thus appears that multiple pregnancies, etc., have no special influence in the causation of vaginal cancer. Neither is there any evidence in the life history of these women of any undue proclivity to miscarriages, difficult labors, previous uterine diseases, or catamenial irregularities; and they have usually enjoyed very good health prior to the onset of the cancerous disease.

Küstner obtained a history of hereditary cancerous antecedents once in twenty-two cases; but most of the clinical reports—which are generally scrappy—are silent on this subject. I made special inquiries in four cases with negative results. In a case reported by Pozzi, both of the patient's parents died of cancer—the uterus being the part affected in the mother, and the stomach in the father; the father and grandfather of Baldwin's patient both died cancerous; and in Fenger's case the grandfather died of cancer of the tongue, and an aunt of cancer of the breast.

The initial symptoms of vaginal cancer are discharge, pain, and hemorrhage; but, relatively often, the disease has made considerable progress before any indications of its existence are apparent. Of sixteen cases in my list, discharge was the first indication in nine, pain in three, a lump near the vaginal orifice in two, retention of urine in one, and inguinal adenopathy in one case. Frequency of micturition and uneasy sensations in that act and in defecation are occasionally noticed at this stage. The discharge was of a watery or leucorrhœal nature in most of the cases, generally being profuse and fetid. In several cases it was also blood-stained, especially *post coitum;* and in some markedly ichorous—excoriating the vulva, etc. Pain, as an initial symptom, is of much less frequent occurrence than discharge; in my cases the pain was generally referred to the genital, sacral, hypogastric, and inguinal regions; in one case, pain was concomitant with profuse discharge, and in another

with "flooding." Pain in coitus was experienced in several cases. Although irregular hemorrhages, culminating in sanious discharge, are usual in the course of vaginal cancer I have found that hemorrhage rarely occurs as an initial symptom. Severe hemorrhages amounting to "flooding" are uncommon in this affection, and so is menorrhagia. After coitus and physical examination some hemorrhage is of frequent occurrence. The symptoms resulting from the spread of the disease and its complications, I have previously referred to.

In a minority of the cases, portions of the tumor may be visible externally or separating the labia, and it is not unusual to find the external genitalia red and eroded from contact with ichorous discharge. What is revealed by physical examination will depend upon the nature and degree of evolution of the local disease, the chief types of which I have previously described. Most vaginal cancers are of the "fragile" type, often being associated with friable excrescences or flocculent vegetation, which bleed freely when touched; and fragments are easily detachable. Firm elastic and indurated forms are, however, met with; and induration is often noticeable about the base of ulcers, the margins of which are fringed with softish vegetations. The vagina may be so occluded by extensive outgrowths of the disease, combined with the contraction consequent on infiltration, as to prevent thorough exploration of the part. Digital examination, especially by the combined vagino-rectal method, is the best means of exploration. Examination per speculum is apt to be painful, and is not always either feasible or requisite; although in suitable cases it yields valuable information. Rectal palpation should never be neglected; for, owing to most vaginal cancers being situated posteriorly, the extent of the local disease can generally be best determined by exploration in this direction, as also can the condition of the pelvic glands, most likely to be implicated, which are situated at the sides of the rectum in the vicinity of the upper part of the sacrosciatic foramen. Of course, in every case, the lymph glands in the inguinal region, and those along the course of the external iliac blood vessels, should be carefully palpated; for, in many cases, inguinal adenopathy is the chief "revealing symptom" of the disease. It should, however, be borne in mind that these glands may be enlarged and tender, merely from septic infection. Œdema of one or both lower extremities, owing to venous obstruction, is exceptionally met with.

In making the diagnosis of vaginal cancer, it must be remembered that secondary cancers of this part are of very much more frequent occurrence than primary ones; consequently, in any case of supposed primary vaginal cancer, neighboring organs likely to originate the disease must be specially examined. The uterus, rectum, vulva, bladder, etc., are among the more important of these; cancer of the cervix uteri, which is so common, nearly always spreads to the vagina sooner or later.

For the discrimination of sarcomatous vaginal tumors—clinically resembling cancer—resort must be had to the microscope.

Septically infected and sloughing myomatous tumors may generally be discriminated from cancer by careful digital examination.

I have seen a case of vaginitis verrucosa, associated with keratosis of the vaginal epidermis, in the shape of hard scabrous projections, mistaken for cancer; and some cases of chronic colpitis papulosa and kraurosis may also be similarly confounded.

Certain syphilitic, tuberculous, and "chronic inflammatory" affections may also simulate cancer, especially when they are of the ulcerative type. Syphilitic vaginal affections may be of the primary, secondary, or tertiary variety.

With regard to the first-named, hard chancres are so exceedingly rare in the vagina, and their special characteristics are so well known, that there is hardly ever likely to be any difficulty in making the differential diagnosis. Very exceptionally serpiginous chancroids have been mistaken for cancer, but the multiplicity of errosive lesions, their tendency to heal in one part while spreading in others, and other special features of this malady will enable the diagnosis to be made.

Of secondary syphilides the erosive and condylomatous forms are the ones most likely to simulate cancer; and of tertiary affections, gummata—especially when ulcerated—and diffuse infiltrations. Lang has met with a vaginal gumma, that presented a chronic tumor the size of an apple, which, after having resisted many remedies, was at last completely cured by extirpation.

In discriminating affections of this kind, which are rare, from cancer, regard must be had to the *ensemble* of the case, and especially as to the coexistence of manifestations of the disease in other parts of the body, where the signature of syphilis is likely to be found.

Tuberculous disease of the vagina is rare, but it occurs, both as miliary tubercles and as chronic ulcerations, which are usually secondary to tubercles of the lungs, peritoneum, uterus, etc. Lupus of the vagina is also met with. Lesions of this kind may even cause perforation of the bladder and rectum, as well as enlargement of the inguinal and pelvic lymph glands. Tubercular ulcers are generally multiple, and of the well-known caseating character, and indications of tubercles elsewhere, especially in the lungs, can generally be detected. With the aid of the microscope, the special bacilli may be detected in the discharge or in scrapings, and in the latter, other anatomical elements of tubercles may be found.

Under such names as "corroding ulcer," "ulcus serpiginosum," "destructive ulceration," "rodent ulcer," "ulcus rotundum simplex," "esthiomène," "lupus," "lupoid ulceration," etc., various ill-defined forms of intractable and exceedingly chronic vaginal ulceration have been described, the precise nature of which yet remains to be determined.

It seems probable that under these headings various forms of tuberculous, lupoid, and syphilitic disease are included, as well as rodent ulcer. As to whether any form of chronic ulcerative disease, answering to the description of "corroding ulcer," ever occurs in the vagina, as a consequence of local malnutrition due to obliterative endarteritis, as Zabo, Beuttner, and others maintain, I am certainly skeptical.

The surgical treatment of vaginal cancer must be regarded as an open question. In a general way, I admit the desirability of thoroughly extirpating the whole diseased area; but in most cases—such is the rapid and insidious progress of the disease—this is impracticable with any prospect of advantage to the patient. Let us hope that the earlier recognition of the malady and improved methods of operating will eventually enable us to attain better results.

The cases most suitable for extirpation are those in which the disease is limited to the vagina—especially to its posterior part—but even in cases of this kind, rapid recurrence has generally followed such operative procedures as have hitherto been employed. Simple excision of the tumor, even when freely carried out, has seldom been successful against recurrence. Martin sums up his experience as follows: "All my patients have succumbed to recurrence, although I am convinced that in nearly all of them my incisions were quite clear of the disease." The results of the more radical procedure of vaginal extirpation, as

practised by Olshauser, have been almost equally disappointing, for of sixteen patients operated on in his clinic, in fifteen the disease soon recurred, while only one was free from recurrence two years afterward.

Olshausen's procedure comprises transverse division of the perineum, so as to admit of the separation of the vagina from the rectum as high up as Douglas' pouch. The diseased part of the vagina is then separated from its connections so that it can be freely excised, together with a wide margin of the adjacent vaginal wall.

In the event of the uterus also being involved, Olshausen has practised the extirpation of both organs by the following modification of his procedure. The vagina having been separated from the rectum as high up as Douglas' pouch, the latter is opened; the uterus is then seized and retroverted; the broad ligaments and their contained blood vessels are ligatured and divided; the bladder is separated from its utero-vaginal connections; the uterus, together with the diseased part of the vagina, is then removed *en masse*, by dividing the vagina with scissors.

Among the weak points of this operation, the weakest, undoubtedly, is its failure to deal with that part of the rectum adjacent to the vaginal disease, which in such cases is nearly always implicated, except in the earliest stage of the malady.

The experience gained by such operations shows that the disease is seldom limited to the utero-vaginal canal, so that, if its extirpation is to be seriously attempted, more radical procedures are evidently necessary.

With this object in view, intervention by the sacral way and by laparotomy have been advocated. Kraske, having shown the feasibility of removing cancer of the rectum by sacro-coccygeal exsection, his operation was soon afterward modified by Herzfeld, for the extirpation of uterine cancers spreading to the vagina, rectum, etc., and this led to its utilization for the extirpation of vaginal cancers encroaching on the uterus, rectum, etc. The great disadvantage of the sacral operation, besides the restricted field, is that it offers no facilities for the removal of suspected lymph glands, etc., in the pelvis, although its mortality is considerable. In fact, the only procedure meeting all the requirements is total utero-vaginal extirpation by the abdominal route, after the manner devised by Werder for the extirpation of uterine cancer, with such small modification as to vaginal circumcision, etc., as may be necessary. In this way the whole vagina, the uterus, and its adnexa, pelvic and inguinal glands, and as much of the rectum as seems likely to be implicated, may be removed. When the bladder and periurethral tissues are infiltrated by the disease, radical operations are hardly worth undertaking.

Palliative operations comprise the removal of projecting portions of the growth with the curette, followed by the application of the actual cautery. Thus extensive sloughing, fœtid discharge, and debilitating hemorrhage may be checked. The daily irrigation of the vagina with unirritating aseptic solutions and the subsequent insertion of a light plug of iodoform gauze add to the patient's comfort. The other indications for treatment are the same as for uterine cancer.

A priori one would expect that such a disease as cancer of the vagina would prevent sexual intercourse, and be a bar to conception; but this is so far from being the case that of sixteen women of child-bearing ages with this disease in Bernard's list, no less than five were also pregnant.

This complication makes hardly any difference in the progress of the local disease; although, of course, it adds to the danger of the mother and child in parturition. Most cases go to full term, when accouchement is, as a rule, naturally effected; or the aid of forceps, or some other obstetrical manœuver, may be required to facilitate delivery.

Abortions are relatively frequent when this complication exists; but those spontaneously arising are generally less harmful than those artificially induced, owing to the frequency of septic infection under the latter circumstances. As a rule, the only surgical intervention likely to be required will be for the release of a viable fœtus. In such cases, the child's interest must be the dominant consideration; and this generally requires that intervention should be deferred until as near full term as possible. When labor has actually commenced, dystocia caused by the disease may necessitate surgical intervention, of which Küstner and others have reported instances; but this is comparatively rare.

Cæsarian section is the operation usually indicated, and its results are very favorable, so far as the child's safety is concerned; but the maternal mortality is considerable.

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VARIOUS METHODS OF INFANT FEEDING—BREAST FEEDING, BOTTLE FEEDING.*

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Breast Feeding.—Nothing has yet been devised or manufactured, in spite of scientific progress, that can equal human milk. To prove this, it is only necessary to study the infant mortality of any large city, and lay special stress on the mode of feeding pursued. Then, it will be found that the large majority of infants who die, succumb for the want of breast milk. It must not be supposed that, when we have breast milk, our responsibility ends, for only the strictest supervision of the infant during the nursing period, besides regular examinations of the breast milk by a competent chemist, can determine the nature of the ingredients of the milk the baby receives.

Babies should be weighed regularly every week. The moment an infant ceases to gain in weight, the cause should be carefully looked into. The most important ingredient to study in human milk is the proteids; they are the tissue-building elements, and it will usually be noted that a deficiency of the proteid elements is associated with loss of weight on the part of the baby, and general backwardness in development.

Let me illustrate: Baby G., eight weeks old, was brought to my office. The mother stated that the infant cried constantly, had greenish, cheesy stools, and was very restless and puny. She believed it had emaciated, although she never weighed it. The examination showed a very delicate baby, with a large abdomen, quite tympanitic on percussion; the skin appeared dry, and the muscles flabby. Some rhonchi on both sides of the thorax showed a bronchitis; the heart was feeble, but quite regular in rhythm. The buttocks were very red from excoria-

*Read in part before the Harlem Medical Association of the City of New York.

tions, evidently due to excessive irritation from acid stools. On questioning the mother, I learned that the baby nursed from one-half hour to forty-five minutes, and then cried almost continually until the next feeding time. When the child slept, the mother did not notice any discomfort from her overfilled breasts, and she never had the distinct "rush of milk" so natural to the beginning of the nursing act. A drop of breast milk was taken several minutes after the nursing act was properly established, and examined under the microscope, in order to study the character of the emulsion. By this means the size and form of the fat globules could be determined, and a rough estimate of the value of the milk could be made. This is not, however, a positive criterion of the exact value of the milk, and to determine this, the contents of a full breast of milk should be drawn off and sent to the chemist. By excessive stimulation, and prolonging the time for nursing, I was only able to draw off about an ounce of breast milk, showing a deficiency in quantity. The examination made for me by Mr. Graeff, a chemist, showed the following result:

Fat	3.25
Sugar	7.35
Proteids	1.08
Water	88.12
Inorganic salts	0.20
Casein (probably)	0.40
Albumin (probably)	0.68
Total solids	11.88
Specific gravity	1.0309

Reaction, alkaline (slightly).

The casein and albumin could not be separated, owing to the small sample of milk submitted to the chemist.

On studying the ingredients of this breast milk, we note that the fat and sugar were normal in quantity, but that the proteids were very low.

The supply being scanty, mixed feeding was tried in the following manner: The infant was fed every two and a half hours from the breast, alternating with a bottle feeding. The milk prescribed in the bottle was ordered at a laboratory, and contained:

Fat	2.00
Sugar	5.0
Proteids	0.7

Raw milk. No alkalinity. Number of feedings, five; quantity, three ounces.

The infant improved, as noted, by increase in weight. Yellowish stools were passed not more than three in the twenty-four hours. The child seemed satisfied after feeding, as the mother stated; it frequently slept from one feeding time until the next.

Ten days after the method of mixed feeding was commenced, the infant's mother reported that her milk was so scanty that she had hardly enough to nurse the baby twice in twenty-four hours, so that it was necessary to substitute bottle-feeding entirely, with the exception of one morning breast feeding and one evening breast feeding. I am rather opposed to giving up breast milk, no matter how little may be present, and always aim to supply the deficiency by judicious hand feeding. But in this instance the total cessation of breast milk compelled me to substitute bottle feeding.

It would almost seem out of place to offer a plea for the hapless baby to obtain breast milk were it not for the fact that thousands of children are lost because of "scientific methods" of feeding—methods aiming at exactness, but in reality being far from exact, when the results obtained are carefully studied. Nothing will ever be able to supersede the simple human breast milk, wherein nature gives a clean alkaline emulsion of the proper consistency as to both quality and quantity, and without the necessity of first passing through complicated manipulations before feeding.

The duty of the physician is to note the condition of the human breast after the birth of the baby, and to examine carefully the specimen of milk the moment any signs of trouble manifest themselves in the infant. Such symptoms are: Colic, gastric disturbances, frequent vomiting, and the passage of excessive greenish or cheesy stools. When such symptoms are present, a chemical examination of the milk is demanded to judge of the quality of the food. An important point, and one that I lay great stress upon, is to take the weight of the infant. It is necessary to weigh the baby at least once a week. A stationary weight or loss of weight will at once direct our attention to the fact that the infant receives milk that is poor in either quality or quantity, or possibly in both. So closely is the infantile mortality associated with the manner of feeding that we can tell at a glance just what manner of feeding has been pursued.

According to reliable statistics, in Norway the mortality from breast feeding only ranges between 8.5 and 10.5 per cent.; in Bavaria, where children are largely brought up on farinaceous foods, the mortality is about 30 per cent. Out of four hundred children dying from summer diarrhœa, Minert, in Bavaria, observed that 96 per cent. were artificially fed.

During times of great distress, as, for example, during the siege of Paris and the Lancashire cotton famine, the infant mortality is largely reduced, while adult mortality is increased—this being due to the fact that mothers at such times are compelled to suckle their babes.

Ballord made a prolonged and careful investigation into the causation of infantile diarrhœa, with the following results: (1) Infants in all conditions of life, fed solely from the breast, are remarkably exempt from fatal diarrhœa; (2) Infants, fed in any way with artificial food, "to the exclusion of breast milk," suffer the most heavily; (3) Infants, fed partially on the breast and partially on artificial food, occupy an intermediate position; (4) The "bottle" is the most dangerous method of artificial feeding. In other words, the excessive mortality among infants from diarrhœa is due to the method of feeding, that is, to artificial food, and the mode of its preparation and administration. The food may be, in itself, sound and wholesome, and yet dangerous, because unsuited to the digestive capacity of the child; or, it may be perfectly suited to the child's digestion and requirements, and yet dangerous from having been stored in dark, ill-ventilated places, exposed to infection from soil, drains, etc.; or, it may happen that the food is wholesome and suited to the digestive capacity of the particular infant, while the evil result is due to dirty feeding bottles, rubber tubes, or nipples, or to overfeeding and irregularity in feeding. In artificial feeding, there is less liability to diarrhœa and other forms of digestive disturbance when the food is given from a clean cup or a clean teaspoon than when a bottle of any description is used.

Speaking of the mortality in infants in the maternal management of children, Thomas Bull says: About a century ago, the workhouse in London presented the astonishing result of twenty-three deaths in every twenty-four infants under the age of one year.

Parliamentary inquiry resulted in improved management, and thus the deaths were quickly reduced from 1,600 to 400 a year.

Again and again have I seen a sickly and delicate child become vigorous and healthy under a judicious system of hygiene and feeding.

In other instances, an infant born strong and

healthy, has withered, pined, and died, simply from bad feeding and bad management.

Cautley, in his book on infant feeding, gives reasons for a large infant mortality thus:

The more rural the district, the lower is the infant mortality.

The more industrial the town, the greater is the infant mortality.

Causes are either:

(1) Insufficiency of fresh air in towns, and bad hygienic surroundings; (2) Deficient or contaminated milk supply for bottle-fed infants; (3) The lack of breast milk. So many mothers wean their children.

The number of deaths from diarrhœal affections at this early age is a fair indication of the mortality from unsuitable feeding.

We note, however, that in England in 1894, minor causes of death under one year of age were: Thrush, 334; starvation or want of breast milk, 231; scurvy, 8; rickets, 445; dentition, 2,155; enteritis, 3,247; tabes mesenterica, 2,945; convulsions, 15,775; and many other causes directly or indirectly connected with the mode of feeding.

NEW YORK CITY STATISTICS.*

Population, Deaths, Death Rate of Children, under five years of age, from 1891–1900.

Year.	Population.	Deaths.	Death Rate.
1891	188,703	18,224	96.6
1892	194,214	18,684	96.2
1893	199,886	17,865	89.4
1894	205,723	17,558	85.3
1896	216,728	16,807	77.5
1897	220,641	15,395	69.8
1898	224,736	15,591	69.3
1899	229,029	14,391	62.8
1900	233,537	15,648	67.0

*Fischer, Louis: "Infant Feeding in Health and Disease;" Compiled from Statistics, New York Board of Health. F. A. Davis Co., 1901, pp. 292–293.

REGISTRAR GENERAL—ENGLAND AND WALES, 1890–94.

Year.	Total Births.	Total Deaths.	Deaths under 1 Year.	Deaths from Diarrhœa.
1890	869,937	562,248	130,955	17,837
1891	914,157	587,925	135,801	13,962
1892	897,957	559,684	132,463	15,336
1893	914,572	569,958	145,061	29,721
1894	890,289	498,827	121,799	10,763

DEATHS FROM DIARRHŒA UNDER ONE YEAR.

1890, 11,795; 1891, 9,200; 1892, 10,487; 1893, 20,722; 1894, 7,360.

MORTALITY TABLE FOR LONDON, 1890–94.

Year.	Total Births.	Total Deaths.	Deaths under 1 Year.	Deaths from Diarrhœa.	Total under 1 Year.
1890	128,161	87,689	20,944	2,823	1,983
1891	134,484	89,122	20,776	2,496	1,829
1892	132,328	86,833	20,441	2,642	1,884
1893	133,062	89,707	21,814	3,546	2,601
1894	131,454	75,635	18,812	1,771	1,324

DEATHS DUE TO DIARRHŒA AND MODE OF FEEDING.

Age in Months.	Cases Investigated.	Percentage of the 153.	On Breast only.	On Breast Partially.	Not on Breast at all.	By Bottle.
0–3	41	27	24	20	56	71
3–6	55	36	16	13	71	76
6–9	34	22	3	9	88	91
9–12	23	15	30	17	52	61
	153	100	18	14	68	76

Eröss collected statistics from sixteen cities of Europe, and found that of 1,439,056 children born, there died 130,610 during the first four weeks of their life, or nearly 10 per cent.

Two hundred deaths; their mode of feeding. Inquiry into 200 deaths taken by me at random at the Children's Service of the German Poliklinik and West Side German Dispensary.

Age in Months.	On Breast only.	Breast Partially.	Bottle Feeding only.
0–3	5	8	16
3–6	7	12	24
6–9	12	16	39
9–12	9	12	40
Totals	33	48	119

The above children were all inhabitants of both the east and west side of the city, living in crowded apartments known as tenement houses. The hygienic factor is, therefore, an important one. Sixty per cent. of these children died from gastric and intestinal disease; about 30 per cent. died from catarrhal diseases, affecting the air passages, such as bronchitis, pneumonia, and tuberculosis. The rest died from infectious diseases and surgical accidents.

It is idle to believe that, because an infant is nursed by its mother, all must go well. That this is not always true can be seen by the careful examination of the baby, which I have the honor to demonstrate, and whose rickets and spinal disease are as severe as the worst specimens encountered from faulty bottle feeding.

M. G., one year old, has been breast-fed since birth. His mother notices that he cannot stand nor walk nor talk. His dentition is delayed, and he has no tooth yet. Two other children were far more advanced at the age of nine months than this child is at twelve months. The mother states that she has lost no children, and has never miscarried. Lues can be positively excluded.

The infant's bowels have always been troublesome, either constipation or diarrhœa being present. The child at present is troubled with greenish, offensive, cheesy, curded stools. He is still nursing, as often as every two hours, and when crying or restless, the mother nurses the baby oftener. He takes the breast several times at night.

A drop of breast milk, placed under the microscope with a low power, showed a very poor emulsion with irregular-shaped fat globules. It also presented the following conditions:

Reaction: Very slightly alkaline.

Specific gravity	1.031
Fat	0.96
Sugar	7.67
Proteids	0.88

March 23, 1901.

What impresses one most in the study of this case is the fact that the bony structures are imperfect and lacking in their solid elements.

The child has a square head—the typical rachitic head—beaded ribs, the usual rachitic rosary, pendulous belly, and flabby condition of the muscular walls of the gastro-intestinal tract. The ends of the long bones, particularly the radius and ulna, tibia and fibula, show rachitis. The spine presents a marked rachitic kyphosis.

Thus, the whole osseous system seems to suffer from lack of proper food, and we have especially in the bones evidence of malnutrition.

Could this condition have been avoided, and how?

My answer is, by carefully watching the ingredients of the breast milk, the rachitic manifestation could have been stayed. We know that toward the end of lactation, or about the end of six months, the albuminoids of the milk decrease, and, unless we make up this deficiency by giving the infant some food containing proteids, such as beef broth or meat soups or raw white of egg, in addition to the breast feeding, the period of dentition will be delayed. In addition to the physiological deficiency, the bony structures

suffer and will be soft, thus inviting spinal curvatures or bow-legs or some similar bony deformity.

Under such circumstances, the breast milk should be examined by a chemist, and, if the ingredients are noted, we can study just what portion of the milk is lacking.

If the milk deteriorates rapidly, and the infant's weight shows no gain, or a possible loss of weight, then weaning must be insisted upon.

Frequently, careful attention to the mother's diet and the administration of nitrogenous food, in addition to outdoor exercise, will work admirably.

2. **Mixed Feeding.**—The following case will illustrate what is meant by "mixed feeding":

Baby E., about three weeks old, was referred to me by Dr. H. Jarecky. The child had greenish, sour-smelling, cheesy stools. The mother states that the infant is very restless, shrieks as though in pain, and vomits very frequently. The emesis is of an explosive character.

A drop of milk placed under the microscope showed the globules of fat very unequal in size, and very unevenly divided. It is a very thin emulsion. A specimen sent to a chemist showed the following:

Specific gravity	1.035
Reaction	Neutral.
Fat	2.46
Sugar	7.47
Proteids	1.24
Total solids	11.37
Inorganic salts	0.22
Water	88.61

On studying the above, we note that there is a great deal of sugar, enough fat, and also proteids, and that the milk, while quite good in quality, was only deficient in quantity. Attention was, therefore, directed to the mother's general health, and out-of-door exercise, a careful attention to her bowels, and a nitrogenous diet, consisting of meat, milk, and eggs, was ordered. She was instructed to nurse the child every four or five hours only, and to substitute a bottle containing three ounces of a milk mixture, consisting of

Raw milk	1 oz.
Oatmeal water	2 ozs.
One-half teaspoonful granulated sugar.	
A pinch of salt.	

This mixture was warmed before feeding, and was neither sterilized nor pasteurized.

This was fed alternately with the breast milk. Thus, the child received a breast feeding at 8 A.M., bottle feeding at 10.30 A.M., breast feeding at 1 P.M. It is a good plan to take a child up during the day from its sleep, if it is feeding time, and in this manner try to pursue regular intervals of feeding by day, to discourage regular feeding at night, and try to encourage sleep.

The general condition of this baby was very good, as a careful study of the weight chart will show, and so I gradually changed from oatmeal to barley water. The child is now a little over three months old, and receives the following formula:

Milk	2 ozs.
Barley water	2 ozs.
Pinch of salt.	
Half teaspoonful granulated sugar.	

Scald the raw milk with the hot barley at the time of feeding. No other pasteurization or sterilization is required. Feed every six hours with a bottle, alternating with the breast. Thus, the child receives its mother's breast or its bottle once every three hours. The stools are yellow and of a good consistency. The vomiting, which was very disagreeable, has greatly improved.

It was quite apparent that what first appeared from the clinical history to be explosive vomiting due to some cerebral disease (possibly meningitis) proved to be due to fermentative gastric trouble.

Baby born, December 19, 1900.

	Weight
December 19 (at birth)	8 pounds
December 26	7½ "
January 3	7 "
January 11	7 "

Commenced treatment:

January 18	7½ lbs.	Gained	8 ounces
January 25	7 lbs. 10 oz.	"	2 "
February 1	8½ lbs.	"	12 "
February 8	9½ lbs.	"	16 "
February 15	10 lbs.	"	8 "
February 22	10½ lbs.	"	8 "
March 1	10 lbs. 14 oz.	"	6 "
March 19	11 lbs. 7 oz.	"	9 "
March 24	11 lbs. 14 oz.	"	7 "

3. **Bottle Feeding.**—When breast milk cannot be obtained, then pure cow's milk should be used for bottle feeding. The ideal milk "is milk which has been secured from a reliable dairy in which all modern sanitary laws are so applied that the hygienic condition of the cow's stable is perfect."

If milk is bought from the average dairy in New York City, it is rarely less than from twenty-four to forty-eight hours old. Such milk certainly requires pasteurization or sterilization if we are compelled to use it for the feeding of infants. It must not be supposed that sterilizing or pasteurizing milk which is contaminated with either pathogenic or non-pathogenic bacteria will alter its quality, for we cannot convert an unhealthful milk into a healthful milk by any steaming process yet devised. Toxins contained in milk, and which are always elaborated by micro-organisms, cannot be destroyed even by subjecting the milk to a temperature of 300° F.

Public benefactors commence at the wrong end when they seek to convert milk contaminated with bacteria into a sterile fluid by steaming the same. What is gained by means of the boiling or steaming of the milk is simply the destruction of a large number of bacteria. It is impossible to destroy all micro-organisms unless the milk is subjected to tyndallization, which really means renewing the sterilization on three successive days for a given time. That this is impractical and next to impossible is at once apparent.

Objections to sterilized or steamed milk consist in the fact that the heated milk has undergone chemical changes. The latter are chiefly found in the casein, which is rendered much more indigestible when heated. All heated milk has a tendency to constipate, and it is only necessary to compare the stools of two children; one child being fed on raw milk, the other on heated milk. It will be found that the digestibility of the raw-milk baby will be far greater than that of the steamed-milk baby. In other words, the stool of a baby fed on raw milk will be of a more homogeneous consistency than that of the other baby fed on sterilized or pasteurized milk.

The greatest objection to feeding with sterilized milk consists in the fact that the majority of such children offer a greater tendency to the development of scurvy and rickets. Milk that is steamed or boiled lacks the element of freshness, which, we know, will produce scurvy, the same as happens when an adult is deprived of fresh meat and green vegetables.

Only recently K. Oppenheimer, in Munich, published a series of experiments in the *Deutsche medicinische Wochenschrift*, February 14, 1901, showing that milk generates H S when heated longer than five minutes. He used filtering paper saturated with acetate of lead, and noted the increasing brownish-black deposit, depending on the length of time that the milk was heated. Thus, while milk heated five

minutes showed a brownish color, that heated twenty minutes converted the filtering paper saturated with lead solution into an intense blackish-brown color. Oppenheimer, therefore, believes, based on his experiments, that the albuminoids, or, more properly speaking, the albumin in milk, is decomposed, as proven by the liberation of sulphureted hydrogen, after milk is heated five minutes or longer in a steamer.

The following case taken from my clinical notes will serve as an example of how to feed with raw milk: An infant, seven months old, had been wet-nursed, and was brought to my office with the following history: The child has been well until it was six months old, seemed to gain in weight from six to eight ounces weekly, and appeared satisfied after nursing. The stools had been quite regular up to one month ago; since one month the infant's weight remained stationary, the stools had been of greenish color, contained many curds; the infant was very restless and wanted to nurse all the time; the child did not appear satisfied, and seemed to cry most of the time. The breast milk was sent to a chemist, who reported the following:

Amount sent, 1½ ounces.	
Reaction	slightly alkaline.
Specific gravity	1.03105
Fat	1 22
Proteids	0 98
Sugar	7 07

It was also learned from the clinical history that the wet-nurse had menstruated quite profusely for one week, and during that time the baby seemed to be colicky. After receiving the above chemical report, which showed the deficiency of both fat and proteids, I ordered the child weaned. The following food was then prescribed:

Raw milk	6 ounces.
Barley water	2 "
Half teaspoonful granulated sugar.	
Pinch of salt.	

Warm the milk in a water bath for three minutes before feeding. Feed every four hours.

On the alternate days I ordered:

Raw milk	6 ounces.
Oatmeal water	2 "
Half teaspoonful granulated sugar.	
Pinch of salt.	

Warm the milk before feeding, and feed the baby every four hours.

Thus, the baby received one day oatmeal with milk, and the following day barley with milk. In order to give the child something that would act as a general tonic, I ordered tablets containing one minim of nux vomica, to be given three times a day before the feeding, dissolved in a teaspoonful of water.

The stools were carefully watched, and the mother reported that twenty-four hours after commencing this raw-milk feeding, the stools were yellowish, and the child seemed to be satisfied. One week following this plan of treatment, the child gained six ounces; at the end of two weeks fourteen ounces more, making a total gain of twenty ounces in two weeks. It must be understood that each child must be watched carefully, and that we must aim at the gradual substitution of whole milk, rather than give milk diluted with the cereals as above prescribed. If, therefore, the appetite warrants it, seven ounces of milk can be given to a baby, as above described, diluted with one ounce of rice or barley water; this to be followed in a few weeks—if the stools, the general gastric condition, and the absence of vomiting will warrant it—by pure cow's milk.

In the case reported, I ordered the white of a raw egg, with some sugar, fed with a spoon, and also gave the child some steak juice, or roast-beef juice, or a concentrated soup made from meat containing sago, farina, or hominy, at noon, midway between the milk feeding.

The average child requires about one quart of cow's milk divided into four portions of eight ounces each. In addition a bread pap, consisting of crackers or zwieback, soaked in soup, will be found advantageous. It is worthy of note that, three weeks after I commenced the above change from the wet-nurse to the cow's milk, an eruption of two lower teeth made their appearance.

65 East Ninetieth Street.

ON THE PRESENCE OF TYPHOID BACILLI IN THE BLOOD OF TYPHOID-FEVER PATIENTS.

By ALBION WALTER HEWLETT, M.D.,
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Since 1885, isolated cases have been reported in which typhoid bacilli have been cultivated from the blood during the course of typhoid fever. Within the last two years, it has been shown by the use of delicate methods that the bacilli occur in the blood of the majority of typhoid-fever patients. The following are the recent figures:

Castellani,[1]	1st series	12 cases	0 positive 0 per cent.
	2d series	14 cases	12 positive 87 per cent.
Schottmüller[2]		50 cases	40 positive 80 per cent.
Auerbach and Unger[3]		10 cases	7 positive 70 per cent.
Cole[4]		15 cases	11 positive 73 per cent.
Present series		24 cases	20 positive 83 per cent.

1. Castellani, Aldo: "Sul Reporto del Bacillo Tipico nel Sangue"—*La Riforma Medica*, 1900, Vol. I, pp. 63 and 70.

2. Schottmüller: "Ueber eine das Bild des Typhus bietende Erkrankung hervorgerufen durch Typhus ähnliche Bacillen"—*Deutsche medicinische Wochenschrift*, Vol. 26, 1900, p. 511.

3. Auerbach, Max, and Unger, Ernst: "Ueber den Nachweis von Typhusbacillen im Blut Typhus Kranker"—*Deutsche medicinische Wochenschrift*, Vol. 26, 1900, p. 796.

4. Cole, Rufus I.: "Frequency of Typhoid Bacilli in the Blood"—*Johns Hopkins Hospital Bulletin*, Vol. XII, 1901, p. 203.

The great certainty of such a means of diagnosis led to a systematic test of its value in a series of cases at the New York Hospital. Cultures were made from the blood of twenty-four typhoid patients. Of these, seventeen showed typhoid bacilli in the first cultures, and three more showed them during the relapse, a total of twenty positive cases out of twenty-four, or 83 per cent. of the number investigated. Of sixteen consecutive cases from the male and children's wards, typhoid bacilli were obtained from the blood of fifteen, showing that the above percentage was not raised by a selection of patients.

The method employed in making blood cultures was essentially the same as that used by Cole. About five cubic centimeters of blood were taken from a vein at the elbow and were diluted in three flasks of sterile bouillon. If a growth of motile bacilli appeared, they were identified by their reaction toward a known serum, a well-marked Widal reaction after ten minutes in a dilution of one to ten being considered as sufficient to establish a diagnosis. Staphylococci appeared in a small number of the cultures and were regarded as contaminations. When the bacilli in the original flasks of bouillon grew out rapidly and were sufficiently motile, a positive result could be obtained in thirty hours. If a transfer or plating was necessary, the identification of the bacilli was often delayed for from three to five days. These delays constitute the most serious objection to the use of blood cultures for early diagnosis and indeed often rendered its use most disappointing. Two factors are important in the above method: the

use of large quantities of blood and the dilution of this blood in sufficient bouillon so that its bactericidal properties will not prevent the growth of organisms. Castellani lays especial stress on this second factor and attributes his success in his second series of cases to the large amount of diluent used. The importance of the first factor will be shown later.

Castellani mentions four cases in which typhoid bacilli were obtained in blood cultures at a time when the Widal reaction was negative. Auerbach and Unger report one such case. Cole obtained the bacilli in six cases before securing a positive Widal reaction with a dilution of one to fifty. In three of our patients (III, V, XV), the blood contained typhoid bacilli before the serum, diluted one to ten, showed the Widal reaction.

The present series of cases shows that cultures taken early in the disease are more apt to be positive than those taken late in the disease. In all, thirty-eight blood cultures were made from twenty-four patients, with the results here tabulated:

Days of Disease.	3	4	5	6	7	8	9	10	11	12	13	14	16	17	19	20	21	22	23	27	33
Results of Blood Cultures.	+(R)	+	+	+	+	+	+	+	+	+	+	+	—	+	—	+	—	—	—	—	—
		+(R)	+(R)	+	+	+	+		—			+	—		—				—		
						+			—				—								
						+							—								

The earliest positive results in the course of the original fever were obtained on the fourth and fifth days of the disease. The difficulty in determining the exact onset of the illness, however, makes these days somewhat uncertain. Of three cases in which cultures were made during a relapse, all showed typhoid bacilli in the blood. In these, the onset of the relapse could be accurately determined, and the positive results were obtained in them on the third, the fourth, and the fifth days. Previous cultures in each case had been negative, so that a fresh blood infection had probably occurred at these early dates in the relapse. The earliest negative results, obtained twice on the eleventh day, were in rather mild cases (IX and XXI). From only two patients were cultures positive after the fourteenth day of the disease, and in none was a positive result obtained after a previously negative culture, except when there was a relapse. Of the two patients showing positive cultures in the third week of the disease, one (XVII) was a severe and fatal case of ambulatory typhoid, positive on the twentieth day. The other case (XXII) ran a moderately severe course and was complicated by phlebitis of both femoral veins. Blood cultures taken on the seventeenth day showed typhoid bacilli; those taken on the twenty-first day were negative. Typhoid bacilli have been obtained from patients at the beginning of the fourth week of the fever, in one instance by Cole, and once by Auerbach and Unger. There was no such case in the present series. On the other hand, cultures were negative during the third week of the disease in several of our severe cases (XII, XVII, XXII). One of these patients (XII) appeared to be most intensely intoxicated. Nevertheless, blood cultures on the sixteenth and twentieth days were negative, and the bacilli were only obtained with the onset of an intercurrent relapse. Case XVI ran a moderately severe and very protracted course. Cultures were positive on the eighth and thirteenth days; negative on the nineteenth and thirty-third. At the time of the last, the afternoon temperature had been regularly above 102.6°. Successive blood cultures during the fever were made in a number of other cases. In case III, they were positive on the fifth and eleventh days; in case XV, on the fourth and tenth days; in case IX, they were positive on the ninth and negative on the twenty-second day; in case XXIV, positive on the fourteenth and negative on the nineteenth day.

Typhoid bacilli have been obtained from the blood of typhoid-fever patients during the relapse, by Cole and by Auerbach and Unger. In the three cases of the present series in which cultures were made during the relapse, typhoid bacilli were found very early in each case. As previous cultures during the fever had been negative, it must be inferred that a fresh invasion of the blood occurred at the onset of the relapse. One of these relapses was exceedingly mild in character. The patient had no subjective symptoms, the temperature rose only once above 102.6°, it touched normal on the seventh, and remained there after the twelfth day. Hardly a better illustration could be found to show that typhoid bacilli may occur in the blood during a very mild course of fever.

All who have made blood cultures agree that bacilli may be obtained from the blood of very mild cases, and that, on the other hand, they may be absent from much more severe ones. As has been stated, the present series tends to confirm these views. We were inclined to attribute our negative results in severe cases to the late period of the disease at which the cultures were taken. However, Cole's case, No. XII, cannot be thus explained. This was a severe type of the disease and proved fatal. Blood cultures were negative on the ninth, fifteenth, and twenty-third days. The cultures were made, however, in tubes instead of flasks of bouillon.

The number of bacilli present in the circulating blood in an ordinary case of typhoid fever is doubtless small. A fluid culture medium can give but little information in regard to the number present. Nevertheless, it was found not infrequently that only one or two of the three flasks of bouillon inoculated developed typhoid bacilli, the others remaining sterile. It was noted on several occasions also that where a growth occurred in only one flask, that flask was the one which contained the largest amount of blood. This would seem to indicate, on the one hand, that the number of bacilli present in the blood is very small indeed, and, on the other, that the most essential factor in this method of making cultures is the large amount of blood used rather than a very high dilution of the blood.

To attempt generalizations from such a limited number of cases hardly seems justified. This series, however, leads one to the view that there is in the great majority of cases of typhoid fever an invasion of the blood with bacilli during the early weeks of the disease. It is not, however, properly a septicæmia, for the number of bacilli present is ordinarily very small. During the third week of the disease, or at any rate at about the time the temperature begins to fall, bacilli are no longer to be obtained in blood cultures. With the onset of a relapse, the bacilli reappear in the blood, only again to disappear as the relapse subsides.

Case I.—F. R. (No. 5561), aged forty-four years, was admitted May 24, 1901, about the third day of the disease. The case was one of moderate severity, complicated by intestinal hemorrhages and orchitis. Rose spots were present on the sixth day. Widal reaction was suggestive on the fourth and sixth days, and blood cultures positive on the sixth day.

Case II.—A. A. (No. 5564), aged thirty-four years. Admitted May 25, the twenty-first day of the disease. A moderately severe course, complicated by a suppurative mastitis, from which typhoid bacilli were obtained.

On admission, the spleen was palpable, rose spots were present, and the Widal reaction was positive. Blood cultures on the twenty-third and twenty-seventh days of the disease were negative.

Case III.—F. B. (No. 5623), aged twenty-nine years. Admitted June 10, the fifth day of the disease. A moderately severe case. Definite rose spots on the ninth day. Widal reaction was negative on the fifth and eighth days, but positive on the thirteenth day. Blood cultures showed typhoid bacilli on the fifth and eleventh days.

Case IV.—A. W. (No. 5662), aged nineteen years. Admitted June 17, the fifteenth day of the disease. A case of moderate severity, followed by a relapse. On admission, the spleen was palpable, rose spots were present and the Widal reaction was positive. Blood cultures made on the sixteenth day were sterile. Only small amounts of blood were used.

Case V.—R. O. (No. 5978), aged twenty-one years. Admitted July 31, the sixth day of the disease. A severe, protracted case, with continued fever of forty-two days' duration, ending fatally. On admission, spleen was palpable and rose spots were present. Widal reaction was negative on the seventh, ninth, and twelfth days; positive on the fifteenth day. Blood cultures positive on the eighth day.

Case VI.—R. M. (No. 5989), aged twenty-nine years. Admitted August 3, the eighth day of the disease. Severe course, ending in death from intestinal perforation. On admission, rose spots were present, the Widal reaction was positive, and the area of splenic dulness was enlarged. Blood cultures positive on the ninth day.

Case VII.—T. S. (No. 6025), aged twenty-two years. Admitted August 8, the fourteenth day of the disease. A severe illness, terminating fatally on the twenty-eighth day, and complicated by intestinal hemorrhages, bronchopneumonia, and submaxillary adenitis. On admission, the spleen was palpable and the Widal reaction was positive Blood cultures positive on the fourteenth day.

Case VIII.—A. F. (No. 6028), aged twenty-nine years. Admitted August 9, the seventh day of the disease. A severe and protracted course, with recovery. On admission, the spleen was palpable and the Widal reaction positive. Two days later, rose spots appeared. Blood cultures were positive on the seventh day.

Case IX.—G. F. (No. 6157), aged forty-nine years. Admitted September 3, the ninth day of the disease. A mild case, with a very mild relapse. Few suspicious spots on abdomen. Spleen not palpable. Fairly good Widal reaction. Blood cultures on the eleventh day sterile. On the thirty-fourth day, the fifth day of the relapse, blood cultures were positive.

Case X.—W. S. (No. 6159), aged eight years. Admitted September 3, about the fifth day of the disease. Mild course. On admission, the spleen was palpable, rose spots were present, and the Widal reaction was positive. Blood cultures were positive on the seventh day.

Case XI.—G. A. (No. 6197), aged thirty-four years. Admitted September 9, on the fifteenth day of the disease. Very mild course. Area of splenic dulness enlarged. No rose spots; Widal reaction was positive. Blood cultures on the sixteenth day remained sterile.

Case XII.—C. D. (No. 6212), aged twenty-nine years. Admitted September 12, the fourteenth day of the disease. Severe course, with severe relapse. On admission, a few rose spots and a positive Widal reaction. Spleen palpable on the seventeenth day. Blood cultures were negative on the sixteenth and twentieth days, but positive on the thirty-first day, the third day of the relapse.

Case XIII.—H. G. (No. 6214), aged nine years, was admitted September 12, the eighth day of disease. The symptoms were moderately severe, and were complicated with double otitis media. Widal reaction positive on admission. Spleen palpable five days later. Blood cultures positive on the eighth day.

Case XIV.—E. S. (No. 6217), aged eleven years. Admitted September 13, the fifth day of the disease. Widal reaction positive on admission. Spleen palpable four days later. Blood cultures positive on sixth day.

Case XV.—C. G. (No. 6228), aged twenty-seven years. Admitted September 16, the fourth (?) day of the disease. Severe course, ending in death on the sixteenth day. On admission, suspicious rose spots, and spleen not palpable. Widal reaction suggestive on fourth day, positive on the sixth day. Blood cultures positive on the fourth and tenth days.

Case XVI.—J. E. (No. 6239), aged thirty-one years. Admitted September 17, the seventh day of the disease. Mild course. On admission, the spleen was palpable and the Widal reaction positive. Blood cultures positive on the eighth and negative on the twenty-third day.

Case XVII.—T. B. (No. 6278), aged thirty-two years. Admitted September 26, the fifth day. A moderately severe but very protracted course. On admission, the spleen was palpable and the blood gave a fairly good Widal reaction. Blood cultures positive on the eighth and thirteenth days, negative on the nineteenth and thirty-third.

Case XVIII.—E. M. (No. 6282), aged thirty-two years. Admitted September 26, the nineteenth day. Severe case of ambulatory typhoid, ending in death from intestinal perforation. On admission, rose spots present. Widal reaction positive and area of splenic dulness enlarged. Blood cultures positive on the twentieth day.

Case XIX.—J. C. (No. 6287), aged thirty-seven years. Admitted September 27, the ninth day of a mild but rather protracted course of fever. On admission a few suspicious spots; the Widal reaction was positive, spleen not palpable. Blood cultures positive on the ninth and negative on the twenty-second day.

Case XX.—B. E. (No. 6307), aged twenty-eight years. Admitted October 1, the eleventh day of the disease. Protracted course with an intercurrent relapse. On admission, spleen was palpable, rose spots were present and the Widal reaction was positive. Blood cultures positive on the twelfth day.

Case XXI.—J. N. (No. 6355), aged thirty-four years. Admitted October 7, the eighth day of the disease. Rather mild course, with moderately severe relapse. Spleen not palpable. Few suspicious spots on admission. Widal reaction negative on eighth, fairly good on ninth and nineteenth days. Blood cultures negative on the eleventh day and positive on the twenty-sixth, the fourth day of the relapse.

Case XXII.—J. L. (No. 6393), aged twenty-six years. Admitted October 14, the sixteenth day of a moderately severe course of typhoid complicated by phlebitis of both femoral veins. On admission, there were a few rose spots and the Widal reaction was positive. Blood cultures were positive on the seventeenth and negative on the twenty-first day.

Case XXIII.—T. C. (No. 6403), aged twenty-nine years. Admitted October 17, the fifteenth day of a rather severe course of fever. Widal reaction positive on admission. Blood cultures negative on the sixteenth day.

Case XXIV.—C. K. (No. 6424), aged seventeen years. Admitted October 19, the fourteenth day of a mild course. On admission, the spleen was palpable, rose spots were present, and the Widal reaction was positive. Cultures were positive on the fourteenth and negative on the nineteenth day.

A DEVICE FOR IRRIGATING THE MALE BLADDER.

By U. S. BIRD, M.D.,
TAMPA, FLA.

Irrigation of the male bladder by the urethra may be done by two different methods: One, in which an instrument is introduced into the bladder, and another, in which this is avoided. The last is preferable. Some reference to both is necessary.

The first is sometimes difficult and always risky. The passage of an instrument into the normal male bladder is usually easy. Difficulty and disease are associated. This difficulty is of all degrees, to impassability, which latter has been in the writer's experience. Only rigid instruments are usually adapted to difficult cases. The uncertainty and risk may be due to one or all of the following causes: Manipulation, a dirty instrument, an infected urethra, or an objectionable lubricant. In some individuals, the aseptic introduction of an instrument causes undue trouble. Pain, chill, fever, and varied nervous phenomena have been observed. We can be fairly secure in the condition of our instruments, although even here we may unwittingly fail. The writer recalls an instance of a metal catheter which was frequently used, and at least as frequently boiled, and supposed to be clean. On one occasion it was held in a flame and some frying was noticed. Continuing to apply this heat, the contained grease and its contents melted and burned for two minutes or more. If we can be sure of our instruments, the same cannot be said of the urethra. In supposedly clean cases it is uncertain. In known infection the certainty is negative. The condition of an instrument passed

into a suppurating urethra admits of no question. The danger from such an instrument in the bladder is just as indubitable.

In introducing instruments into the bladder, a lubricant is necessary. Glycerin and soaps are used in order to dispense with oils. They are unsatisfactory, except, perhaps, for a single introduction. Even then a soft-rubber catherer will sometimes need an oil. In repeated irrigation of the bladder a soft catheter is preferable, and without some agent, as vaselin, unpleasant friction with consequent irritation and possible infection may be noticed. Even vaselin will not entirely obviate this, but it is the best. Some part of such lubricants is left in the urethra with a probability of harm. Soaps and glycerin are similarly objectionable, but in a less degree.

By avoiding the introduction of an instrument into the bladder, the above risks and dangers are, in a great measure, avoided, but not entirely. The passage of a liquid into the bladder cannot be absolutely safe, because it is a foreign body, although a less objectionable one than a solid instrument.

For some time, irrigation of the bladder has been practised by means of gravity. In 1898, Guiteras mentioned using a fountain syringe, high enough to overcome the resistance of the cut-off muscle.

In the writer's genito-urinary work, irrigation of the bladder has been frequently necessary. At first, a soft-rubber catheter in the bladder and gravity were used. In doing this it was noticed that occasionally liquids would enter the bladder while the catheter was yet in the urethra. Thus was done, accidentally, the operation mentioned by Guiteras. But it was never done with the ease and certainty to make it a dependence, so the use of the catheter in the bladder was continued. In some cases it was impossible to introduce a soft-rubber catheter more than once because of irritable spasm.

In using gravity and pressure on the glans, with a catheter, in irrigating the posterior urethra, it was noticed that a certain manipulation of the floor of the urethra, as rhythmic compression, caused liquids to enter the bladder. This was such an improvement on the gravity method, which frequently failed, that it became a routine procedure, as it rarely failed. But, although effective, it was tedious and hence painful. An extension of the idea led to manipulation of the rubber tube, thus avoiding unpleasant manipulation of the urethra. This was a distinct advance, as greater latitude in pressure was possible, and hence greater certainty of result. However, the operation was still slow, indirectly causing pain by continued pressure on the glans. For some time, this method was used exclusively and satisfactorily, as it was the best known. In casting about for a means of avoiding the drawbacks of slowness and consequent pain, the similarity of pressing a tube and a bulb was intuitively perceived, and the next improvement was the logical result. The bulb and discharge tube of a bulb syringe were connected to the tube of a fountain syringe, a hard nozzle guarded by a soft-rubber tip supplaced the catheter, and the apparatus which is presented was complete.

The details of its use are simple. The reservoir containing the irrigating liquid is raised to a convenient height; the nozzle is introduced into the meatus, and pressure sufficient to prevent escape of liquid is made with the thumb and forefinger on the glans and urethra around the nozzle, and the bulb is compressed. The use of gentle, slowly increased, and regulated pressure will cause the liquid to enter the bladder, and the rest is easy. The bladder is emptied naturally, and the operation repeated as indicated.

The drawbacks to this method are less than those attendant on any other known to the writer. The results of introducing a liquid into the bladder are uncertain. But an antiseptic solution is safer than a solid instrument. Some urethræ do not well tolerate pressure necessary to enter the bladder. The pain or other unpleasantness is reduced to a minimum by gentle handling, and is usually only temporary. No bad results have been noticed. Intermittent pressure is less annoying than continuous pressure, and neither is as irritating as a solid instrument. Pressure around the glans may be painful. In this, as in the presence of any other unpleasant symptom, judgment must be used. Manipulation should cease for the time, in the face of unpleasant symptoms, at any stage of the operation. The object is to accomplish gradually and progressively the desired end, rather than to demonstrate the physical possibilities of the apparatus. This irritability about the meatus soon passes off, and is less than when gravity alone, as a motive power, is used. That is slower, when successful, and the consequent long-continued pressure more unpleasant.

At first, there may be some nervous reaction, as nausea or vertigo. This rarely persists longer than the first or second sitting.

What advantage the device exhibits lies in the addition of a bulb to a gravity irrigating apparatus for a specific purpose.

To sum up, the writer has noted the following points of excellence in the use of his device:

1. There is greater safety from infection than when instruments are passed into the bladder.

2. The possible pain and nervous reaction are more tolerable than when either intravesical instrumentation or gravity alone, as a motive power, is used.

3. It is more certain than gravity alone, as a motive power. In this last connection an illustrative case may be mentioned. This was one in which the safe introduction of an instrument was impossible because of a false passage, due to previous instrumentation. With this apparatus, on different occasions, a small quantity of liquid was made to enter the bladder, and was voided naturally.

No claim to priority is made, as the writer is not sufficiently versed in the literature on the subject. The device is original with the author, as may appear from the steps in its evolution. It may be useful in other hands.

Leech Fishing.—It appears, says the *Pharmaceutical Journal*, that in meridional Russia, and especially in the innumerable ponds of the basin of the Don and Donetz rivers, the inhabitants gain a remunerative livelihood, though dangerous and disagreeable, in leech fishing. Nothing could be simpler than the method they employ. Bare legged, they tramp about the water; the leeches fix themselves upon the bare flesh and begin to suck. As soon as the fishers reach terra firma, they remove the flabby animals and deposit them in an earthen vessel. It is a painful and weakening operation, and sometimes even fatal, as a recent case amply proves. A woman was fishing in the ponds in the neighborhood of Kamanskaia, and had already 150 leeches in her vessel. With this on her head she re-entered the water, and was again quickly covered with leeches. Feeling somewhat giddy, owing to loss of blood, she essayed to leave the water. No sooner had she arrived upon the bank than she fell and in doing so had the misfortune to break the earthen vessel. Its blood-thirsty contents being set free lost no time in fixing themselves upon the poor woman, who was in a fainting condition, and unable to defend herself. She was found an hour afterward in a horrible condition and quickly succumbed.

Progressive Muscular Atrophy.—Marie D. Khanutina concludes that: (1) In all probability progressive muscular atrophy begins with the appearance of nodules spreading throughout the whole muscular system: it is also probable that in the predominance of these nodules consists the inherited pathological defect of the muscular tissue. (2) Probably the fact, that these nodules, requiring for their multiplication an increased flow of nutritive material, brings about the gradual destruction of the contractile tissue, which perishes in the struggle for nutriment, the nodules in their turn finally perish in this struggle among themselves. (3) Myophagism was proved by Metchnikoff in physiological muscular atrophy in macrocephaly. Marinesco observed it in angiomyopathy, while Levin observed in progressive muscular atrophy the formation of embryonic cells around the nodules and in the protoplasm of their muscular substance. (4) The hypertrophy of separate muscular fibers is not a pathognomonic sign of progressive muscular atrophy, since it has been observed also in atrophic processes of different origin; on the other hand, it cannot be considered as an inherited weakened condition of the muscular system, in view of the many observations proving that it occurs only in such muscles which have already undergone a certain degree of atrophy. (5) The above-named active changes in the muscular substance, in conjunction with the hyperplasia of the connective tissue, would lead one to think that progressive muscular atrophy is a chronic inflammatory process, commencing, probably, with changes in the contractile tissue. (6) The following are some of the details of the pathologic process: (*a*) The disappearance of the contractile tissue, and the decay and the subsequent falling off of the sarcolemma may begin either at the center, or at the periphery of the muscular bundles; (*b*) The fact that the degenerative process may begin at the center of muscular bundles, where there is so little connective tissue in normal conditions, would prove to some extent the primary character of the disease of the contractile tissue, and would tend to disprove the suppositions of some authors that the hyperplasia of the connective tissue brings about the gradual destruction of the muscular tissue: (*c*) With the decay and falling off of the sarcolemma occurs the passive change in form and size of the muscular bundle, which shrinks, the empty spaces being filled up with connective tissue: (*d*) The foci of muscular atrophy occupy neither the whole length nor the whole thickness of the muscular bundle, but attack the same at many points. Thus little bridges of connective tissue are formed, cutting the muscle in its length.—*Russkii Arkhiv Patologii, etc.*

A Case of Occlusion of the Intestines Successfully Treated with Atropine.—P. M. Kalabukhov and M. V. Savin report this case. The occlusion was brought about while riding in a very light vehicle, drilling a young, spirited horse. The symptoms were pain and distention of the abdomen, stercoraceous vomiting, and absolute obstipation unaffected by laxatives. The patient having declined an operation, atropine was tried. The first day, 0.002 sulphate of atropine was injected subcutaneously without result. The second day, 0.005 atropine was injected. The patient fell into unconsciousness with low muttering delirium. The pupils were widely dilated and motionless. The vomiting ceased, but the bowels did not move. The third day, the patient was perfectly conscious; the pupils were normal; after a rectal injection free and copious stools occurred; there was no vomiting, and the pain and distention of the abdomen were much lessened. The general condition improved and the appetite returned. On the fourth day, a free movement occurred after rectal injection. After this there was no further need of rectal injections; a regular, voluntary movement occurred daily, there was no vomiting and the distention of the abdomen was very slight. Upon palpation, slight pain was complained of in the region of the cæcum, but the general condition was good, and the patient was steadily improving. —*Vratch.*

Epistaxis; Its Causes and Treatment.—Macleod Tearsley classifies the causes of nosebleed in four groups, viz., traumatic, nasal diseases, constitutional conditions, and vicarious. In the treatment of such cases as will not yield to domestic remedies, the common-sense way is to find the source of the hemorrhage and treat it; making a careful search by means of reflected light and a nasal speculum. Should bleeding interfere with the investigation, it is proper to plug the nostril and make a further search later. Strips of antiseptic gauze carried as far back as possible or Cooper Rose's epistaxis bag may be used. Plugging the posterior nares need not be undertaken in these days. Plugs should not be retained more than from twenty-four to forty-eight hours. In removing gauze plugs, gentleness must be observed, and it is often useful to introduce some bland oil and allow the plug to soak it up before attempting removal. Hemorrhage from simple septal ulcers requires treatment by the galvanocautery. In all cases of epistaxis it is well to bear in mind the frequency of nasal bleeding as a local manifestation of some general condition, and to take measures for constitutional treatment accordingly.—*Treatment.*

The Diprogonopolos Grandis: a New Tape-worm.—J. Kurimoto describes a tape-worm which is larger than the Tænia solium or the mediocanellata, being about ten and a half centimeters broad and ten meters long. Its uteri are in two sets parallel to each other; the breadth of the individual joint far exceeds its length. There are deep furrows on both its dorsal and abdominal surfaces, and its ovum differs in shape from that of other tape-worms. In the ordinary tape-worm, new segments are produced by the head, the segments at the distal point being the most mature, but in the new variety each segment divides, and the old and the young alternate. The symptoms caused do not differ from those due to the common species, except in being more intense. Treatment is the same.—*The Sei-I-Kwai Medical Journal.*

Mortality in Russia.—According to Russian journals, there is no country of the world where the death rate is so high and the average of human life so short as in Russia. The St. Petersburg *Vredomosti* is responsible for the statement that the average length of life in that country is but twenty-nine years. "The mortality in St. Petersburg is higher than anywhere else in Europe, Constantinople alone excepted. The death-rate percentage in London is seventeen per 1,000, in St. Petersburg it is forty per 1,000. Moscow sometimes even beats this enormous rate of mortality. Among the reasons that increases the death rate in St. Petersburg, infectious disease occupies a prominent place.

The Medical Schools of the United States.—A late number of the *Journal of the American Medical Association* gives a brief description of the 155 medical schools of the United States. It is claimed by all but two of these that a four years' course is compulsory. Twenty-six thousand one hundred and forty-seven students and 5,958 teachers were registered in these colleges in July, 1901. Five thousand four hundred and forty-four degrees of M.D. were conferred during the past year. Canada has but twelve medical schools.

Young Sightseers.—Berlin, says *Tit-Bits*, has a child exchange. The poorer people of the city who cannot afford outings send their children to country peasants and receive in return for an equal length of time peasant children who want to see the city. The plan has worked so well that the charitable German women who originated it would like to extend it. There is even talk of exchanging children between neighboring countries, so that they will gain still more valuable experience.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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A PROPOSED INCREASE IN THE POWERS OF THE ARMY MEDICAL DEPARTMENT.

A PAPER entitled "Preventable Disease in the Army of the United States—Cause, Effect, and Remedy," lately read by Major W. O. Owen, Surgeon, United States Army, before the Academy of Medicine at Cincinnati, and published in a recent issue of the *Journal of the American Medical Association*, has elicited much comment from medical journals, and from such publications as the *Army and Navy Register*, which devote their columns to matters of military interest. The daily press also gave much space to notices of Major Owen's paper, apparently not so much from the practical importance of the questions involved, but because of the supposed criticism by the author of certain line officers of high rank. The criticisms made in the paper referred to—and they are made in very plain language—are, however, obviously not directed against individuals, but against the defects of an existing system.

Briefly, the author desires the enactment of legislation by Congress which will fix the responsibility for sanitary deficiencies among troops, and provide a penalty therefor; and which will also secure to the Medical Department the right to its self-control, to supervise and administer the transportation of medical supplies, instead of relying upon the Quartermaster's Department, as at present, for the performance of this duty. He believes that the Medical Department should be given complete control of all matters having to do with the sanitary care of troops, and calls attention to the fact that, while paragraph 1393 of Army Regulations makes it a duty of the medical officer to point out sanitary errors and to suggest measures for their correction, there is no clause or provision to prevent his commanding officer from treating his suggestions "with good-natured indifference or worse." The assumption of this attitude by commanding officers he regards as not infrequent, and he cites numerous instances which occurred during the war with Spain to show the lamentable results which followed such a policy by the line officer in authority.

It will be generally admitted that many of Major Owen's contentions are not without truth, but he apparently makes the mistake of assuming that disregard by the commanding officer of the surgeon's recommendations is the general rule rather than the exception in the United States Army. He also overlooks the beneficial and saving influence of the clause in the paragraph of regulations already cited, which requires the commanding officer to indorse his objections fully on the medical officer's report, "if he deem the action recommended impracticable or undesirable." The report, with the indorsement thereon, is then forwarded by military channels to higher authorities, by whom it is considered and, if necessary, acted upon before its final receipt by the Surgeon-General. If the latter deem the matter of sufficient importance, a decision from the Secretary of War may be called for in the case. This system, in time of peace, undoubtedly results in a careful consideration of the surgeon's recommendations by the commanding officer, who would naturally hesitate, through an arbitrary or unwise decision in the matter, to lay himself open to discipline by a superior reviewing authority. In local commands—and in the great majority of instances—the surgeon is thus insured a hearing by higher authority. With an independent army in the field, however, the general officer in command has the power to ignore and stifle the recommendations of his chief surgeon, who, in this particular instance, cannot appeal to higher authority without committing a military offense, even though he, and not the commanding general, would be held responsible by public opinion for an unnecessary sacrifice of the lives and health of troops; and it is stated by the writer referred to that an instance of this sort occurred in one of the large camps of 1898, where, had the sanitary recommendations been followed, the prevalence of typhoid fever would have been materially diminished. One section of the bill proposed by Major Owen provides for the trial by court martial of any subordinate officer, medical or line, by whose carelessness or inattention to duty any unusual outbreak of disease shall have arisen. This plan may be well enough so far as it goes, but it obviously does not reach such a case as has just been quoted. If provision were made for an investigation to determine the responsibility in a case of this kind, the existence of such a provision, even if of no immediate value in a given instance, would have a cautioning effect upon commanding officers of high rank, and would add considerable weight to any recommendations which might be made by their chief surgeons. To secure such a result, however, the necessary additions can be made to army regulations by the Secretary of War, without the necessity for Congressional action.

It has been objected with much reason that the official channels through which sanitary recommendations are obliged to pass, though satisfactory in time of peace for troops in well-ordered military posts, require the consumption of too much time to permit of properly meeting the sudden sanitary emergencies which not infrequently arise among large bodies of troops in the field; that, before the report and recommendation with respect to existing conditions can finish its tedious round and return with the action of higher authority, the damage has been done, general infection has taken place, and an epidemic is perhaps already manifest. This is undoubtedly the case. The problem can be simply solved, however, by adding a paragraph to army regulations, providing that, with troops in the field, the senior surgeon or a designated sanitary inspector may have delegated authority to act in emergency sanitary matters, and issue any necessary orders in the name of the commanding officer; the orders so issued being, of course, subject to reversal by the commanding officer, and

the medical officers concerned being held accountable by him for any misuse of such delegated authority. Such a regulation could be promulgated without Congressional action, and would obviously cover the control of all emergency sanitary matters, save where the commanding general himself is directly concerned.

Finally, as the most important step toward the sanitary improvement of our army, a course of instruction in the principles of hygiene and sanitation should be given at West Point, so that the commanding officers of the future, while not necessarily required to be experts in such matters, will have sufficient knowledge of these subjects themselves readily to recognize the grosser sanitary faults, and will be able better to appreciate the importance of the recommendations made by the sanitary experts whose special duty it is to investigate and keep themselves informed concerning such matters. Line officers, like medical officers, are earnest in their endeavors to preserve the health of the troops under their command, and it is ignorance, rather than indifference, which creates a majority of the obstacles now and then encountered by the sanitary officer. Instruction in matters of hygiene to the cadets at West Point is the present greatest need of the United States Army, and the energies of the medical profession and country at large would be devoted to much better advantage in securing from Congress the addition of a suitable course in the principles of hygiene at that institution, rather than in attempting to force the passage of the legislation proposed by Major Owen, which can be counted upon at once to excite such unanimous and active hostility from line officers as to insure its own defeat. Something may certainly be done toward the improvement of sanitary conditions, but not in the manner or to the extent proposed by Major Owen. Under no circumstances will military conditions tolerate any division of the powers of the commanding officer; and, so far as he himself is concerned, the recommendations of his surgeon must be advisory, even though he may clothe the latter with delegated authority over sanitary matters affecting his subordinates. The main thing, after all, is to be secured by the early education of line officers in sanitary matters, so that they may be able to appreciate the practical importance of their sanitary advisors, and realize that these recommendations are based upon an accurate knowledge of well-demonstrated scientific facts, and are not mere "fads" of the meddlesome and irresponsible.

With respect to Major Owen's contention, that the Medical Department should control the transportation of its sick and wounded, material and supplies, it is safe to say that every medical officer of the army is in hearty sympathy. In the war with Spain, the insufficiency of equipment and supplies at certain points for the care of the sick and wounded provoked much unwarranted criticism of the Medical Department, when the facts were that another department, whose duty it was to transport these supplies to the places where they were needed, had failed to do so. The Medical Department should be given complete control of the transportation of its own supplies, and then be held to a strict accountability for results.

THE DESTRUCTION OF MOSQUITOS.

Bulletin No. 6 of the Hygienic Laboratory, U. S. Marine Hospital Service, just published, contains much valuable information with respect to the destruction of mosquitos by means of formaldehyde and sulphur dioxide, based upon a series of experiments on this subject made by passed Assistant Surgeon M. J. Rosenau, U. S. Marine Hospital Service.

Accepting the fact that the mosquito is known to transmit the infection of yellow fever, malaria, and filariasis, Dr. Rosenau undertook to determine the practical value as insecticides of formaldehyde gas and sulphur, imitating the conditions found in actual practice in so far as they were compatible with accurate control of the results. The mosquitos used were good specimens of *Culex pungens* reared in the laboratory, with the sexes in about equal proportions. In some of the experiments, the insects were permitted to seek shelter from the gases in folds of clothing and in heaps of cloth and loose paper, thus avoiding the stronger percentages of the gas; and a remarkable self-protecting instinct in this direction was observed. In other experiments, the insects were exposed under definite conditions, contained in small pill boxes, the open tops of which were replaced by gauze netting, so as to determine exactly the amount of protection required to prevent the penetration of the gas to the mosquitos in sufficient strength to kill them. By the use of these boxes, it was also possible to compare the germicidal with the insecticidal powers of the gases used, cultures of bacteria being exposed in similar boxes, under identical conditions, upon slips of paper. For this purpose both sporulating and non-spore-bearing bacteria were employed. When exposed directly to formaldehyde gas produced by any of the methods commonly used for purposes of disinfection, mosquitos were found to be killed in a few minutes. The conditions necessary to insure this direct contact, however, cannot always be obtained in actual practice. Mosquitos were found to resist the weaker percentages of formaldehyde gas, and rooms are frequently not tight enough to obtain the necessary degree of concentration. Methods which liberate a large volume of the gas in a short time are more certain than the slower ones. With free insects under ordinary room conditions, disinfection is much more difficult to obtain in the case of mosquitos than against bacteria, since the former seek to escape from the irritating gas and hide in bedding, folds of clothing, draperies, and out-of-the-way places, where formaldehyde does not penetrate in sufficient strength to secure their destruction. The gas is polymerized in the meshes of fabrics, and large quantities of it are neutralized by the organic matter contained in woolens and other fabrics. An analogy was found between the strength of the gas and the time of exposure necessary to penetrate the fabric and kill the mosquitos, and the time and strength necessary to penetrate, in order to kill the spores of the bacteria.

Mosquitos have a lively instinct in finding cracks or chinks where fresh air may be entering a room, or where the gas is too diluted to cause their destruction. They were found, under these circumstances, to escape through extremely small openings, some of the smaller varieties of insects passing through a wire screen having twelve meshes to the inch. Formaldehyde, therefore, cannot be trusted to kill all the mosquitos in a room which cannot be tightly sealed, and for this reason must be regarded as, in practice, but a feeble, uncertain, and unsatisfactory insecticide. On the other hand, sulphur dioxide was found to be

very efficacious in this respect, and very dilute atmospheres of the gas will quickly kill mosquitos. Six ounces of sulphur burned in a room of 500 cubic feet capacity readily destroyed mosquitos, even when protected under several thicknesses of cloth. Under the same conditions, the vitality of the bacterial controls was unaffected. Sulphur dioxide is also quite as efficacious when dry as with a moist atmosphere, whereas the dry gas has little effect upon bacteria. Contrary to formaldehyde, sulphur dioxide has excellent penetrating powers for insecticidal purposes; even in very dilute proportion killing mosquitos protected by four layers of toweling in an hour's time. Sulphur dioxide is therefore to be regarded as by far the best gaseous disinfectant for use in the destruction of mosquitos.

It is interesting to note in connection with this subject, that, while both formaldehyde and sulphur dioxide have been much used as insecticides by the army medical officers in Cuba in their efforts against yellow fever and malaria, reliance has lately been had upon the fumes of pyrethrum powder, one pound of which is burned for each one thousand cubic feet of room space. The insects, while not killed, are stupefied by the fumes and fall to the floor, whence they are subsequently swept up and burned. This method avoids both the uncertainty attendant upon the use of formaldehyde and the destructive results upon fabrics and metal objects which are liable to result from the use of sulphur dioxide.

Care in Respect to Drinking Water in the Philippines.

In view of the large number of cases of dysentery occurring among the troops in the Philippines, General Chaffee has directed the strict enforcement of additional sanitary measures recommended by the chief surgeon. Hereafter commanding officers will require that canteens and all other vessels containing water for drinking purposes be thoroughly scalded every two weeks, and always after the return of troops from field service, special care being taken to keep the stoppers clean. Soldiers on the march are also enjoined to practise self-denial in regard to drinking water which may be found along the roadside. "It is a fact," says the order, "demonstrated by long experience of old soldiers, that if water is drunk during the first few hours of the march, the thirst will cont inueduring the entire day, and necessitate the drinking of a large amount of water during that period wherever it can be found. Every soldier should think of the effect which free use of water is liable to produce before drinking all kinds, which, in the opinion of the chief surgeon and the medical officers generally of this division, is a very large factor in producing the various kinds of dysentery incident to this command."

Colonel Charles R. Greenleaf, Assistant Surgeon-General U. S. A.

Colonel Charles R. Greenleaf, Assistant Surgeon-General, who is about to retire for age after more than forty years of service, and who was Chief Surgeon of the armies in the field during the war with Spain, and later Chief Surgeon in the Philippines, is a candidate for promotion to one of the coming vacancies among the brigadier generals in the line, to enable him to retire with the higher rank to which his long and valuable services fairly entitle him. His claims to such promotion were strongly supported in a recent editorial in the *Army and Navy Register*. Colonel Greenleaf was twice recommended—once by General Miles and once by Surgeon-General Sternberg—for promotion to the grade of brigadier-general of volunteers at the close of the war with Spain, for his most efficient services in the field throughout that war, but failed to receive such appointment—though similar appointments were given to officers of the paymasters', quartermasters', Commissary, Judge-Advocates', and other "non-combatant" departments, though in at least one instance the officer so promoted had no field service whatever.

The Health of the King of Great Britain.

The Medical Press and Circular, a journal distinguished among its British medical contemporaries by its outspokenness, is persistent in its endeavors to obtain from authentic sources a true and responsible statement with regard to the state of King Edward's health.

Rumors have been current for some time, and especially in certain American lay journals, that all is not well with the ruler of Great Britain, and it has even been asserted that he is suffering from a disease of the throat which has already rendered necessary operative measures. The principal journals of Great Britain, both lay and medical, have practised the rigid reserve which is customary in that country where royalty is concerned. Such methods are dictated, not only by prudence and nice feeling, but by reasons of state. However, the *Medical Press* takes the ground that it would be better for the public welfare if the real facts of the case were published, and argues that by such action the anxiety of the people would be allayed, or, if the most unfavorable accounts were substantiated, that the situation could be more boldly faced than if they were kept in ignorance up to the last.

Renal Disease and Insanity.

The *Practitioner* for November, among other able articles dealing with kidney affections, contains one by Dr. Theo. B. Hyslop which treats of the oft-asserted connection between diseases of this class and insanity and statistics. Numerous authorities and statistics are quoted by the writer to show that the frequent occurrence of various forms of renal disorder must be looked upon as something more than a coincidence. H. C. Bristowe, for instance, found that out of 75 cases of general paralysis only nine were free from renal troubles, fifty-one cases had well-marked granular kidneys, and fifteen were affected, but in a less degree. The same investigator observed that out of a total of 3,446 cases of insanity 48.8 per cent. had renal disorder of some nature, while of 266 cases of general paralysis, 183, or about 68.8 per cent., showed signs of renal trouble.

Regarding the matter also from a clinical standpoint, one cannot avoid being struck by the fact that in many mental states, albumin is more often than not present in the urine.

Dr. Hyslop, from a consideration of the question, judged by his own experience, and that of other observers, concludes that renal disease is associated with insanity in two ways: (1) Acute transient delirious mania, an acute toxæmia, or uræmic insanity, and (2) A progressive cerebral degeneration, with chronic renal disorder as the primary cause.

A Joke on the Learned Doctor.

The Berlin correspondent of the *British Medical Journal* relates a really very amusing event which occurred to a grave and serious German professor.

In the *Zeitschrift für klinische Medizin*, edited by Professors von Leyden and Klemperer. Dr. Speck publishes an article reviewing and criticising modern

therapeutic fads, such as the "light treatment," etc. In the course of his diatribes against what he thinks present-day futile methods of treatment, he makes the new "darkness treatment" the object of his most bitter invective and most biting sarcasm.

Dr. Speck read in a paper named the *Davoser Blätter*, said to be published by Drs. Rile and Herz, a long and minute account of this latest mode of successfully treating tuberculosis, discovered by them. So aroused was Dr. Speck by the publication, according to his idea of another and most impudent attempt to gull a too confiding public, that he quotes in the pages of the prominent German medical journal details of the cure, advertised by Drs. Rile and Herz, which were as follows: A sanitorium for consumptives in the catacombs of Syracuse, 150 meters below the surface of the earth, where the patients are kept for months without the light of day, with the astonishing result of 83 per cent. cures and 17 per cent. decided improvements; he further quotes, but with withering indignation, "the scientific explanation of this treatment, which is offered, namely, the increased blood pressure, and the fact that the mole is notoriously free from tuberculosis."

Unfortunately, Dr. Speck was decidedly lacking in a sense of humor, and failed to notice that the signatures appended to this singularly lucid and convincing article were "Dr. A. P. Rile and Dr. S. C. Herz (Scherz, German for joke), and in addition that it was dated from Fanfaronnata.

It goes without saying that seldom is an April joke brought off so successfully as the ingenious concoction of nonsense published in the *Davoser Blätter*.

A Vaccination League in England.

A vaccination league has been recently inaugurated in England. This league has been established for the purposes of educating the masses with regard to the benefits derived from vaccination, and to spread better understanding among the general public of the advantages arising from preventive medicine and practical sanitation. The league is composed of several prominent laymen, and of a large number of the foremost medical men of Great Britain, including Mr. Jonathan Hutchinson, Sir Alfred Garrod, and Professor Charles Stewart.

The scheme is greatly to be commended, and should do much to offset the active propaganda of the views of the antivaccinationists, who lose no opportunity to depreciate the beneficial effects of Jenner's discovery, and who unblushingly play upon the ignorance of a large majority of the population. The league will endeavor to disseminate the truth, by means of literature and lectures.

Hygiene of Churches.

Those cognizant of the condition of churches on the Continent of Europe will not be surprised at the report just made to the Paris Academy of Medicine by M. Reminger, sub-director of the Pasteur Institute at Constantinople. For months, this gentleman has been investigating the hygienic surroundings of many churches, and he has found that "most of them are far from healthful, are lacking in provisions for ventilation—a fact which largely accounts for the frequent fainting fits of many of the congregation." This evil is, however, by no means confined to the churches of Europe. The United States possesses many places of worship which are responsible for many a case of serious illness, and especially of pneumonia and diseases affecting the respiratory organs. Defective ventilation of churches is quite an old story in this country, and the Medical Record has done its share in calling attention to the fact.

News of the Week.

The Second New York State Conference of Charities and Corrections was held in this city last week, under the presidency of Mr. Robert W. De Forest, about six hundred delegates being in attendance. Many subjects were discussed and papers read, among those arousing considerable interest being the question of state and municipal sanatoria for consumptives. This was discussed by Drs. John H. Pryor and E. Park Lewis of Buffalo, and Alfred Meyer and S. A. Knopf of New York, and Messrs. Frederick Almy, Homer Folks, and Samuel D. Levy. The care of the mentally defective was another of the subjects of especial medical interest that came before the conference.

Is Tuberculosis a Loathsome or Dangerous Disease?—A man who arrived here on November 9, with his wife and child, was found by the immigration officials to have tuberculosis, and under the recent ruling that immigrants suffering from this disease come under the head of "persons suffering from a loathsome or a dangerous disease," he was ordered sent back to Ireland, from which country he came. He has relatives, however, in Philadelphia, who have obtained a writ of habeas corpus, and a test will be made for the legality of this ruling.

Death of a Centenarian.—There died last week in Utica a man named Abraham Ephraim Elmer, who was thought to be nearly 120 years old. According to the record in the family Bible, he was born in Warren, Herkimer County, on January 26, 1782. He was a shoemaker, and worked at his trade steadily until he was over a hundred years old. He was a hard worker, but lived much in the open air, walking ten miles when he was 124 years old. He was not a hard drinker, but took a moderate amount of whiskey daily; he had chewed tobacco steadily since he was ten years old. He was one of a family of fifteen, all of whom he survived, and had eleven children, five of whom are dead. He was survived by six sons, one daughter, twenty-five grandchildren, nine great-grandchildren, and three great-great-grandchildren.

Police Surgeonship and Municipal Civil Service Commission.—An examination for the position of Police Surgeon will be held by the Civil Service Commission, 346 Broadway, beginning December 9, 1901. The subjects of the examination are technical knowledge and experience. Applications should be filed as soon as possible in order to secure admission to the examination. For applications apply to Lee Phillips, Secretary.

Naval Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the Navy for the week ended November 16, 1901: November 8.—Pharmacist J. Cowan ordered to the Boston Navy Yard. November 11.—Surgeon G. T. Smith, detached from the *Amphitrite* and ordered to the *Puritan*, when commissioned. P. A. Surgeon R. S. Blakeman, detached from Naval Hospital, Norfolk, Va., and ordered to the *Hartford*. Asst. Surgeon E. G. Parker, detached from the *Hartford* and ordered home and to wait orders, on relief reporting. November 13.—Asst. Surgeon W. L. Bell, detached from the Naval Hospital, Cavite, and ordered home to wait orders. Asst. Surgeon L. W. Bishop, detached from the *Independence* November 25, and ordered to Naval Hospital, Cavite, P. I. Asst. Surgeon H. C. Curl, detached from the Naval Hospital, Cavite, upon reporting of relief, and home to wait orders. Asst. Surgeon G. M. Mayers, detached from the Pensacola Navy Yard and ordered to the Naval Hospital, Cavite,

P. I. November 14.—P. A. Surgeon C. M. DeValin, detached from the Naval Hospital, Portsmouth, N. H., and ordered to the *Rainbow*. P. A. Surgeon S. G. Evans, ordered to the Naval Hospital, Portsmouth, N. H. Asst. Surgeon W. H. Bell, detached from the *Franklin* and ordered to the Naval Hospital, Norfolk, Va.

A Swindler.—Pinkerton's National Detective Agency advise us of the operations of a swindler who is forging the names of physicians in different cities and towns as indorsements to bogus checks passed by him upon banks in which the physician whose name is forged has an account. The swindler's modus operandi is as follows: Calling upon physicians, he introduces himself as an agent for an association which contracts to supply its members with medical books at from 20 to 30 per cent. less than the regular rate, and soliciting a membership fee of one dollar. As an inducement to sign the contract, the swindler waives the membership fee, obtaining the signature of the physician solicited, at the same time requesting a bank as reference. In this way the swindler gets his victim's signature and the name of the bank in which he has an account. Several hours later he appears at the bank named with a fraudulent check requesting payment. Upon being refused payment, he states that he will have a physician indorse the check (naming the physician who is a depositor and whose signature he had previously obtained in the method described above). The bank officials usually state that such an indorsement will be accepted. The forger then leaves the bank, forges the name of the physician selected earlier in the day, and on presenting such check again at the bank, is usually accommodated with the amount for which it is drawn. The swindler is a rather dapper-looking young man of about thirty years of age; five feet eight inches tall; weighs about 140 pounds; is of slender build; has light complexion, light hair, blue eyes, rather large nose, and is usually clean shaven. It is suggested that if this man calls upon any one who has read this warning that he evince no suspicion, but furnish the so-called solicitor with his signature and bank reference, and immediately notify the bank where he has his account, advising them of the man's scheme.

College of Physicians of Philadelphia—Section on General Medicine.—At a stated meeting held November 11, Drs. Sailer, Pfahler, and Shields reported "Two Cases of Aneurysm of the Descending Portion of the Arch of the Aorta" in which pain in the chest and inequality of the pulses were prominent symptoms, and the diagnosis was established by means of fluoroscopic examination and skiagraphy. Dr. Augustus A. Eshner exhibited "A Specimen of Green Urine" from a child that had taken a pill said to contain a combination of palmitic acid and iron. A similar peculiarity was observed in a second child that had also taken such a pill. It was thought that the condition was due to some aniline pigment contained in the pill, such as methyl-green or methylene blue. Dr. Eshner also reported "A Case of Acromegaly." The patient was an iron-worker, thirty-two years old, with large hands and feet and nose, a projecting and enlarged lower jaw, prominent malar arches and overhanging brows, dorso-lumbar kyphoscoliosis, but without ocular changes or other evidence of disease of the pituitary body. Dr. Alfred C. Croftan presented a communication entitled "Experimental Investigation into the Causes and Treatment of Diabetes Mellitus." He showed that the leucocytes of the blood, apart from the serum, possess a glycolytic property, and that this is dependent upon a body closely resembling, if not actually identical with, trypsin. It was thought that the deficiency of this ferment in association with disease of the pancreas is responsible for the glycosuria that results under such circumstances. The therapeutic deduction from these observations is the introduction into the circulation of trypsin, or of white blood corpuscles, or of blood itself.

Trypsin, however, cannot be employed in this manner, as it gives rise to toxic symptoms. It was pointed out as an interesting fact in this connection that glycosuria sometimes disappears on the development of some acute infectious disease.

The Anglo-American Nursing Home at Rome.—The Anglo-American Nursing Home at Rome was founded two years ago for the purpose of receiving English-speaking patients, of sending out trained nurses, and of providing two free beds for the use of the many poorer English residents in Rome, such as teachers and students, who are not able to afford the expenses of illness in their own homes or lodgings. The home has already proved of great value to many English or American travelers who have been overtaken by sickness in Italy. Nurses are sent from the home to other parts of the country, and have already gone as far afield as Florence, Naples, and Sicily. There are twelve nurses now upon the staff, but a large number of applications, on behalf of invalids requiring nurses, have been per force refused. The home was founded by a number of English, American, and Italian residents, and is managed by an English matron under the control of a general and house committee of well-known persons. It is hoped that in time the home may become self-supporting, and that it may not only supply a hospital for the sick, but also a convalescent home for invalids in Rome, and that the nursing staff may be enlarged to meet the great demand now made upon its services.—*British Medical Journal.*

Compulsory Vaccination.—An instructor in the Philadelphia High School for Girls has been dismissed for failure to comply with the direction of the Board of Education that all school employees should be revaccinated. The request of an instructor in the Philadelphia Central High School for Boys that he be excused from being revaccinated on account of the presence of lymphadenitis was not acceded to.

An Infant Prodigy.—From Wilmington, Del., comes the report that a child, twenty-one months old, the son of a teacher in a local academy, is able to read. When given a set of toy blocks recently, it is said, the infant arranged them so as to form words. At another time he was found on the floor with a newspaper in his hands, apparently reading. When questioned, the child actually appeared to know what the paper contained.

Advanced Requirements in Ohio Medical Schools.—At a meeting held in October, the Ohio State Board of Medical Registration and Examination decided that on and after July 1, 1903, the standard for examination for entrance to Ohio medical colleges shall be equivalent to a four years' high school diploma, and that the entrance examiners shall arrange the subjects for such examination in accordance with such standard.

The Utah State Medical Society.—At the annual meeting of this society, held at Provo, in October, the following officers were elected: *President*, I. A. E. Lyon of Salt Lake; *First Vice-President*, Philo E. Jones of Salt Lake; *Second Vice-President*, R. E. Steele of Lehi; *Treasurer*, J. M. Harrison of Salt Lake; *Secretary*, George E. Robinson of Provo.

The next annual meeting will be held in Salt Lake City.

The Wyoming State Medical Society.—At the fifth annual meeting of this society, held at Evanston in October, the following officers were elected: *President*, G. G. Verbryck of Cambria; *First Vice-President*, F. H. Harrison of Evanston; *Second Vice-President*, W. C. Burk of Rock Springs; *Third Vice-President*, W. A. Wyman of Cheyenne; *Secretary*, C. H. Solier of Evanston; *Treasurer*, J. L. Wicks of Evanston. The next annual meeting will be held at Cheyenne.

The Refugee Camps in South Africa.—Referring to the excessive mortality among the Boer reconcentrados, Lord George Hamilton, the Secretary for India, says that it is a matter of great concern to the government, and that everything that sanitary science can suggest has and will be done. The British officers, he says, are greatly hampered by the callousness to all hygiene of many of the women in the camps, and of their tendency to have recourse to various domestic and quack remedies of the most detrimental and dangerous character.

King Edward's Health.—A dispatch to the *Sun* says that Sir Frederick Treves, whose dignities include the office of surgeon to the King, in the course of a speech in London on November 20, referred to the recent tales in regard to his Majesty's health as foolish and wicked reports. He added that it was a pleasure to him to be able to state that King Edward never enjoyed such excellent health as at the present time.

The Tri-State Medical Society.—At the thirteenth annual meeting of the Tri-State Medical Society of Tennessee, Georgia, and Alabama (the original, we believe, of the many Tri-State societies now flourishing), held in Nashville, October 8 to 10, the following officers were elected: *President*, J. C. LeGrand of Birmingham, Ala.; *First Vice-President*, Pugh U. Brown of Troy, Ala.; *Second Vice-President*, Wm. P. Harbin of Rome, Ga.; *Third Vice-President*, J. C. Wilson of Rockwood, Tenn.; *Secretary*, Frank Tester Smith of Chattanooga, Tenn.; *Treasurer*, Geo. R. West of Chattanooga, Tenn. Birmingham, Ala., was chosen as the next meeting place.

Dinner to Dr. T. Gaillord Thomas.—On the evening of Thursday, November 21, the friends of Dr. Thomas met at dinner at Sherry's to commemorate the seventieth anniversary of their guest's birth. Dr. Thomas was born on Edisto Island, near Charleston, S. C., on November 21, 1831. He was graduated from the Medical College of the State of South Carolina in Charleston in 1852, and for sometime thereafter was resident physician at Bellevue Hospital in this city. Later he served in a similar capacity in the Rotunda Hospital, Dublin, Ireland. Many prominent physicians and surgeons attended the dinner. Dr. J. W. McLane presided and acted as toastmaster. Covers were laid for three hundred. Among those who spoke were Dr. S. Weir Mitchell, Judge Howland, Drs. W. H. Welch of Baltimore, and Shattuck of Boston, and the Rev. Dr. D. H. Greer of this city.

The State Consumptive Hospital.—The Board of Trustees of the State Hospital for the Care of Consumptives, after inspecting many sites, have decided that Ray Brook, on the west side of the Adirondacks, is the best suited for the proposed institution. While Governor Odell has not finally approved of the selection of this site, it is said that he regards it as the most available of those inspected.

The Violet Cure for Cancer.—A London paper recently printed a story of a woman who was suffering from a laryngeal growth which had been pronounced cancerous. Death appeared imminent when a neighbor recalled an old wife's remedy of which she had heard in childhood. This remedy was to take a handful of fresh green violet leaves, put them in a pint of boiling water, cover them and let them stand for twelve hours; then strain off the liquid, dip a piece of lint into the heated infusion, apply the wet lint hot, cover the lint with oil silk and change whenever it became dry and cold. The infusion should be made fresh every alternate day. The story continues that this remedy was applied with almost instantaneous effect, and that the patient within two weeks was seemingly cured and able to travel. The florists at least benefited by this report, for the demand for violets suddenly became so great that the price rose to almost fabulous figures in the flower markets, and none but the richest can now wear violets for ornament.

Obituary Notes.—Dr. Dwight Washington Day of Eau Claire, Wis., one of the best-known physicians in that State, fell dead on November 18, while reading a paper at a medical meeting. He was born in New York State in 1841, and was graduated from the medical department of the University of Buffalo in the class of 1861. He served during the Civil War as surgeon in the Union Army, and then settled in Wisconsin.

Dr. James P. Jackson of Kansas City, Mo., died at his home in that city on November 22, at the age of fifty-seven years. He was a graduate of the College of Physicians and Surgeons, New York, in the class of 1873, and was professor of surgery in the University Medical College, Kansas City. He was prominent in railway surgery, having established the Missouri Pacific Railroad's first hospital at Washington, Mo. He also organized the Wabash and Missouri Pacific hospital service in Kansas City. He was a member of the International Association of Railway Surgeons.

Dr. J. M. Rice of Worcester, Mass., died on November 11, at the age of seventy-four years. He was born in Milford, N. Y., in 1827, and was graduated from the Castleton Medical College in 1853. During the Civil War he served as surgeon in the Union Army.

Dr. John Hammond Lovatt died suddenly at his home in Florence, Kan., on November 23. He was born in Yorkshire, England, in 1841, and was licensed to practise by Queens Hospital and Sydenham College, Birmingham, in 1861. He was engaged in private practice until 1879, when he became a surgeon in the British army. At the end of five years he resigned his commission, and in 1885, came to America, and settled in St. Louis, but in 1887 removed to Florence, Kan.

Dr. Wm. Fisher Norris died of pneumonia at Philadelphia on November 18 at the age of sixty-two years. He was graduated from the medical department of the University of Pennsylvania in 1861, and two years later was appointed assistant surgeon in the U. S. Navy, being placed during the year 1864 in charge of the Douglas General Hospital in Washington, D. C. He was the first exclusive practitioner of ophthalmology in Philadelphia, and he was in 1876 elected professor of that branch in the University of Pennsylvania. For many years he was one of the surgeons to Wills Eye Hospital. He was also president of the American Ophthalmological Society from 1885 to 1889, and at the time of his death he was president of the board of managers of the University Hospital, and a manager of the Mutual Assurance Society

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

WEATHER AND PUBLIC HEALTH—MEDICAL SOCIETY—SOUTH AFRICAN TYPHOID AND INOCULATION—HARVEIAN ORATION—ENDOWED LECTURESHIPS AT THE COLLEGE OF PHYSICIANS—DR. GLOVER RESIGNS FROM MEDICAL COUNCIL—DEATHS OF MR. SPENCER SMITH AND DR. A. HUGHES BENNETT.

LONDON, November 8.

A WEEK of such weather as we seldom suffer! Five days of fog, two of them the real London specialty, worse than the rising generation has witnessed, though their elders remember such; traffic delayed or suspended with sad results! Between 200 and 300 accident patients have been taken to the hospitals—many serious, some fatal. At the docks, men have fallen in and been drowned and a number are missing. On Wednesday evening, cold was intense, and the next morning the registering thermometer showed that we had had our first sharp winter frost. It is a nice bright day to-day, but every one is suffering from catarrh or other trouble of the respiratory organs—so that doctors are excessively busy when well enough themselves to attend to their patients. We talk of the London special fog, but other towns report an equally disastrous condition, as do both sides of the channel.

Smallpox steadily increased. By Wednesday, the number under treatment had reached into the third hundred.

One of the Liverpool plague patients, a child of seven, died yesterday. The other two are pronounced out of danger. No fresh cases have occurred.

South African experience of typhoid was well represented at the meeting of the Medical Society. Drs. A. Elliott and J. W. Washbourne contributed a paper in which they analyzed 262 cases in the Imperial Yeomanry Hospital at Deelfontein and compared their home statistics and those of the Johns Hopkins Hospital. They came to the conclusion that the type of the disease in South Africa is practically the same as that met with in America and England, and that inoculation is of little practical value. The mortality and incidence of relapse were much the same as in other epidemics. In 156 patients who had not been inoculated, the mortality was 10.7 per cent., while it was 16 per cent. among twenty-five who had been inoculated. Adding to these cases recorded at other hospitals, they found the mortality among 120 inoculated patients was 7.4 per cent. and among 556 not inoculated 10.9 per cent. They did not consider this difference pointed to marked beneficial effect of the proceeding. With regard to its influence on incidence, fifty-nine of their staff were inoculated, of whom four took the fever; twenty-five were not, of whom four also took it. The four of the latter were dressers, and younger than the rest of the staff. Adding to these various other statistics, they found among 224 inoculated persons an incidence of attack of 11.4 per cent. against 14.6 per cent. among 157 not inoculated.

Dr. Cayley considered the evidence in favor of inoculation strong enough to make it desirable that it should continue to be used.

Professor Wright admitted the results were not so good as those in India, but held that some benefit was obtained in the worst environment. A most important question was how long the patient had been inoculated, as there was a negative result which often followed an excessive dose. The injection only protected for a short time, and he quoted statistics in favor of being inoculated twice. The dose had to be carefully adjusted, and he now gave a small dose and repeated it, so as to avoid the negative phase. In some cases, the injection gave no protection, as shown by the bactericidal property of the blood.

Surgeon-General Henry Cayley quoted the statistics of the Scottish Hospital, South Africa. Of the fifty-four persons of the first section, all except three were inoculated twice, two once, and one not at all. Not one of the fifty-four took typhoid, and twenty-five were at the most susceptible age, being medical students from nineteen to twenty-four years. In the second section, out of 102 persons, seventy-four had been inoculated, some twice. Of these, five had fever, three not having been inoculated. Of thirty-five nurses, thirty-two had been inoculated twice; two not, as they had recently had the fever; one refused and she contracted the fever. He thought this showed the value of inoculation for a time—perhaps five or six months—and he thought that it rendered attacks less severe.

Dr. Howard Tooth said his statistics were small, but favored inoculation. He thought the more severely the person reacted, the less the immunity; in Bloemfontein, officers who had had very severe reaction did not seem to be protected. He recognized three groups of people: (1) Those naturally immune; (2) Those rendered so by inoculation; (3) Those on whom immunity could not be conferred. Most persons belonged to the second group.

Dr. Rolleston remarked that inoculation did not absolutely protect, but statistics seem to show it rendered the disease less fatal. He believed there were different strains of typhoid bacillus, and infection with two or more was not proof against others. The serum, therefore, should be prepared from mixed strains, using as many sources as possible.

Surgeon-General Muir said far more statistics were required before deciding. He held, too, that typhoid was often conveyed from other sources than water.

Dr. Goodall also said too much stress had been laid on water supply, for many cases arose among those in attendance on the patients.

Dr. Washbourne, in his reply, said the test of inoculation in South Africa had been severe, but it is in persons frequently exposed to infection that it should be of most service. He did not think it should be used in England, as the sources of infection are few; nor should it be lightly resorted to, for he had seen an officer laid up for three weeks with pyrexia after the injection. He did not consider immunity could be estimated by the bactericidal action of the blood.

You know that there are several endowed lectureships at the Royal College of Physicians. Three of these may be termed ancient; two are quite recent, dating in the eighties. The ancient ones are the Lumleian, Goulstonian, and Croonian. The Lumleian was founded in 1581 by Dr. Caldwell, who had been President of the college in 1570, and Lord Lumley, who was a considerable scholar. The Goulstonian was founded in 1632 by Dr. Theodore Goulston, the translator into Latin of several books of Aristotle and Galen. The Croonian, planned by Dr. Wm. Croune in 1684, was established by his widow in 1706. He was an early Fellow of the Royal Society, to which he contributed several papers.

The modern lectureships are the Bradshaw and the Milroy; the first in memory of Dr. Wm. Wood Bradshaw, D.C.L. Oxon., and a member of the college founded by a legacy bequeathed by his widow, who died in 1880; the other, founded in 1886 by the will of Dr. Garvin Milroy, who bequeathed £200 for the purpose and left suggestions for the guidance of future lecturers on the subject, which is State Medicine and Public Health.

Another lectureship is about to be endowed, which will bring the series up to six. This is in memory of Dr. Thomas Fitz-Patrick, whose widow devotes £2,000 to perpetuate his memory in this way, desiring the benefaction to be considered as coming from him and be called by his name, as in the case of Dr. Croone, and the lectureship to be on the History of Medicine. The announcement of this new endowment was made very appropriately toward the close of the Harveian oration, delivered on October 18 at the college. The orator this year is Dr. Norman Moore, and one of his duties is to commemorate "all the benefactors of the said college by name," according to the deed of gift which Harvey in his lifetime presented to the college. These benefactors have become too numerous to be each named every year, and Dr. Moore, having mentioned a number and their benefactions, was fain to conclude his enumeration, like an old charter, with the words *cum multis aliis*. He gave, however, some detail information about Dr. Fitz-Patrick: "He was a man imbued with learning, well read in Homer and Lucretius, and knowing Spanish, Italian, French, and German, as well as something of Hebrew, modern Greek, and Danish. His knowledge of English literature was extensive and his taste good. He had traveled as well as read, and having thus accumulated all the materials for conversation, he was a delightful companion. His intellectual attainments were the ornaments of solid virtues, and he deserves to be remembered with honor in this honorable place."

Dr. Moore, before thus summing up the qualities of the man, had portrayed the surroundings of his childhood and boyhood at his birthplace in Virginia, a little town at the end of a long lake in Cavan. This is one of the poorer parts of Ireland, but the district is one of literary fame. The authors of the locality and their works, read by firelight far and near, were mentioned by Dr. Moore with the respect due to those who exercised great powers without hope of fame or reward, and who must have had an influence on young Fitz-Patrick.

Much the same method of commemorating the other benefactors was followed by Dr. Moore, picturing, as it were, the intellectual surroundings of each as well as their writings, libraries, and education. But the number to be named was too great to do more than, so to say, catalogue their qualities. If it were possible to confine each oration to one or two benefactors, there would be room for a picture of the period in which they lived or a sketch

of the intellectual society in which they moved. Here is a hint for future orators who fear the subject is exhausted and are not afraid to delve in the documents of history.

A new turn has been given to the election to the Medical Council. Dr. Glover retires. He has suffered from an affection of the eye and perhaps overwork. His advisers forbid him to take part in public meetings and recommend him to diminish his work. He therefore feels it better not again to be a candidate. He has served the office well and brought a strong intellect to bear upon the questions debated, and has held the confidence of the profession in his zeal and uprightness. Many thought he was not stiff-backed enough on the midwives question, and for this he would have been opposed. The election will probably be fought on that question, but we wait to see who will be the candidates to go to the polls.

H. Spencer Smith, Consulting Surgeon to St. Mary's Hospital, died on the 29th ult. at the ripe old age of eighty-nine—the last of the first 150 Fellows of the Royal College of Surgeons appointed on the origination of that grade in 1843. He served on the Council of the college from 1867 to 1875. He joined the staff of St. Mary's on its foundation in 1851 and became Dean of the school when that was established. He held the surgical lectureship for about seventeen years. Many other offices were filled by him—all with efficiency—in the course of his long career, *e. g.* Secretary and Vice-President of the Royal Medical and Chirurgical Society and Lecturer in the old Grosvenor Place School. He translated for the Sydenham Society "Schwann's Microscopic Researches." Some other works he also translated and he contributed to the journals and societies various papers. He well represented the "fine old English gentleman" with literary tastes. He was a bibliophile and in a position to gratify that penchant.

Dr. Alex. Hughes Bennett (only son of the eminent Edinburgh professor whose memorial laboratory was so lately opened) died on the 1st of November, aged fifty-three. He was physician to the Westminster Hospital from 1877 to 1893, when he resigned on account of ill-health. He was an original member of the Neurological Society and to its journal, *Brain*, he contributed numerous papers. Prior to this, he had written various articles on nervous diseases, and he was on the staff of one of the special hospitals for those diseases. But he was a victim to one of those very affections of an obscure nature and for many years a sufferer from frequent attacks of acute pain, similar to those observed in tabes, but he had no other indications of that disease. These attacks at length compelled him to abandon work.

DIFFICULTIES IN THE PRACTICE OF MIDWIFERY IN KOREA.

To the Editor of Medical Record:

Pyeng Yang, Korea, October 17, 1901.

Sir: In the July 20 number of the Medical Record, I read an article by Dr. Wm. Golden on "Clinical Notes and Comments." He certainly did operate under difficulties, but I wondered what the doctor would think if he was in this land and had to operate under difficulties fifty times worse than those he speaks of. It is hard enough sometimes at home, and I fully sympathize with Dr. Golden, but in these Eastern lands amid dense ignorance "denser than the very dense woods that surround their little cabin," the difficulties and discouragements one meets continually are almost enough to crush out the little hope remaining within you when called to attend your patient. In Korea, the surgeon has to speak in a strange language to a people sunk for centuries past in the grossest superstition and ignorance, who know nothing whatever of the foreign doctor's methods, and who regard all disease as either demoniacal possession or else due to demoniacal influence. As a rule, in obstetric cases, every available means at the disposal of the natives is first tried before the help of the foreigner is called in, as was the case with the one I here relate, and in Korea the mortality among women in labor is very great.

The patient was a girl, scarcely sixteen years of age, who began to be in labor Thursday evening, September 18. The pains at first were normal, but after a few hours increased in severity, and the patient and her relatives all thought that a boy baby, the joy of every Korean home, would soon be presented to the household, but in this they were disappointed. The husband, after inquiring of a neighbor as to the cause of the tardy labor, acting on his advice, killed a chicken, cut it open by an incision made from the neck to the anus, and then spread it out flat over the patient's sternum with the head pointing toward the uterus, the idea of this being that as the hen lays her eggs easily, by spreading it out over the abdomen the influence of the chicken would be transmitted to the patient, pains would be facilitated, and labor speedily brought to a close.

A single scale of a large fish was then placed on the plantar surface of one foot, the idea of this being that as the fresh scales are slippery, one placed upon the foot would act as a magnet and draw the fœtus toward it.

Both of these means failing to accomplish the desired result, the blind sorcerers were inquired of concerning the matter. This is the supreme court of the land when trouble of any kind comes to an individual. These worthies replied that if the obnoxious influence of the demon inside the uterus was driven out, all would be well; so the sorcerers were called to the house and for over two hours beat upon the drums and clattered with their cymbals, making as much noise as possible in the hope of driving the evil spirit away, but even this did not suffice, though the sorcerers had promised the husband that by the afternoon the child would be born.

Therefore inquiry was again made on Friday evening. The sorcerers divined the reason by casting lots and then replied that the evil spirit of the patient's mother, who had died several years before, had returned and entered the daughter, and if it could be driven out even yet all would be well. The influence of these demons upon the Korean mind is tremendous. "They occupy every quarter of heaven and every foot of earth. They lie in wait for him along the wayside, in the trees, on the rocks, in the mountains, valleys, and streams. They are all about him, dance in front of him, follow behind him, fly over his head, and cry out against him from the earth. He has no refuge from them even in his own house, for they are plastered into or pinned on the walls, or tied to the beams. Their fetiches confront him in the entrance, and there is a whole row of them back of the house." But I am departing somewhat from my history.

The second time the drums and cymbals were called to the house and greater noise than ever kept up for about three hours, petitions were offered to the spirit asking for safe deliverance of the child, after which food was prepared and placed before him in order to strengthen him for his return journey to the far country, from which he had come. But still there was no end to the labor, and Saturday morning dawned bringing to the whole household, and even to the whole neighborhood, a great deal of anxious concern for the safety of both mother and the coming child.

Toward evening the husband takes an ox saddle used for carrying merchandise, and fastening it upon his back ascends the roof and then walks on all fours backward and forward, ending up with bellowing like an ox, repeating this three times. This belief is that for the time being husband and wife become cows, and as this animal usually has easy labor, by imitating it, safe and rapid delivery would soon result. But alas! even this failed to accomplish the desired end, labor was no more advanced than before, the patient was becoming exhausted, and unless something desperate was done all hope would soon be past. The sorcerers had previously told the husband not to ask help of the foreign doctor, as it would not avail in the least, but finally, as a last resort, Dr. Lillian Harris was called in to see the case, and to try to drive out the powerful demon and "give life" to the woman. The writer was invited to assist the doctor, and together we went to the home.

It was half past nine when we reached the patient's home, which consisted of two small rooms, each seven feet nine inches square, and barely high enough to enable one to stand upright. The house was nothing more than a hovel with a straw roof, mud walls, and floor, the warming of the rooms being done from a fire kindled in the kitchen and running through flues underneath. The natives use no chairs or bedsteads, but sit, eat, and sleep on the warm floor. The only light comes from one small door covered with stout white native paper, and ventilation is furnished through two or three holes the size of a dime punctured through the paper.

We found the interior of the house filthy, the patient lying on a very dirty mud floor covered with a cheap straw matting, and clothed with garments that once were white, but had not seen the wash tub for at least three months, and I doubt very much if our patient's body had seen the bathtub for twice that length of time. Fortunately, we brought a good lantern that gave more light than a dozen such as our friends possessed. Our surgical staff consisted of Dr. Harris, myself, the husband of the girl in labor who was about as stupid and dense a piece of humanity as one could possibly find, and the mother-in-law, who was a trifle higher in intellectuality. With this finely equipped staff of doctors and trained (?) nurses, chloroform was administered by the writer, and Dr. Harris made an examination after having previously catheterized the patient with much difficulty. The cervix

was completely dilated, and a loop of the membranes containing a little water was protruding from the vaginal outlet, which was thought by the relatives to be part of the fœtus, and who told Dr. Harris "the baby is coming." The occiput was slightly below and to the left of the promontory, the bregma was easily accessible, and the upper edge of the frontal bone was lodged on the symphysis. Several attempts were made to flex the somewhat extended head, but were unsuccessful. The occiput was very tightly impacted in the pelvic brim. To delay further would be dangerous; in fact, delay had already become so to the mother and child, for the pulse was rapidly increasing and the woman becoming exhausted, so forceps were applied and the fœtus extracted by a single application lasting over two hours. Manual pressure was made over the abdomen and the placenta quickly expelled. Ergot was given, one drachm, and repeated in two hours on account of rather free flowing, and then four sutures were taken in the soft parts which were torn down to the sphincter ani. The child was dead when delivered, having been so for an hour. The left side of the cervix was badly torn, but was not repaired at the time, as the condition of the patient would not permit of any further interference.

Before leaving the house, Dr. Harris made the woman as comfortable as possible by cleansing her and placing her upon clean, dry matting, to the evident concern of the household, who thought it rather a waste of precious time.

For the first few days after labor, the temperature ranged from 100° to 103°, and the pulse as high as 125, due doubtless to sepsis, but no serious results followed, and otherwise the patient made an uneventful recovery.

There is nothing special in this case except to show the difficulties under which we, in Eastern lands, amidst dense ignorance and superstition, have to labor. The wonder to me is that many more women do not succumb than is generally the case. Even though the doctor tries his best to be aseptic in all details so far as he is concerned, his efforts are counteracted by the unclean habits of the patient and her friends. Of course in this instance as in every other, if we had been called as soon as labor commenced, the girl would have been removed to the hospital, but when we saw her it was impossible; whatever was done must be done at once, or our patient would have speedily passed beyond the reach of any earthly help.

E. Douglas Follwell, M.D.

LETTER FROM CONSTANTINOPLE.

(From our Special Correspondent.)

A TRIVIAL CAUSE FOR A MEDICAL QUARREL—QUARANTINE AGAINST THE PLAGUE IN CONSTANTINOPLE—THE FUNCTIONS OF THE INTERNATIONAL HEALTH BOARD—PERSONAL NEWS.

Constantinople, October 15, 1901.

With the exception of quarantine, there has been nothing worth recording in the medical world of Constantinople. The system of "Villegiatera" prevails, and in summer doctors and patients go to the Bosporus villages on the islands of the Marmora, from which they have just returned.

The medical society has resumed its labors, and at the two first meetings of the season engaged in a trivial dispute—scarcely a discussion—on the treatment of hemeralopia by liver. So much cross feeling arose that on the motion of Prof. Dr. Remlinger the resolution was adopted that the word hemeralopia should not be mentioned in the society for six months! Anything more puerile in medicine is scarcely conceivable. Dr. Nicolle, the French bacteriologist, a distinguished pupil of Pasteur, has quitted the Turkish service. Mr. Beach, the Indian expert on plague, continues to assist the Municipal Sanitary Council, presided over by Redvan Pacha. This municipal body, as foretold in August last, has built its own lazarette at Beicos just a little too late to meet the conditions likely at the time to require such accommodation. It may, however, be useful in future, which is a distinct gain.

The proceedings of quarantine have been as erratic as the plague itself. On August 17, the constitutional period of ten days was reduced in Bulgaria to forty-eight hours, in Greece to five days. On August 20, quarantine was suppressed, but on the 21st, on the report of a suspected case of plague, it was renewed in full force, and so on intermittently the see-saw process was repeated up to September 16, when another alleged case was reported at Kauskaunjauk, on the Asiatic side of the Bosporus. A ridiculous incident occurred; a man presented himself at the Greek Hospital of "Yedi Kaulè" (seven towers) for treatment. He was considered "suspect," and consigned to the barrack in the hospital grounds for further observation. During the night he escaped and walked or ran from "Yedi Kaulè" to Baluk Bazaar (fish market) in Stambul, a stiff walk for one in health. He was pursued, and found enjoying his pipe and coffee. He and others with whom he had been in contact were interned. It was explained that he had wandered in the delirium of plague.

October 19, when plague was supposed to have spent itself and active officials were about to receive the reward of their labors, four more cases were announced as having occurred in a Greek family in Galata, of which one died. The patients and the other occupants of the premises, stated to be thirteen in number, were removed to the newly erected lazaret at Beicos. On October 21 a reimposition of quarantine was made by Greece, Bulgaria, and Roumania. "Travelers from Constantinople cannot pass the Bulgarian frontier at Hebibtchèno until after having undergone a quarantine of five days, and after disinfection by steam of their luggage and all other effects. The provisions of these voyagers will be destroyed by fire. The express train will pass in transit through Bulgaria and be accompanied by a lazaret doctor from Hebibtchèno to the Servian frontier, it being strictly forbidden to travelers and employees of these trains to descend at the stations, and equally forbidden to be in contact with any persons at the stations. Merchandise from Constantinople is interdicted. Postal correspondence from Turkey cannot enter except by Hebibtchèno and that for the interior of Bulgaria will be retained at the lazaret there for disinfection.

By reason of this plague scare, sanitary and hygienic rules and regulations have become somewhat mixed. "The following municipal dispositions have been decreed for the sanitary inspection of public establishments, and medical visit of cooks, waiters, and all other employees of restaurants, etc.: 1. As the municipal doctors cannot visit and attend every one of these classes and determine if they be affected with contagious diseases, practitioners are bound to notify the cases they attend. 2. All cooks, lemonade-dealers, etc., who shall be declared suffering from a contagious disease, should cease their work and go to a hospital, but if they can be attended at their home this privilege will be accorded to them. 3. No person should engage a cook, domestic, etc., without a medical certificate declaring that he is healthy. 4. No person of the category mentioned shall contract marriage without a medical certificate. 5. Doctors who deliver false certificates will be dismissed if they are officials, or fined if they do not belong to a service. Cooks, lemonade-dealers, waiters, etc., who are not visited every six months for obtaining a certificate of health as provided will be liable to a fine. 6. For the first medical examination they will be charged fifteen piastres for the certificate delivered, and five piastres for a photograph of the person visited. This latter shall be pasted upon the certificate of health. The medical visit shall be passed twice a year; five piastres shall be charged per visit." A truly wonderful application of the principles of sanitary science, highly imitative, though not to be imitated!

The worried shipping interests are very impatient at the oddities of the past nine months of quarantine as applied against Turkey by Greece, the Balkan States, and Egypt, and also by Turkey against Egypt. Their representatives ask what really are the attributes and functions of the International Health Board, and how far this sanitary body is in accord with the municipal health organizations, forgetting, or not knowing, that these organizations are independent of each other. Is it, they ask, a consultative body for advising the various nationalities on the propriety of imposing quarantine under certain conditions, or is it a number of European delegates appointed merely for the purpose of reporting isolated cases of cholera or plague, and leave their respective governments to impose quarantine without reference to the means and authority of the board to isolate such cases, and so obviate the necessity of quarantine, or at least to modify it? The prevailing opinion is that, so far as Turkey, Greece, Bulgaria, Servia, and Roumania are concerned, the time has come for a fresh International Health Congress to bring matters more into accord with the present-day knowledge of sanitary science.

The International Health Board, so called, is a somewhat ancient institution, dating from the reforming days of Sultan Abd-ul-Medjid. Its functions then were clearly defined, it advised on all question of public health, it regulated bills of health, *patents de santé*, in pre-telegraphic days when bills of health served a purpose—stamped as they were with a consular visé. Bills of health serve only fiscal purposes nowadays. Thus, a vessel may leave a port furnished with a clean bill of health; a few days after departure, a case of cholera or plague may declare itself in

that port. Information of this is telegraphed abroad long ere the vessel reaches her destination. The clean bill of health is not accepted, and the vessel has to undergo quarantine in detail, although free from infection, as stated in the bill, unless the voyage be long enough to enable her to "purge" quarantine at sea. This frequently occurs in the trade between India and the Red Sea. On this one point there is room for improvement, to say little of the modifications or suppression of land quarantine at the different frontiers—almost universally condemned as futile—and especially with regard to the many articles of commerce now considered incapable of carrying infection.

For many months past, plague, or whatever the malady may be, has been cropping up at long and irregular intervals in Constantinople and its suburbs, each case being followed by full quarantine. The consequences are disastrous to commerce; the personal sacrifice and inconvenience to travelers are so great that one might prefer the risk of plague to the terrors of quarantine.

On October 24, another suspected case of plague was reported as having occurred at Bechiktash, a suburb on the European side of the Bosporus. It may be that plague is in our midst, and that the dread of isolation and removal of whole households to a lazaret prevent the cases being notified, otherwise it is difficult to explain the position.

From Egypt, Naples, and Samsoun, where the disease prevails, the public journals give full information of its course and progress, but in deference to Imperial solicitude for the public welfare, nothing of what occurs in Constantinople is vouchsafed. The word plague is officially abolished.

Dr. Constantanides, surgeon to the Municipal Hospital, died on October 22 from scarlatina after a short illness of three days. Dr. Clemow, physician to the British Embassy and British Health Delegate, has returned from sick-leave.

Dr. Remlinger, Director of the Antirabic Institute, has been appointed by Imperial iradè chief of the Imperial Bacteriological Institute, replacing Professor Nicolle. Dr. Reminger will continue also to hold his former post.

THE REORGANIZATION OF THE PATHOLOGICAL INSTITUTE OF THE NEW YORK STATE HOSPITALS.

To the Editor of the Medical Record:

Sir: The time has come when the public has a right to know exactly what is meant by the much-talked-of reorganization of the Pathological Institute. There seems to be no certainty that the State Commission of Lunacy is dealing frankly with the situation. We hear of avowals to continue its work, but when we are shown the machinery for this work there appears to be no intention of continuing anything more than the name of the institute.

Reviewing the recent history of this unfortunate institution, we find that the State Commission, which was expected to protect the work, resolved to destroy it, without trial or hearing. Following this were the cutting off of its maintenance and the dispossession of its domicile. In the midst of its work, the apparatus and instruments were seized and thrown into the asylum vaults at Ward's Island, where neither quarters nor means for the work was possible, and a large amount of scientific research extending over years was ruthlessly destroyed. The commission, however, was forced by the situation in the Legislature of the State to promise to continue the work and even to retain the director. But no sooner did the commission obtain the needed appropriations than it proceeded to demand the resignation of the director and the whole staff of men constituting the Pathological Institute, and without making any charges of incompetency or unfitness to do the work. The specious plea was advanced that the prospective director must have his hands free in the reorganization of the institute, when there is evidence to believe that it is the intention to organize a very different kind of work under the old name. At any rate, there is no frankness with the public, that has supported the work of pathological investigations, while a scientific institution is complete destroyed. It was hoped that the new President of the commission would support, as he promised, a work so important to the treatment of insanity and the study of abnormal psychology. The time is ripe for the proper study of pathology in both physiology and psychology in this country, as it has not been done in the past, and it is work that can be done only by those who have made themselves familiar with it. A man who has never done a day's work in psycho-pathology of any sort is not the man to act as advisor in so important a subject, and it appears that the "reorganization" will depend, somewhat at least, upon the judgment of that kind of an "authority." If the State Lunacy Commission will not see to it that the institution is preserved in all its integrity, the public will have to see that private schemes and ambitions are not gratified at the expense of science. I am not speaking here in behalf of any particular person or set of persons, but only of a work which needs to be done and done by men who are qualified by experience to do it. More particularly, I am speaking in behalf of some continuity in scientific work, and the study of problems that the physician and the alienist can appreciate as no one else can. It is time to take the whole subject out of politics and private ambitions, and it is hoped that the public interested in it will see that this is effected. The State Commission must either be forced to do its duty or frankly and openly to indicate its policy without subterfuge and evasion and the shifting of responsibilities.

James H. Hyslop,
Professor Logic and Ethics, Columbia University, N. Y.
New York, November 22, 1901

Progress of Medical Science.

The Boston Medical and Surgical Journal, Nov. 21, 1901.

Lesions of the Bladder During Abdominal and Vaginal Hysterectomy.—Charles Greene Cumston says that out of some 300 abdominal sections for gynecological affections, he has wounded the bladder but once, and once only out of 74 cases of vaginal hysterectomy. To close bladder wounds, he uses two layers of sutures, the first of which includes the mucous membrane alone; for this fine catgut should be used. The second and superficial layer includes the muscle. If the bladder is deeply seated, and if the abdominal walls are very thick, the mucous membrane may first be united by interrupted sutures of fine catgut, but if the wound in the bladder is easily accessible, a running suture is to be preferred. As to the superficial suture, it should always be done with a running Lembert's suture. In some cases, especially if the wound in the bladder is a long one, these two layers of sutures may be reinforced by a third layer of Lembert's suture.

Some Deductions Concerning Milk Modification.—R. C. Macdonald says that the main efforts of milk modifiers have been directed to the reduction of the so-called casein, and to the replacement of the fat. Practically no attention is given to two very important points of difference in human and cow's milk. Casein consists of caseinogen and lactalbumin. In human milk these two substances exist in equal proportions, while in cow's milk there is but one part of lactalbumin to six parts of caseinogen. Furthermore, in cow's milk, phosphorus exists mainly in the form of inorganic compounds; in human milk it exists in organic combinations. The former are practically non-assimilable; the latter are readily taken up by the human system. The author suggests that both these deficiencies can be somewhat overcome by a judicious use of the whole egg. Egg albumin approximates quite closely to lactalbumin, and in the egg yolk we have a veritable storehouse of organic phosphorus compounds. With a proper percentage of cereal to break up the curd, and judiciously regulated proportions of whole egg added to cow's milk, as now modified, the ideal of "mothers' milk" would be reasonably in sight.

Suggestions for the Improvement of Training-Schools for Nurses.—Richard C. Cabot hopes that in the course of time, nursing may be made a liberal profession. To that end, there should be certain improvements in the methods of educating nurses. In the first place, nurses should pay for their training, and be taught by paid instructors. This would tend to bring into the profession a better-educated class of women, and would put the students in a position to demand, instead of humbly requesting, a thorough course of instruction. Nurses should be taught by nurses, medicine by physicians. Nurses should be prepared for private nursing by practice in families outside a hospital, and by the teaching of nurses in active practice. The nurses' training should not be exclusively technical, but should include some liberal studies, such as sociology, history, and literature. She needs to study subjects which tend to give a deeper and truer sympathy with human nature, and also to prevent her from getting warped and depressed by the weight of concentrated sorrow and suffering which her life forces upon her notice. The educated nurse has resources to turn to when her work is done, and can carry with her into her work a consciousness of other and more normal sides of life, which will give her balance and enthusiasm in the thick of her difficulties.

Journal of the American Medical Association, Nov. 23, 1901.

Treatment of Ringworm of the Scalp in Institutions.—H. W. Stelwagon advises the clipping of the hair or in obstinate cases the shaving of the scalp every few days.

The latter is to be washed with medicated green soap. Various formulæ are given for local applications which the author has found of service. He attaches greatest value to chrysarobin, which, however, must be of the best quality. It must be employed with great care when the patient is under three years of age. A saturated solution in chloroform is the preferable combination. In very young patients a naphthol salve or tincture-of-iodine paintings will effect a cure.

Two Different Ways in Which Yellow Fever May Be Transmitted by the Culex Mosquito (Stegomyia Tæniata).—C. J. Finlay says that there are two different ways by which the specific germs of yellow fever may be conveyed from the sick to the healthy. One way consists in allowing the yellow-fever mosquitos to become infected in such a manner that after the lapse of a certain number of days the salivary and venom glands of the insect appear to become the seat of a local, chronic, life-long infection which is attended with a constant reproduction of yellow-fever germs so that the contaminated mosquito will thereafter inoculate some of those germs with every bite. The other way consists in injecting the germs contained in the blood of a yellow-fever patient directly under the skin of a non-immune.

The Non-Surgical Treatment of Heterophoria.—Dr. G. M. Gould lays down the factors of proper treatment as follows: (1) The absolutely accurate estimation of the refractive errors by cycloplegia and the subjective method and the prescription of spectacles and their adjustment according to the hundred modifying conditions of the individual case. (2) When the heterophoria is three degrees or over, a temporary but partial neutralization by prisms may be necessary to tide over the period required by nature to reinforce a normal balance of innervation. (3) Supplementary ocular gymnastics, mere excursions of the eyeballs upward and downward, etc., aid in bringing about balance. (4) Instruction in ocular hygiene is frequently helpful. The book habitually placed too far below the horizontal plane may be productive of much eye strain. High arm-chairs and other similar devices would vastly lessen the sufferings of many people.

The Psychoses of Chorea.—H. N. Moyer presents the following conclusions: (1) A well-marked alteration of the character and mentality can be noted in the majority of cases of chorea, usually preceding by some weeks the onset of the choreic movements. (2) Distinct hallucinatory phenomena are present in a considerable number of cases, which are not, however, of sufficient severity to merit being classed as a distinct psychosis. (3) The mental disturbance in chorea usually comes on after choreic movements, but it may precede them. (4) The type is usually maniacal, though it may occasionally be melancholic or present the character of an acute delirium. (5) Mental disturbances are commoner in older children; they are rarely observed before the twelfth year. (6) Choreas which are accompanied by mental disturbance later in life are almost always accompanied by organic changes in the central nervous system. (7) The prognosis is favorable when the mental disease complicates the simple, acute chorea of Sydenham. Insanity associated with chorea in middle and advanced life is almost invariably associated with organic disease of the central nervous system.

New York Medical Journal, November 23, 1901.

Leucoplakia.—J. V. Shoemaker gives the clinical histories of two cases and a general description of the disease. It calls for a differential diagnosis from syphilis, tuberculosis, epithelioma, chronic glossitis, and opaline patches. Shoemaker advises a cautious local therapy and the avoidance of escharotic measures.

Cyst of the Vermiform Appendix.—W. C. Wood reports a case of a woman of twenty-five years, supposed to be suffering from an attack of acute appendicitis. She gave no history of ever having had a similar attack, but just twenty-four hours previously had been taken with severe pain in the stomach, nausea, and vomiting; the pain soon shifted to the region of McBurney's point, and there was a slight rise of temperature. When first seen she was acutely tender over the appendix, there was marked rigidity of the right rectus muscle, and the abdomen was somewhat distended, especially on the right side. The pain was severe, but not constant. The bowels were moderately constipated. On opening the abdomen by the usual incision a transparent tumor, dark-colored and filled with fluid, presented in the opening. At first the author thought it might be a strangulated intestine, but on drawing it out of the wound it was found to be attached to the head of the colon, and was, in fact, a cyst of the appendix. The tumor was removed by clamping its base and cutting close to the bowel, which was secured by inverting the stump into the bowel and overcasting with several interrupted sutures. The cyst contained six ounces of fluid of a light straw color similar to that found in a hydrocele. The patient made a prompt and uneventful recovery.

The Advantages of a Trace of Albumin and a Few Tube Casts in the Urine of Certain Men Above Fifty Years of Age.—W. Osler says that it is more important to base a judgment on the general condition of the patient than on the result of uranalysis. Some men when applying for life insurance are rejected because a little albumin and a few casts are found in the urine. They are generally men who have been high livers, hard mental workers, and without proper exercise. The appearance of the danger signal, as above noted, leads them to reform their mode of living and they begin to conduct themselves rationally. In other words, Osler wishes to call special attention to the fact that in men in the fifth and sixth decades albuminuria is by no means infrequent and not always serious. It is probably the expression of presenile changes in the kidneys, the result of arterial degeneration, and is often a renal inadequacy, to use Clarke's term, not of vital importance. Neither the presence of albumin nor the number and variety of the casts have the same value in estimating the character of the disease, and the prognosis, as other factors. The points on which one should lay special stress as indicative of serious disease are: 1. Persistent low specific gravity of the urine, 1.008 to 1.012. 2. The state of the heart and arteries. Marked sclerosis of the peripheral arteries, with the apex beat of the heart an inch or two outside the nipple line, and a ringing, highly accentuated aortic second sound. 3. The presence of albuminuric retinitis. A strong exhortation is made by the writer that every man should after fifty gradually decrease the amount of food taken.

Philadelphia Medical Journal, November 23, 1901.

The Supraorbital Reflex in Facial Paralysis.—Joseph Sailer speaks of the demonstration of the supraorbital reflex by D. J. McCarthy. He then reports three cases which appear to prove that McCarthy's reflex is a true sensorimotor reflex, and that the irritation of the supraorbital nerve may, under certain circumstances, produce contraction of the muscles of the opposite side. Also that in certain cases the reflex manifestation may extend to the other muscles which are removed to a considerable distance from the supraorbital nerve. In two of the cases there was loss of ability to move the platysma.

Technique of Vaccination.—Frederick A. Packard declares that the object of vaccination is to cause the virus to become disseminated through the body and produce general immunity from variola. This virus should be free from contamination. The writer advocates the use of the hermetically sealed tube containing glycerinized lymph. The physician should have at hand soap and water, alcohol, clean vaccine, and some form of protection to apply after the operation. The vaccine points are kept in the refrigerator between vaccinations. Preceding the operation, the hands of the operator are scrubbed with soap and water and then wet with alcohol or corrosive-sublimate solution. The skin of the patient should be sterilized. This involves scrubbing with alcohol, as this promptly evaporates and does not destroy the virus. As an instrument, the writer prefers a special scarificator. As to the point chosen to scarify, the area near to the deltoid insertion is preferable. If the leg is to be vaccinated, then the point just below the head of the fibula is chosen. Scar tissue must be avoided. The ideal result of the scarification is to obtain a little pinkish or rosy moisture, not to draw blood. On this the vaccine is deposited, and the surface is finally again scarified enough to rub in the vaccine and yet not to cause the outflow of blood. The celluloid shield is applied, but is removed as soon as a specific local lesion is produced. The arm is then dressed with boracic-acid ointment.

Prophylaxis of Smallpox in Cities.—Richard A. Cleemann states that the duration of immunity from smallpox secured to the individual by a single vaccination is estimated on good authority to be from eight to twelve years. There should be as general a vaccination as possible by a corps of vaccinators, who should be educated physicians under the order of the health authorities. Discretion should be observed with regard to weak children and sick persons. The operation should be avoided generally in hot weather upon infants less than two years old on account of the possible complication of cholera infantum. A child that cannot furnish a certificate of successful vaccination should be prohibited from attending any school or institution where children are received. Vaccination should be made a prerequisite to entrance into the civil service, the army, the navy, and

the militia. No immigrant should be allowed to land on our shores unless thus protected from smallpox. When the disease actually appears in a community, the most thorough precautions should be taken. The case should be reported immediately to the health authorities, who at once send a medical inspector with a vaccinator to verify the diagnosis, and in this event all unprotected persons in the environment of the patient are vaccinated. The origin of the disease should be traced and reported. The patient with the rest of his household should be removed to a hospital devoted to the care of smallpox cases, where they are to be detained until the vaccinations prove successful or until they remain well for two weeks. The room and all its contents should be thoroughly disinfected. If the patient is living in his own house, and insists on remaining, guards must be placed before the door to insure that no one but the physician goes in or out. The utmost precautions must be observed to prevent any possible spread of the disease. Should the patient die, the body is to be wrapped in a sheet saturated with corrosive-chloride solution, and preferably cremated. The remains may be encased in a hermetically sealed metallic coffin and carried, without a public funeral, to the grave.

Some Experiences with Blood Examinations.—John B. Deaver and Edward Kemp Moore present this paper. They state that undoubtedly examinations of the blood for the hæmatozoa malariæ are of the greatest value, and when these organisms are found they are absolutely diagnostic of the disease, but it has been the authors' experience that the more irregular and atypical the case of malaria, the harder the organisms are to find. They also conclude that a positive Widal is rarely of much value to the surgeon, however valuable it may be to the medical man. A negative Widal reaction, especially after an illness of two or three weeks, seems more often of service. To demonstrate sugar in the blood is more interesting than valuable. Justi's hæmoglobin test for the diagnosis of syphilis has proved very satisfactory in the writers' cases, and in a doubtful case is worth a trial. The erythrocyte count gives the surgeon an index as to the powers of resistance of a patient as well as a guide to the severity of the infection. A chlorotic condition of the blood is often valuable in explaining the cause of amenorrhœa and leucorrhœa in young girls, as well as in other conditions. The writers consider the subject of leucocytosis the most valuable and the most disappointing part of the examination of the blood. They relate the case of a young man who was admitted to the hospital with all the symptoms of a severe attack of appendicitis, the leucocytes on the day of admission numbering 20,000. Operation was refused by the patient. He was treated medically with improvement in all symptoms, the leucocytes gradually fell from day to day, and after six days they numbered 7,500. At this time, permission for operation was granted and a large abscess was found in the pelvis, containing at least 500 c.c. of pus. At the time of operation the temperature was normal, the bowels were moving feebly, pain was absent, and the stomach was retentive. The only indications of the abscess were tenderness and rigidity of the right rectus and a mass discernible upon rectal examination. In this case the blood examination proved itself entirely unreliable. The writers, although having no desire to belittle the real value of blood examinations, object to the unfounded claims that have been made which experience does not bear out.

The Lancet, November 16, 1901.

Notes of a Severe and Long-standing Case of Lupus Treated by the Application of the X-Rays.—G. H. Rodman's patient was a woman of thirty-eight years, suffering twenty years from lupus said to have followed an operation for the removal of the malar bone. X-ray treatment was applied for over three months, there being some fifty exposures made. Complete healing resulted.

A Case of Lupus Vulgaris Treated by Exposure to X-Rays.—T. C. Squance reports the case of a girl of seventeen years with lupus of the nose, lip, cheeks, lower eyelids, forehead, and angle of the jaw. X-ray exposure ten minutes was given three times a week. After the first exposure there was decided flushing, accompanied by some pain, tingling, and a sensation of heat, which continued more or less markedly after each sitting, the skin assuming a reddish-brown appearance with yellowish crusts. Later daily exposures were made until the reaction became so marked that the treatment had to be intermitted. Results of treatment were most satisfactory, the patient being practically cured. Squance thinks that the action of the rays in these cases is probably a dual one. On the one hand, there may be excessive stimulation of the bacilli causing "over-population," and consequent dearth of food, and on the other, there may be produced an inflammatory reaction in the healthy tissues on the margin of and below the diseased portions, causing them to put on an increased resistance.

Curious Symptoms After the Extraction of a Tooth.—W. C. Pudham reports the case of a man aged thirty years who suffered from a fractured tooth. The fracture had been done a week previously, and in the interval the man had suffered extreme pain. The roots of the first molar on the left side were removed without difficulty, the patient, however, immediately subsequently to the operation, complaining of great pain. This was almost immediately relieved by the application of hot water to the gums, and at this point the patient appeared to be quite well. Within five minutes of the extraction, he complained of severe "pins and needles" in the legs and arms, became rigid and quite cold, with a bad color, hurried respirations, dilated pupils, strong contractions of the muscles of the arm and forearm, flexure of the fingers, and considerable adduction of the thumbs. The teeth were clenched, but the patient was able to answer questions with some difficulty, and he remained conscious during the whole attack, which lasted for about half an hour. The hands and arms were well chafed and doses of sal volatile were administered. The patient was eager to be allowed to sit up, at least partially. The symptoms yielded to continued efforts to restore warmth, and the man recovered slowly till he was able to warm himself by swinging his arms about. He eventually left the hospital apparently little the worse for the attack.

Berliner klinische Wochenschrift, November 4, 1901.

Treatment with Frey's Hot-Air Douche.—B. Belzer warmly commends this method and gives a series of histories of cases that were very greatly benefited by its application. The apparatus has none of the disadvantages of the forms of hot-air treatment in vogue, which require for their administration separate rooms, the presence of skilled attendants, uncomfortable postures, and considerable reactive power on the part of the patient. It can be used in any consulting room provided with an electric lighting current and can be instantly got ready for use, while manipulation of the rheostats permits the modification to any degree of the temperature and force of the blast of heated air. Burns are impossible and any part of the body can be subjected to the treatment, which is advantageously carried out together with massage. The intense local hyperæmia induces more active cellular metabolism, facilitates the removal of waste products, and aids in the absorption of objectionable deposits of all kinds. The main field of usefulness is therefore in gouty, rheumatic, and neuralgic states, though the author enthusiastically prophesies a great future for it in many other directions.

Colpocœliotomia Anterior-lateralis; a New Vaginal Operative Route Into the Abdomen.—A. Dührssen says that his method of vaginal cœliotomy has been criticised on the score of the technical difficulties sometimes encountered, and he has therefore devised a modification which he thinks will obviate these objections. This simplified method consists in a combination of vaginal cœliotomy with the complete division of one broad ligament. The advantages of the method are as follows: If the operation is begun with the division of the ligamentum cardinale without opening the anterior and posterior *culs-de-sac*, parametric abscesses or purulent accumulations in the tubes and ovaries can be opened extraperitoneally and without sacrificing the adnexa. If removal of the adnexa is intended from the first, access to the abdominal cavity is in this way made much more free, and since all of the uterine attachments except those with the undivided ligament are cut through, the whole organ may be drawn out through the vulva, leaving a clear field behind. The extraperitoneal fixation of an infected tubal stump and drainage of the entire pelvis are easily effected. This form of operation makes control of hemorrhage possible under all conditions and frequently makes the otherwise sometimes unavoidable total extirpation of the uterus unnecessary. In cases of large laterally situated ovarian abscesses or pus tubes that may be treated by simple incision and drainage, the first stage of the operation, *i. e.* the division of the ligamentum cardinale alone, is sufficient. Complete division of the whole broad ligament is indicated in difficult cases of adherent uterus, infiltrated and inflammatory adnexa stumps that require extraperitoneal fixation, peritonitis, and conditions requiring pelvic drainage, in cases of hemorrhage, and of rupture of the uterus.

Münchener medicinische Wochenschrift, November 5, 1901.

A Case of Rheumatic Disease of the Temporo-Maxillary Articulation.—Hamm describes a case in which the patient a man of forty-five years, could not press the jaws together without severe pain. A small blood cyst of the external auditory canal was found and punctured, but

without relief to the painful mastication. After a week of useless therapy, the condition quickly subsided under the administration of sodium salicylate, and the author says that in similar cases of obscure pain in this region, one should always keep this unusual but possible lesion in mind.

Occupation-Neuritis of the Brachial Plexus.—L. Hoeflmayr describes a somewhat unusual affection of the nerves supplying the deltoid and latissimus dorsi. The patients were carpenters, tanners, and a watchmaker and had all been for some time treated unavailingly for rheumatism. In each patient, the trouble had developed slowly and was independent of trauma or exposure. None of the patients gave a history of previous rheumatism, syphilis, of alcoholism, or any chronic intoxication. The pain was always situated about the shoulder joint and was so great as to prevent all motions involving the muscles named. The author believes that it was a neuritis induced by the occupations of the patients, which were of a nature to call these muscles into constant play. The prognosis of the affection is good, though eight to nine weeks elapsed in these cases before the cure was complete, The treatment comprised rest, local heat, and galvanism to the nerves with, and later on, faradism to the muscles.

Two Cases of Foreign Body in the Nasal Sinuses.—Lohnberg has seen two instances of foreign bodies in the accessory cavities of the nose, one in the ethmoidal cells and the other in the frontal sinus. The first case was in a man of forty years who sought relief for a large mass of polyps filling the whole of one nasal cavity. After their removal, a hard body was felt in the vault of the naris and on extraction was found to be a fragment of iron 2 mm. thick and more than 2 square cm. in size. The patient then recalled that twenty years previously he had lost the corresponding eye through the explosion of a gun while hunting. The foreign body had evidently penetrated the os planum of the ethmoid bone and then come to rest in the ethmoidal cells. The second man received a blow on the forehead with a wrench which broke in the frontal sinus. Long-continued suppuration with discharge into the nose led to operation, which revealed the presence of a good-sized piece of felt that had been torn from the patient's hat and carried into the wound by the blow.

A Case of Late Meningitis After Cranial Trauma.—Kokko Fujisawa says that even after a cranial injury has apparently cleared up without after-effects, if a fissure be left behind communicating with the air through nose, mouth, ear, eye, etc., a meningitic process may develop after years through infection by this channel. His patient was a girl of ten years who over twelve months previously had fallen and suffered a depressed fracture of the left side of the forehead. After an illness of two months, she had completely recovered and showed no bad effects from the accident. At the time of examination, there was evidence of acute meningitis, and twenty-four hours later she died. The autopsy showed acute leptomeningitis with a focus of yellow softening at the base of the left frontal lobe. A small dark fissure was found in the frontal bone connecting with the lamina cribrosa. The author believes that the softening occurred at the time of the injury, a year previously, and lay dormant till infection took place through the crack leading into the nose.

Deutsche medicinische Wochenschrift, November 7, 1901.

An Unusual Type of Cirrhosis of the Liver.—L. Jones reports a case of this lesion in which both syphilis and alcoholism were absent from the past history. Eleven years previously the patient had suffered from some gastric affection which he described as having been of short duration and from which he experienced no further trouble. Notwithstanding the apparently benign nature of this trouble, the autopsy, which was performed two months after the onset of the hepatic symptoms, revealed extensive changes in the gastric mucosa. There was evidence of gastritis and even to the naked eye numerous small cicatrized ulcerations were visible, while in these spots the normal glandular structure was entirely replaced by connective tissue. The liver was greatly altered, and large yellow patches were found imbedded in a tissue of a grayish-red color which did not resemble liver structure. The author believes that a more direct connection is possible between gastric disease and cirrhosis than is generally believed, and cites some experiments on animals which appear to support this view.

Studies on the Epidemic Dysentery of Japan with Especial Relation to the Bacillus Dysenteriæ.—K. Shiga says that this organism is found in all cases of the disease, but never occurs in healthy individuals or those suffering from other maladies. It is most abundant in the deeper layer of the intestine, whence it may be obtained in pure culture, but in old ulcerative foci and on the surface it occurs sparsely and is overgrown by other colon bacilli. The organism, or its toxins, is capable of producing hemorrhagic extravasations, and in animals causes subcutaneous extravasation and bleeding into mucous and serous membranes, such as are often observed in severe cases of dysentery. The bacillus of dysentery produces agglutination with the blood of dysenteric patients, but not with that of any others or of the healthy. This agglutinating power undergoes variations and is greatest during convalescence, after which time it again gradually sinks. Injected into the healthy, the dead bacilli produce violent local inflammatory reactions, but in dysenterics are more easily destroyed and absorbed. An immune serum may be prepared having preventive and therapeutic properties in relation to the disease. In distinguishing amœbic colitis from the bacillary type of the disease, the following points are of value: Amœbic dysentery is chronic and is not accompanied by the presence of the specific bacillus. The so-called toxic symptoms are not observed in amœbic colitis, viz., fever, general prostration, headache, loss of appetite, rapid emaciation, hemorrhagic and nervous manifestations, etc. In the amœbic form, liver abcess is a frequent complication, but this has not been observed in the epidemic type. In amœbic dysentery, the lesion is confined mainly to the rectum and descending colon, the small intestine being but rarely involved, while the actual destructive process goes on mainly in the submucosa, forming ulcers with undermined edges.

French Journals.

Two Cases of Cyst of the Round Ligament.—Lebesque reports these cases. The first patient was a woman, fifty-two years old. For ten years she had noticed the presence of a small tumor at the level of the external orifice of the right inguinal canal. The tumor had progressively increased in volume without causing acute pain. There was in the subpubic and right inguinal region a tumor the size of an orange. It measured vertically 13 cm., horizontally 12 cm., and its limits were the median line, the right labium majus, the crural region, and the edge of the pubis. The tumor was fluctuating. The operation consisted in opening the inguinal canal and in excision without ligature of the tumor. The other tumor occurred in a woman of twenty-one years. These tumors, which proceed from an incomplete obliteration of the inguinal canal, are rather rare.—*Journal de Chirurgie et Annales de la Société Belge de Chirurgie*, October–November, 1901.

Considerations Concerning Supravaginal Hysterectomy.—Verdelet states that in supravaginal hysterectomy if the stump is put back into the abdomen when hæmostasis is not perfect, there will form a small hæmatoma which will be easily infected from its proximity to the intestines, and in consequence there will be a rise in temperature sometimes eight days after the operation. Sometimes there are analogous occurrences after the enucleation of fibromata, especially in the case of intraligamentous fibromata, for here complete hæmostasis is almost impossible. This febrile manifestation coincides with the development of an infection secondary to hæmatoma, giving place to that of pelvic peritonitis, to pelvic cellulitis, or to phlebitis, which cause a delay in the recovery. Besides these infections, there occur sometimes consecutive neoplastic alterations in the stump (recurrences of fibromata, of carcinoma, etc.). These facts ought to call attention to the precautions which should be observed in the operative technique of supravaginal hysterectomy. The surface chosen for attachment should be absolutely bloodless.—*Gazette de Gynécologie*, November 1, 1901.

Professional Neuritis.—According to Baraks, predisposition stands in the first rank of the etiological conditions which favor the development of professional neuritis. Although this is difficult to define clearly, it certainly exists. Professional neuritis is exceptional at the extremes of life; it is seen especially between the age of twenty-one and thirty-five years. It predominates in men, though it is also seen in women. Compression is the essential cause. Fatigue, compression, and stretching are the three important factors that cause this trouble Clinically, a neuritis may be considered professional only when it is caused by professional work itself. There are three classes: neuralgias, paralyses, and spasms. It is in the professional paralyses that all of the habitual morbid symptoms of neuritis in general are found. The spasms are rarely observed. Diagnosis of these troubles is simple and seldom presents any difficulty. Treatment is especially prophylactic.—*Gazette des Hôpitaux*, November 7, 1901

Five Cases of Rupture of the Spleen in Patients Suffering from Malaria.—Boinet draws the following conclusions from the cases which he reports: 1. Rupture, called spontaneous, of the spleen during an access of intermittent

or pernicious fever is possible. It is favored by the softening, the diffluence, the enormous tumefaction, the congestion, and the rapid increase of the splenic pulp which may distend the capsule and cause it to rupture. 2. Sometimes this capsule is thin with a normal appearance; sometimes it is thickened, sclerosed, and has lost part of its elasticity. It yields and bursts from the pressure of the contents at those points where the thickness and resistance are least. 3. The adhesions of the malarial spleen to the diaphragm and to the stomach, which are so frequent, favor rupture, it may be from the pulling caused by the adhesions, it may be by the loss of mobility of the spleen, which is thus greatly exposed to traumatism. 4. The alterations, the hypertrophy, and the friability of the large spleens, observed in chronic malaria, were the predisposing causes of rupture in four of these cases reported. 5. In three cases there were tears at the hilum in the shape of a star. In one case the rupture appeared to result from a sort of contre-coup. Slight traumatism may cause a rupture. 6. There is one observation relative to rupture after a copious repast, which presents a certain interest from the medico-legal point of view. 7. In one case, splenectomy would have saved the life.—*Bulletin de l'Académie de Médécine*, November 5. 1901.

Annals of Surgery, November, 1901.

Genital Tuberculosis with Special Reference to the Seminal Vesicles; Report of Two Cases of Spermatocystectomy.—H. H. Young gives a careful resumé of the literature of this condition and a table summarizing the results of some thirty-five operations for removal of the seminal vesicles for tuberculosis associated with testicular disease. The part removed was one testicle (or epididymis) twenty-three times, both testicles five, one seminal vesicle twenty-three times, both seminal vesicles eleven times, a portion of the prostate five times. Of immediate results 13 were good with no fistula, a fistula resulted in 14, two were in bad condition, and the state of affairs is not mentioned in three. Of nineteen patients whose subsequent history was ascertained five died, ten were well, and recurrences had occurred in four. Only eight patients were followed over one year; of these two died of pulmonary tuberculosis, two had perineal fistula, four were cured. In only one of the five fatal cases was there any record of pulmonary involvement before the operation, and in only four cases was there any involvement of the bladder, and in three of these cases it was very slight. No history of kidney disease was recorded. The operative indications may be summarized as follows: Epididymectomy with high resection of the vas deferens is the operation of choice. Castration should be confined to cases where the testicle proper is involved, or the scrotal disease is extensive. Double castration should be avoided if possible, a portion, at least, of one testicle being left, even with the risk of local recurrence of the disease. Operations upon the seminal vesicles and prostate should only be done after removal of the testicular foci has failed to arrest the progress of the disease in these organs, and it has spread to the bladder. Serious involvement of distant parts—pulmonary, urinary, osseous, etc.—does not contraindicate operation, especially since the more exact methods of using cocaine have made general anæsthesia unnecessary. That remarkable disappearance of extensive tuberculosis of the prostate, seminal vesicles, bladder, kidneys, lungs, etc., may follow the simple removal of the testicular foci seems abundantly proven.

Skin-Grafting in Complete Stenosis of the Larynx.—A. J. McCosh reports the case of a boy of fourteen years in whom laryngo-fissure had been done for papilloma. Tracheotomy was done at the same time and a tube had been worn since. The epiglottis was bound down over the laryngeal entrance by cicatricial tissue. Further examination showed that the windpipe was completely obstructed from the epiglottis down to the second tracheal ring. Several operations were necessary for the excision of all the cicatricial tissue and the reopening of the breathing passage. Finally the canal was grafted from the first tracheal ring to within half an inch of the glottis by a Thiersch's graft taken from the thigh. This was rolled around a rod of gauze covered by rubber tissue, which was inserted with the raw surface of the graft against the bleeding surface of the new tracheal canal. The section grafted was about three inches in length. Through the glottis a silk thread was carried, emerging through the mouth. The graft "took" throughout its entire length, and some three weeks later the anterior wall of the windpipe was formed by dissecting loose the skin edges of the wound and uniting them by suture in the median line, a tube the size of No. 22 (F.) being inserted, its lower end resting against the tracheotomy tube and its upper end projecting through the mouth, strings being attached to each end and fastened to the patient's neck and chest. The tube was replaced by a series of others of gradually increasing caliber. For some time the patient has been wearing an intubation tube and through this respiration is comfortably maintained, the tracheal opening being closed by a pad of gauze. As there are no arytenoids or projections to maintain the intubation tube in place, it is occasionally expelled, and is sometimes not replaced for hours, during which time the boy breathes through his larynx. It is deemed wise to insist on his wearing an intubation tube, at least intermittently, for some months longer, until all danger of recontraction of the glottis above the site of grafting has passed. There is no question, however, that at the present time he could dispense with both the tracheal opening and his intubation tube. At a later date the tracheal fistula will be closed.

Acute Intestinal Obstruction Following Appendicitis: a Report of Three Cases Successfully Operated Upon.—The cases are reported by L. W. Hotchkiss, who believes that they show the value of the following procedures under given conditions: (1) The great utility as well as necessity for the free use of the decinormal salt solution, whether into the subcutaneous tissues, the rectum, or the veins, both during as well as after operation, as a guard against extreme shock. (2) The great value of free incision into over-distended coils of gut (*a*) in order to relieve upward pressure upon the diaphragm, and the disturbance of respiration and circulation consequent upon it; (*b*) to relieve the congested intestinal vessels, and to diminish the size of the enormously distended coils so that they may be handled without injury, and the obstruction more easily located and dealt with, as well as at the same time to drain away from the interior of the gut a great quantity of stagnant fluid before it can reach the absorbing surfaces of the intestine below the obstruction. (3) The practicability and desirability of closing the abdominal wound without attempting to drain the peritoneum, and the leaving within the cavity sufficient saline solution to float the intestines and assist, perhaps, in their rearrangement. The postoperative treatment of these cases, especially if they have been brought late to operation, is of vital importance, and upon its intelligent and diligent application the patient's fate depends. The three measures which are essential are simple but generally effective. They are: (1) The persistent and intelligent use of the stomach-tube, with lavage. (2) Early and, if necessary, the repeated administration of saline purges in concentrated solution, and introduced through the stomach-tube if retained no other way. (3) The use of the rectal tube for the relief of gas, and the patient and persistent use of high enemata. These three measures intelligently, patiently, and perseveringly employed, together with absolute abstention from the use of morphine, no matter what the temptations may be to use it, constitute the tripod upon which rational and effective treatment is based, and upon the intelligent use of which the life of the patient often absolutely depends.

Foreign Bodies Accidentally Left in the Abdominal Cavity.—A. Schachner has collated 155 cases. He draws conclusions as follows: (1) So long as surgery continues an art, so long will foreign substances continue to be unintentionally left in the abdominal cavity. (2) That the recorded cases are not representative of the true frequency of this accident. (3) If the foreign body is of an aseptic character, nature endeavors to care for the same by encapsulating the foreign substance primarily in a fibrous exudate interspersed with leucocytes, and secondarily enclosing it by the contraction of adhesions between the different abdominal viscera or the viscera and abdominal wall. (4) In the spontaneous expulsion of a foreign body from the abdominal cavity, nature seeks exit through points of least resistance, which are either the alimentary tract or an imperfectly united wound, or less frequently through the reopening of an apparently well-organized cicatrix. (5) A foreign substance may remain quiescent for years in the abdominal cavity. (6) The disturbance which a foreign body creates in the abdominal cavity depends upon its sterility, size, character, *e. g.* regularity of outline and presence of sharp or pointed surfaces; density, point of location, individual tolerance of the peritoneum, and behavior of the individual. (7) The symptoms of a foreign body in the abdominal cavity may vary from *nil* to that of the most violent intra-abdominal disturbance. (8) The symptoms not infrequently suggest a low and protracted form of sepsis or an ileus. (9) Unexpected circumstances, unusual complications, and diverted attention explain many of these accidents. (10) While the counting and recounting of sponges and pads before and after an operation by one or more individuals should and always will be a most important feature in the prevention of this accident, yet the cases are numerous where the accident occurred notwithstanding this count by one and even two nurses or assistants. (11) The plan of attaching tapes or threads to pads and instruments has received the recommendation of many operators, bu

the fallibility of this is as clearly proven as the former. (12) In restricting ourselves to the smallest number of pads, sponges, and instruments, we adopt a system of simplicity that must appeal to all as one of the most important elements in the avoidance of this accident. (13) We can only hope to reduce these accidents by the observance of the highest degree of simplicity, system, and watchfulness. (14) If the surgeon at the close of the operation asks for a count of sponges, and this is made, and an assurance given that all sponges and pads are present, his responsibility on this point ceases; for it is neither prudent nor fair that he should leave the most important part to do duty that justly belongs to the nurse. (15) The real factors in the avoidance of this accident are the recognition of system, simplicity, and watchfulness to the most exacting degree. (16) At the bottom of most of these accidents, we find a diverted attention, a defective system, or a dangerous degree of complexity. (17) We are obliged to conclude that to a certain extent the surgeon is responsible for things about the operation, and after that the responsibility must rest elsewhere. (18) No hard and fast rules can be made regulating the responsibility in every case, but each must be decided on its own merits, and the responsibility fixed accordingly. (19) There are risks that the patient must assume and that cannot be rightly transferred to the operator. (20) In other vocations, it is reasonable to assume that unless properly prepared one should not act; but in surgery one is occasionally compelled to act, even though it is known that he is not prepared.

The Practitioner, November, 1901.

Clinical Forms and Diagnosis of Bright's Disease.—R. T. Williamson gives the diagnosis of acute nephritis, chronic parenchymatous, and chronic interstitial nephritis with their sub-divisions. Mistakes in diagnosis are chiefly made: (1) Through the examination of the urine having been omitted; (2) Through a diagnosis of Bright's disease having been based on one symptom only, the presence of albumin in the urine; cases of albuminuria, accidental, functional, or pathological, have thus been mistaken for Bright's disease. The author gives details as to the diagnosis in each case.

Uræmia.—J. R. Bradford reports his experiments in regard to the origin of uræmia, but concludes that the only securely established facts at the present time are that mere retention of the normal constituents of the urine is not capable of producing uræmia; that in uræmia there is an extensive disintegration of the proteid tissues of the body; and that, although in many cases of uræmia there is in the final stages some suppression, partial or complete, of the urinary secretion, this is by no means invariable, and that certainly fatal uræmia may be seen with an abundant secretion of urine. Clinically uræmia may be divided into the acute, the chronic, and the latent forms. Dyspnœa the author considers the most constant symptom; it is also frequently an initial symptom, and it may be almost the only one even in fatal cases.

Renal Disease and the Circulation.—W. H. Broadbent enumerates the changes found in the blood vessels and heart in renal disease. The therapeutical indications are immediate and free venesection on the occurrence of uræmic convulsions, and the reduction of intravascular pressure. The best means known to him of exercising a definite influence on unduly high intra-arterial pressure is through mercurial aperients. A dose of calomel, three to five grains, will often avert impending convulsions, or prevent their recurrence, will relieve the headache, stupor, and twitchings, and may prevent uræmic paroxysmal dyspnœa in advanced kidney disease. So also a single grain of blue mass, or mercury with chalk, with rhubarb or colocynth and hyoscyamus, once, twice, or three times a week, according to the degree of tension in the pulse, exercises a favorable influence in the early stages of chronic Bright's disease, both on the symptoms and on the course of the disease.

Mental Conditions Associated with Bright's Disease and Uræmia.—Theo. B. Hyslop says that any defect in the renal system associated with arterial degeneration and a tendency to cardiac failure is apt also to be attended by brain failure. Renal cirrhosis is thus frequently associated with adhesion and thickening of the dura mater. The pia mater is also apt to be thickened and opaque, and in some instances adherent to the cortex cerebri. When this is the case, the lymphatic or vascular circulation is so impaired that symptoms of cerebral and mental degeneration appear. Renal disease, therefore, is associated with insanity in two ways: (1) Acute, transient, delirious mania, an acute toxæmia, or uræmic insanity; (2) A progressive cerebral degeneration, with chronic renal disease as the primary cause. In this type, the mental symptoms during the earlier stages vary from a mild dementia to mania or delirium. In due course, however, complete dementia results, not unlike paralysis of the progressive type known as general paralysis of the insane.

Occurrence of Nephritis in Certain of the Specific Fevers: Its Prognosis and Treatment.—F. Foord Caiger says that in the treatment of a case of scarlet fever the liability to nephritis should constantly be borne in mind. In the early stages of the fever, a temperature as low as 50° F. can be well tolerated, but from about the beginning of the second to the end of the fourth week, a higher temperature is desirable; wool should be worn next to the skin, and warm baths should be given daily to encourage the action of the skin. In diphtheria, definite nephritis rarely supervenes; though albuminuria, often of considerable degree, is present in a large proportion of attacks. The presence of albumin may usually be taken as an indication of severity of the disease, and does not represent, as in the case of scarlet fever, an additional source of danger. In the course of typhoid fever, albuminuria is of common occurrence. It is very rare that symptoms of renal impairment are sufficiently pronounced to justify the term nephritis.

Skin Eruptions in Bright's Disease.—J. J. Pringle discusses the various skin eruptions which are clearly secondary to Bright's disease. Pruritis is very apt to be present in all degrees of severity. Urticaria is rare and doubted by many. Eczema is not so frequent as many suppose. The author agrees with Thursfield, who writes, "There is nothing to show that eczema is more common in patients suffering from albuminuria than in others." Yet there is a form of papular eruption, strictly localized, which Merk considers pathognomonic of Bright's. *Erythema papulatum uræmicum* is the most characteristic and interesting skin affection, the association of which with Bright's disease is most clearly established. When severe, it occurs in the last stages of the disease, but cases of mild type and transient duration may occur in the earlier stages. *Generalized bullous eruptions* are rare; *general exfoliative dermatitis* may in some cases be attributed to chronic nephritis; *purpura* certainly occurs; *boils, carbuncles,* and *ecthymatous lesions* are also common, as in diabetes. Neither urea nor uric acid is the toxic substance at play in the causation of these skin eruptions. Whatever the toxins are, they probably act through the vasomotor and trophic nerve systems.

Revue Médicale de la Suisse Romande, September 20, 1901.

The Use of Large Doses of Antidiphtheritic Serum.—E. Thomas holds that large doses of the serum should be injected on the first day of treatment, if the case is a serious one, or if there is croup. On the second day the attitude should be one of expectancy and watchfulness for the results of the treatment. Forty c.c. should be considered the maximum amount to be given the first day. No harm results from this dosage, yet in cases of albuminuria, or positive nephritis, great prudence should be exercised.

A Clinical Form of Primary Acute, Infectious, Malignant Endocarditis.—L. Revilliod reports a case of endocarditis characterized by two chief symptoms: 1. Slight fever, not above 39° C. (102.2° F.), rebellious to treatment, and giving rise to no subjective sensations. 2. Pallor of the skin which persists in spite of the fever. This is the first stage. Later come slight lancinating pains in shoulder and arms, and shortness of breath without dyspnœa or palpitation. Stethoscopic signs appear, the spleen is enlarged, the urine is scanty and loaded with urates and uric acid. In the third or terminal period, there are cachexia, feebleness, emaciation, and finally serous effusions in the thoracic cavity. The whole course of the disease may take four months or more.

The Influence of Diet on the Re-establishment of the Cardiac Functions.—J. L. Prévost and F. Battelli found that when animals were killed by asphyxia from occlusion of the trachea or by means of chloroform, the heart was arrested in diastole. If artificial respiration was produced, and massage applied to the heart, the rhythmical beating of the heart returned, providing the animal had been killed while digesting a mixed meal of meat and bread. In fasting animals, there were produced permanent fibrillary tremors. A diet of albuminoids only produced the tremors in some cases preceded by rhythmic beatings. Fat caused the tremors, hydrocarbons rhythmic contractions which were not constant. It may therefore be asserted that a mixed diet has the most favorable influence on the restoration of the cardiac function after asphyxia.

Society Reports.

SOUTHERN SURGICAL AND GYNECOLOGICAL SOCIETY.

Proceedings of the Fourteenth Annual Meeting, Held in Richmond, Va., November 12, 13, and 14, 1901.

Second Day—Afternoon Session.

Results Obtained in Sixty Operations for Prostatic Hypertrophy, with Demonstration of a New Cautery Incisor.—Dr. HUGH H. YOUNG of Baltimore, Md., read a paper on this subject.

Stimulated by the work of McGill, Belfield, and others, and having performed prostatectomy in ten cases without a death, the author encountered some cases of prostatic enlargement in very old men which seemed to be entirely beyond the reach of a radical operation. On account of these cases he began a trial of the Bottini operation, and the present paper reporting sixty cases is intended to show a comparison of the two methods, and the results he has secured. These sixty cases were classified as follows: Prostatectomies, 15; Bottini operations, 40; miscellaneous operations, castrations, etc., 5; total, 60. Taking the prostatectomies, 12 were suprapubic, and 3 perineal. The ages were 4 between 65 and 67, 2 between 60 and 65, 5 between 55 and 60, 2 between 50 and 55, and 2 between 48 and 50. The condition was fairly good in all but 3 cases. Calculus was present in 5 of the 15 cases, and 6 had led catheter lives. In seven of the fifteen cases the hypertrophy was very large; in three it was merely a small pedunculated middle lobe. In 11 cases complete enucleation of the entire prostate was made. In some cases the tumor removed was extremely large. Results: fifteen operations, with two deaths. Both of these deaths should not have occurred. One patient was undoubtedly septic, had pus kidneys, and should not have been operated until later. In the other case, death seemed to have resulted from an infection of the breast after submammary infusion. Of the thirteen cases still alive, twelve have gone for periods between six months and three and a half years since operation. Of these twelve, ten may be classed as cured, having no prostatic obstruction, and normal urination. Two are perfectly cured as far as the prostate is concerned, but suffer from cystitis and a contracted bladder, which render urination frequent, though much better than before operation.

Taking the Bottini operations, 40 in number, 6 have not been followed. The 34 remaining operations were performed on 31 patients, 3 patients having 2 operations each. The ages were as follows: Over 80, 3 patients; between 75 and 80, 3 patients; all of the above cured. Between 70 and 75, 9 patients; between 65 and 70, 6 patients; between 60 and 65, 6 patients; between 55 and 60, 4 patients. In all, 18 patients over 67 years of age; whereas, among the prostatectomy cases, none were over 67 years of age. Of 15 cases over 70 years of age, all are alive and well. In 12 of the 31 cases, the general condition was very poor. The size of the prostatic hypertrophy was very large in 17 cases, moderate in 8 cases, and slight in 6 cases. All forms and grades of prostatic hypertrophy were represented from a large, soft, succulent prostate, to the small, sclerotic, not enlarged prostate. Results: In all prostatic cases, the ultimate results depend not entirely upon a cure of the prostatic obstruction, but upon the condition of the bladder which persists. If a cystitis is present, it may lead to very frequent urination. If the bladder is markedly contracted, it also may lead to frequent urination, although all obstructive symptoms are absent. Then, again, if the prostate or bladder is of the irritable class, this, too, may simulate frequency from prostatic obstruction, so that as to ultimate results the condition of the bladder as well as the prostate has to be considered. In Dr. Young's experience, both after prostatectomy and after Bottini operations, cystitis is likely to persist, although generally very much improved in most of the cases. Of the thirty-one Bottini cases which have been followed, sixteen still have bladder infection, and others have not been heard from. In 10 the capacity of the bladder is diminished, and in some cases markedly contracted. In two cases, although all obstruction is removed, there is no residual urine present and no infection. The irritability of the bladder persists, which at times renders micturition extremely frequent, although prostatic obstruction is absolutely cured. It may be said that these conditions follow all prostatic operations, and demand that the bladder be systematically treated for some time after all prostatic operations.

As to the prostate, of the thirty-one cases, three died. Two of these cases died four and five weeks after the operation from uræmia, and were undoubtedly due to the presence of pus kidneys, and can hardly be attributed to the operation. Death in the third case was directly due to sepsis, which the autopsy showed was attributable to two of the cuts penetrating the capsule of the prostate. In this case the prostate was greatly hypertrophied, and following the advice of certain authors the operator had made a cut of four and a half centimeters. But autopsy showed that this was too long, and that a periprostatic abscess had resulted. The author declared that in the future he would never make an incision longer than three and a half, or, at most, four, centimeters, and considered this entirely sufficient, even for the greatest hypertrophies. Of the twenty-eight cases which lived, twenty cases were not too recent, and have been heard from. Of these, seventeen were cured, two improved, and one unimproved. Of the eight cases, too recent or unheard from, in all the immediate result was good, and prospects for ultimate result first-class. As to the general condition, in all of the twenty-eight cases the patients were greatly improved, barring perhaps two cases, who, although relieved of prostatic obstruction, suffer from a slight dribbling of the urine. Both of these cases were of slight enlargement, and the author thinks that the dribbling would not have resulted, had he been able to use a smaller blade, such as the new instrument contains. The results, therefore, after the Bottini operation, seem to be perfectly satisfactory. Of thirteen patients who used catheter before the operation, all have been relieved of this and urinate freely.

In discussing the Bottini operation, the author brought out the point that the instrument devised by Freudenberg, while an admirable one, should have more than one blade, so that the operator might have choice as to the depth of cut, which should be made in accordance with the size of the prostate. The beak of the instrument is much too sloping, so that several cases have occurred in which the beak has slipped into the urethra, and caused dangerous hemorrhage, with sometimes death. In order to correct this and other defects, the author has devised an instrument which, like the Freudenberg instrument, but with four interchangeable blades, can be used according to the case, whether the prostate be large or small. With this instrument he has now performed nine operations, using in those cases all of the blades but one, and he can testify to the great service of the ability to use some discretion in the size of the blade that is employed in accordance with the prostatic hypertrophy. The instrument seems necessary for cases of small sclerotic prostates, which, although producing very serious obstructive symptoms, are so small that the ordinary Bottini operation is dangerous. By using blade No. 1 or blade No. 2 of the new instrument, the operation can be done with perfect safety, and a cure resulted in all cases.

Suprapubic Prostatectomy.—Dr. FLOYD W. MCRAE, Atlanta, Ga., followed with a paper on this subject, in which he advocated the early resort to this method of treating enlarged prostate rather than palliative measures or the seemingly simpler operations of suprapubic fistula, vasectomy, orchidectomy, or the Bottini operation. His reasons were that the seemingly simpler operations are

followed by mortality disproportionate to their magnitude: that the relief obtained from them is frequently slight and temporary; that the pathologic conditions were not infrequently aggravated, especially by the Bottini operation. He reported three complete prostatectomies done since May, 1901. The point of originality claimed for the operation is the method of draining. He puts in a retention catheter through the urethra, and closes the bladder and overlying tissues snugly around a parachute drainage tube, made of a soft rubber rectal tube, with a single opening at the end, by making four longitudinal slits beginning about one-quarter to three-eighths of an inch from the end of the tube, each slit about an inch long and equidistant from each other, around the circumference of the tube. The four sections are then approximated above and below, by means of a small rubber band put through in the form of a Halsted suture with a large needle. As these sutures are drawn taut, the sections are approximated and the ends flared out somewhat like a parachute. When the bladder is closed, this tube is drawn up so that the flared portion is in firm contact with the anterior bladder wall. The overlying tissues are then closed snugly around the tube and one silkworm gut suture is put through the tube flush with and through the skin to hold it in position. The flaring of the tube enables the surgeon to draw it firmly against the anterior bladder wall, and by means of the suture put through it and the skin it is prevented from protruding too far into the bladder, avoiding the disagreeable contraction that always takes place in that organ if the tube is too long. By this method of drainage, the outer ends of the catheter and tube are then put into a urinal which is kept between the legs when the patient is lying on the back, or in front of the thigh when the patient turns from side to side. The advantages claimed for this method of drainage are that the patient is kept absolutely dry and is allowed to turn freely in bed, lying on the back or either side. He reported three operations done by this method since May, 1901, together with a complete pathologic report by Dr. H. F. Harris, pathologist, Atlanta College of Physicians and Surgeons, of the specimens removed. The specimens proved to be "leiomyoma," and "leiomyo-adenoma," with increase of connective tissue as the result of chronic irritation. The irritation noticed in the large specimen evidently followed a Bottini operation done a few months previously, and was associated with phosphatic stone. The patient operated upon in May is now entirely free from bladder irritation, passes a good stream, projecting four and a half to five feet by measurement when the bladder is moderately distended. Bladder holds, under ordinary conditions, eight ounces by actual measurement, and is capable of holding considerably more. Case 2 is still wearing a McGuire plug, but passes urine readily per urethram. Case 3 is practically well, the suprapubic opening closed, bladder clean, and urine passing freely through the urethra without residue.

Median Perineal Prostatectomy; Total Removal of the Prostate Gland.—A paper with this title was read by Dr. Alexander Hugh Ferguson of Chicago. He referred to the work of Nicoll, Alexander, Syms, and von Dittel, raising objections to each of the methods followed by those gentlemen. He then proceeded with illustrations and the exhibition of instruments to describe his own operation, which is as follows: "The patient is put to sleep with chloroform, and placed in the extra-lithotomy position. The prostatic depressor is inserted into the bladder through the urethra, and handed over to a trusty assistant. A sponge is pushed into the rectum to prevent the escape of liquid fæces. The middle finger of the left gloved hand is then introduced into the rectum and pressed against the urethra at the junction of the membranous and prostatic portions; a long narrow-bladed knife is passed into the perineum through the raphe in the median line, two inches in front of the anus, until it reaches near to the tip of the finger in the rectum, and with one stroke all the structures are cut through to the prostate, without injury to the urethra, prostate, rectum, or anal sphincter. The surgeon should refrain from doing this in his first cases. The skin incision is now enlarged, if necessary, for the introduction of two fingers. Place suitable retractors, one on each side, into the wound, and by blunt dissection expose the prostate, and with the depressor in the bladder, it is forced into the perineal wound. Open the capsule with knife or scissors in a transverse direction sufficiently to admit one or two fingers. Place the retractors within the capsule This is important, because traction made on them drags the gland still farther into the wound and holds it firmly while enucleation and extirpation are being performed. It is experienced that by traction from below and depression from above, the prostate is fixed, within easy reach, for its entire removal. Enucleate with the finger and bite away the portions thus liberated with the prostatic forceps, until by piecemeal the prostatectomy is completed. No effort is made to save the posterior portion of the prostatic urethra. Indeed, injury to it cannot be avoided when the entire gland is removed. While morcellement is in progress, it is advantageous to advance the retractors within the capsule, and introduce the middle finger into the bladder. The forceps can be rapidly thrust between the two fingers to the object to be removed by them, without any danger to the surrounding structures, for when the instrument is closed, its end is perfectly smooth and round. The lateral lobes can be reached to any extent without damaging the mucous membrane of the bladder, and prostatic projections of the middle lobe into the bladder are detected and removed without difficulty. Flush out the bladder very thoroughly with a weak antiseptic solution. A large stream of water must be used, for the ordinary irrigating toy generally employed only does harm. Mop out with gauze any water that is in the bladder and wound, and introduce a drainage tube, surrounded with iodoform gauze, through the wound into the bladder. A couple of horsehair stitches close the part of the skin wound not occupied by the tube, and at the same time prevent the gauze from coming out too soon. Remove the sponge from the rectum, place a comfortably firm dressing over the perineum, and let it be held by a T-bandage. Now, attach a long rubber tube to the external end of the drainage tube, and the toilet of the operation is finished.

"If the patient's urine has been scanty or should he show depression or shock, then it is better to introduce two or three pints of normal salt solution, at a temperature not less than 115° F., beneath the skin, while he is still in the operating room, than to wait until he is taken to his bed."

The author reported six cases of complete prostatectomy, four cases of removal of the middle lobe alone, and four cases of tubercular inflammation of the vas deferens on each side in the vesiculæ seminales and prostate. In one of those the prostate was not involved on the bladder surface, but it was entirely removed.

The advantages of the operation are: (1) That it is the most direct route to the organ, and that the prostate can be removed without injuring any important structures. (2) That by the method above described the operation is easily performed. In all those cases in which the gland has been repeatedly inflamed, it makes it more difficult to operate, but not as difficult even then to remove the prostate from below as to do the suprapubic operation; (3) The removal of the gland piece by piece enables one to work through a small opening and prevents the bruising of the surrounding parts by the finger which is accompanied with the removal of the gland *en masse* through the peritoneum (4) Hemorrhage is avoided, so long as one is careful to work within the capsule. The hemorrhage in suprapubic prostatectomy or in the combined method is often very alarming. On one occasion the writer had to leave pressure forceps on blood vessels and pack the bladder tightly with gauze twenty-four hours. The patient nar-

rowly escaped death from both hemorrhage and sepsis. Sepsis and intoxication from pus and fœtid urine coming in contact with the prevesical tissues and wounded and raw surfaces within the bladder are great sources of danger in the suprapubic operation. The bladder may be opened in two stages, it is true, and the prevesical space thereby greatly protected; but the traumatism of the bladder over the prostate, even though done with a cautery knife, furnishes an opportunity for sepsis. Perineal drainage after suprapubic prostatectomy is not as complete as when the prostate is attacked from below. It is found by the writer that the danger from septicæmia is not at all prominent after perineal prostatectomy, and so far has given no anxiety whatever. There is less danger of uræmia. The operation takes a shorter time, the anæsthesia having therefore less effect upon the kidneys, and a minimum opportunity for sepsis makes it easier for the kidneys to perform their functions. Uræmia is always to be dreaded, irrespective of the operation performed. When pyelonephritis or renal sclerosis is present, the shock and the anæsthetic largely contribute to the onset of uræmia. The suprapubic operation is accompanied with far more shock than the author has found following perineal prostatectomy.

Lastly, the results in these six cases of complete prostatectomy for hypertrophy, and four incomplete, and four for tuberculosis, are better than the writer has ever obtained by the suprapubic route.

Third Day—Morning Session.

Foreign Bodies in the Oesophagus.—Dr. John W. Long of Salisbury, N. C., followed with a paper with this title. The author stated that this accident occurred usually in children and lunatics. It is always possible when a patient is under an anæsthetic, and even food may become impacted in the œsophagus. The presence of a stricture, pouch, or malformation increases the liability to this accident. A foreign body in the œsophagus carries with it both immediate and remote dangers. If lodged high up, there will be dysphagia, retching, and sometimes suffocation, as in a case seen by the writer two years ago, in which an inch screw entered point downward the upper end of the œsophagus of a three-months-old infant, and impinged upon the trachea. When the foreign body is lodged lower down, the danger is more remote and less easily remedied. Unless removed, foreign bodies almost invariably penetrate or ulcerate into some important viscus, as the pericardium, aorta, mediastinum, the pleura; the longer the object remains *in situ* the greater the danger incident to its removal.

After calling attention to the special anatomy of the œsophagus, the author mentions the different methods of removing foreign bodies from the œsophagus. He condemned emetics for the removal of foreign bodies in the œsophagus, except in cases where the nature of the object is not liable to do violence to the œsophagus. Many objects are removed by manipulation through the mouth, either by extraction, or are pushed into the stomach. In one case reported by the author a piece of meat lodged in the gullet of a woman, fifty-seven years of age, which was with some difficulty pushed into the stomach. He called special attention to the fact that unduly prolonged or rough manipulations through the mouth are dangerous—even more so than œsophagotomy.

He reported two cases in which a penny whistle was lodged low down in the œsophagus opposite the fourth dorsal vertebra in children four and seven years old respectively. In both instances the foreign body was removed by external manipulation, although the body was well down within the intrathoracic portion of the œsophagus. Removal of the foreign body was done under chloroform. He also reported one case of an open safety-pin lodged low down in the œsophagus of an infant, forty-six days old. The pin had been *in situ* eighteen days when the case was seen by him, and by means of an œsophagotomy the pin was easily removed.

He called attention to a departure from the usual plan of feeding these patients. In this case the baby was put immediately to the breast. All of the patients recovered. In the three instances the metallic substances were discovered by means of the *x*-ray. The author exhibited radiographs showing these foreign bodies *in situ*.

Gunshot Wound of Abdomen.—Dr. John C. Wysor of Clifton Forge, Va., reported a case of gunshot wound of the abdomen; the thirty-eight caliber ball entered about three-quarters of an inch above the left anterior superior spine of the ileum. Patient was anæsthetized fifteen hours after the receipt of the wound, having been transported a long distance. The author first enlarged the wound in the skin, and with his finger as a probe followed the track of the bullet until he felt the opening in the peritoneum. He then made an incision in the median line below the umbilicus, which was afterwards extended from a little above the navel to near the pubes. The omentum was very short, not reaching as low as the umbilicus, and the coils of intestines presented immediately under the incision. The first knuckle picked up showed two perforations, which were immediately cleansed and closed with Lembert sutures, using fine chromicized catgut, and he continued to close the openings as he came to them until he had sewed up nine perforations. Following the gut still further, he found a portion seven or eight inches in length in which there were six more perforations. As some of these openings were very close together, he feared that in repairing them he might constrict the gut, or that there might be subsequent sloughing. He therefore excised that portion of the intestine, doing an end to end anastomosis by means of a Murphy button. Recovery was uninterrupted.

Penetrating Wounds of the Abdomen.—The author of this paper was Dr. E. D. Fenner of New Orleans, La. The histories of six laparotomies for penetrating wounds of the abdomen were detailed, and statistical tables of 152 cases operated on at the Charity Hospital presented.

Case 1 was a stab wound of the abdomen, omentum protruding. Excision of omentum; laparotomy; recovery. Case 2 was a gunshot wound of the left lumbar region, penetrating the abdomen. There were three perforations of the colon, and a graze wound of the stomach. Laparotomy; enterorrhaphy; recovery. Case 3. Gunshot wound of right buttock; penetrating abdomen; one perforation of bowel; one of bladder. Laparotomy; enterorrhaphy; suture of bladder; recovery. Case 4. Gunshot wound of left hip; eight perforations of intestine; laparotomy; enterorrhaphy; recovery. Case 5. Incised wound of abdomen; escape of intestines; laparotomy; recovery. Case 6. Gunshot wound of thorax; penetrating abdomen; wound of diaphragm, spleen, stomach, liver. Splenectomy; suture of diaphragm, stomach, and liver. Recovery.

The records of the Charity Hospital show that from January, 1892, to January, 1901, 152 laparotomies were performed for penetrating wounds of the abdomen, with 87 deaths, a mortality for all cases of 57.23. Morton (1889) collected 110 cases, with a mortality of 62 per cent. Coley (1890), 165 cases, with a death rate of 67.2 per cent. Of the 152 cases seen at the Charity Hospital, 113 were for gunshot wounds, with 78 deaths, a mortality of 69 per cent.; 39 were for stab wounds, with 9 deaths, or 23.07 per cent.

The table showed 105 cases of gunshot and stab wounds of the abdomen operated upon, with visceral injuries, of which 74 died, a total mortality of 70.47 per cent. Of these 105 cases with injuries of the viscera, 96 were gunshot wounds, of which 71 died, a mortality of 73.95 per cent.; and 9 were stab wounds, of which three died, a mortality of 33.33 per cent.

In spite of the high rate of mortality shown by these tables, the author does not think they should discourage

the operation. A mortality of 73.95 per cent. from gunshot wounds with injury of the hollow viscera means, in his opinion, that 26 per cent. of these patients had their lives saved by the operation; and a death rate of 33.33 per cent. from stab wounds, with the bowels cut, means that two-thirds were saved from certain death.

Nephro-Ureterectomy.—Dr. J. Wesley Bovee of Washington, D. C., detailed a report of two cases. The first one was a nephrotomy followed by incomplete nephro-ureterectomy for pyonephrosis, adrenal tumor, and pyoureter; extraperitoneal operation; recovery. The second case was nephrotomy followed by complete nephro-ureterectomy for pyonephrosis and pyoureter; extraperitoneal operation; recovery.

After narrating these two cases, the author dwelt upon the indications for nephro-ureterectomy, saying that the principal reason for this operation is tuberculous disease of both these structures.

Dr. George H. Noble of Atlanta, Georgia, read a paper in which he spoke of, and advocated the use of, adhesive straps for the prevention of laceration of the perineum in forceps delivery.

He also described a method of removal of fibroid tumors through the vagina by continued spiral incision.

Report of a Case of Hepatotomy for Biliary Obstruction, with Remarks.—Dr. W. E. B. Davis of Birmingham, Ala., read this paper. The case was the fourth in which he had performed this operation, the first having been done in October, 1898. The operation is indicated in cases of obstruction with enlarged liver, where the gall bladder or ducts cannot be isolated, or the patient's condition from exhaustion and cholemia will not permit of a protracted search for the bladder or ducts, and is intended to bridge the patient over for a radical operation. It will be only exceptionally called for, but it is the only available procedure in such cases. The bile will escape from an incision in the liver, as it does in a cholecystostomy, and after the patient's condition has improved, the stone may be removed from the duct. The operation will be less frequently called for, as the surgeon's experience increases in choledochous operations, as he will then be better able to locate the bladder and ducts so much changed. The operation should also be resorted to in hepatitis, before it has reached the stage of pus formation, if the liver does not rapidly become smaller after drainage of the gall bladder or ducts.

Third Day—Afternoon Session.

Induction of Abortion.—Dr. Joseph Taber Johnson of Washington, D. C., detailed two interesting cases, in which attempts were made to produce abortion. In one case, a medical man attempted to produce abortion at about the tenth week of gestation by inserting into the uterus a No. 8 flexible bougie. Some difficulty was experienced in getting it to pass the internal os, but after persistent effort the instrument was pushed up nearly its entire length, leaving perhaps two inches protruding into the vagina. The bougie was supposed to be coiled up in the uterus. Its expulsion was prevented by a cotton tampon pushed high up in the vagina. A physician informed the writer that when he removed the tampon, the fœtus and a portion of the membranes came away. He was unable, however, with the most diligent search, to find the bougie, and finally came to the conclusion that it must have slipped out, without the patient's knowledge, during one of her many visits to the closet in the night. The second day after the abortion, the patient had a severe chill, followed by a considerable acceleration of pulse and temperature, with gradual but steady increase of abdominal pain and distention. Dr. Johnson saw the patient in consultation, made an abdominal section, and removed the bougie from the peritoneal cavity.

The second case was one of ruptured umbilical hernia, in which several feet of intestine had been out on the surface of the abdomen, and covered with unsterilized cloths and bandages for at least seventeen hours. The patient had had the hernia for fifteen years, and was fifty-seven years of age. The intestines were very dark and very cold and dirty. A thorough cleansing and warming with hot salt solution succeeded finally in getting them and the adjoining skin of the abdominal wound into a tolerably fair condition. About a pound of omentum was removed, which bled in a number of places, from which adherent clots had been detached. The tight rim encircling the protruding gut was incised above and below, and the three feet of intestine returned to the abdominal cavity, which was subsequently filled with hot salt solution. A rather long and difficult operation was then performed for the radical cure of an old umbilical hernia in a very fat abdominal wall. The woman gave every promise of getting well for seven days, then she suddenly grew weak, and collapsed and died on the eighth day, apparently of a general septic peritonitis.

Dr. Southgate Leigh of Norfolk, Va., reported a case in which he did a plastic operation for loss of base of the bladder. He also narrated a case of ovarian cyst in a negro woman, which was complicated by a fibroid tumor of the uterus.

Hernia of the Ovary-Inguinal.—Dr. Wm. P. Matthews of Richmond, Va., reported this case. The patient, Miss I. E., aged seventeen, five feet six inches high, weight 145 pounds, strong and robust, was born with a swelling in each inguinal region which did not occasion any alarm or produce any inconvenience until she reached her fourteenth year, when they began to enlarge and at intervals became so tender as to confine her to bed for two or three days. Pressure on them produced pain and nausea. She never menstruated. The author operated for the relief of the hernia, following the Bassini method. The sac was firmly adherent to the internal ring and to the adjacent part of the canal. The sac was opened, and a tumor, inclosed in several layers of fascia, was exposed, carefully dissected out, and examined.

It proved to be an adenoma of the ovary, though it looked more like a testicle than an ovary. The specimen consisted of four distinct parts: (1) An oval flattened body, six centimeters long, three wide, and 1.5 thick; (2) A cystic tube, 5.2 centimeters long, one end of which was dilated. This was joined in part to the body by fibrous connective tissue; (3) Parallel and beneath was another tube which entered the body; (4) Perpendicular to this latter tube was a third tube which also entered the body. Upon section the body showed a grayish-red surface, with one white, well-isolated tumor. The microscopical examination which accompanied the paper was made by Dr. G. Baughman. Examination revealed absence of the uterus. The ovary was removed and the parts closed in the usual manner, and patient left the hospital in three weeks.

Inquiry into her family history revealed interesting facts. Her great-grandmother was an only daughter. She was twice married, and bore children in each union. Of the female descendants of the first marriage there were eight that were never unwell in their lives, and all lived to be over twenty years old. Of the second marriage there was one of the two daughters who was never unwell. Two aunts of the patient have never menstruated, and one has a double reducible inguinal hernia. Five first cousins of the patient have never menstruated, and two of these are ruptured just as she was. One sister of the patient has never menstruated, and has a reducible hernia in the left side, an irreducible on the right. One fact he learned is that these women who have never menstruated have hardly any hair in the axilla and on the pubes and are not troubled by any unpleasant odor from the perspiration.

Dr. George S. Brown of Birmingham, Ala., read a paper in which he described a modified Hodgens splint for the treatment of fractures of the thigh. He also

demonstrated the application of this splint on a negro.

Dr. Chas. P. Noble of Philadelphia, Pa., read a paper on "The Treatment of Procidentia Uteri."

The following officers were elected for the ensuing year: *President*, Dr. W. E. B. Davis of Birmingham, Ala.; *First Vice-President*, Dr. J. Wesley Bovee of Washington, D. C.; *Second Vice-President*, Dr. John W. Long of Salisbury, N. C.; *Secretary*, Dr. W. D. Haggard, Jr., of Nashville, Tenn.; *Treasurer*, Dr. F. W. McRae of Atlanta, Ga.

Cincinnati, Ohio, was selected as the place for holding the next annual meeting. Time, second Tuesday in November, 1902. Dr. Thaddeus A. Reamy was selected as the Chairman of the Committee of Arrangements.

Fifteen gentlemen were elected members of the Association.

NEW YORK ACADEMY OF MEDICINE

SECTION ON SURGERY.

Stated Meeting, November 11, 1901.

John B. Walker, M.D., Chairman.

Partial Gastrectomy for Non-Malignant Tumor of the Stomach.—Dr. William B. Coley presented this case, with the following history: E. C., fifty-five years of age, born in Ireland, farmer by occupation, was admitted to the General Memorial Hospital September 30, 1901. The family history was entirely negative. The patient had always been in good health until the last two or three years, during which time he had suffered more or less from gastric indigestion. During the last six months he had had considerable pain in the stomach, most pronounced soon after eating. Attacks of vomiting had occurred, usually soon after meals, and had gradually become more frequent. The patient had lost about twenty pounds in weight, and his condition had become such as seriously to interfere with his work; hence hospital treatment, with a possible exploratory laparotomy, had been advised. Dilatation of the stomach with gas showed a small tumor in the epigastric region, apparently connected with the stomach. No test was made for hydrochloric acid. Exploratory operation had been performed on October 9, 1901, with the able assistance of Dr. Wm. H. Downes and the house staff. The abdomen had been prepared in the usual way, and just one hour before operation six ounces of black coffee and one ounce of whiskey had been given per rectum. A four-inch incision had been made in the median line, just above the umbilicus, and, on opening the peritoneum, a tumor about two inches in diameter had been discovered under the lesser curvature of the stomach. There were numerous adhesions binding the tumor to the lesser omentum. The peritoneal cavity having been carefully walled off with gauze pads, the stomach was opened and the tumor, together with one-quarter to one-half inch of healthy stomach wall, was excised by means of an elliptical incision. The mucous membrane of the stomach was then sutured by means of a partly continuous, partly interrupted, suture of catgut, and the serous and muscular coats were then united by separate right-angled Cushing's sutures of fine silk. This was re-inforced by interrupted sutures near the pyloric end of the incision. A gauze drain was left reaching down to the incision of the stomach, and the wound otherwise closed with kangaroo tendon and silkworm gut. The time of operation was about one and one-half hours. Very little shock had followed the operation. Six hours afterward, or at 4 P.M., the patient had vomited about one ounce of reddish fluid, and again a similar amount at 5.20 P.M. A saline enema had been given at 6.30 P.M. He had vomited a small amount of a reddish-brown fluid during the night. The temperature on the following day, twenty-four hours after operation, had been 100.8° F., and the pulse 90, falling in the evening to 100.6° and 86 respectively. The patient was put on nutrient enemata every four hours, a stimulating enema of whiskey and saline solution being substituted for the nutrient enema every twelve hours. The nutrient enemata consisted of two eggs, half-drachm of salt, one ounce of boiled water, and four ounces of peptonized milk; the stimulating enemata of eight ounces of saline solution and one ounce of whiskey. On the second day, the patient's temperature had fallen to 99.4° F. and the pulse to 78. He had vomited five ounces of light-green fluid twice during the twenty-four hours. Nothing was given by mouth until the fourth day, when small quantities of boiled water and two-drachm doses of chicken broth were given. On the fifth day, the patient had vomited a small amount of greenish fluid, and feeding by the mouth had been discontinued for two days more. His temperature had remained between 99° and 100.5° F., and the pulse between 70 and 80 during the next four days, the temperature falling to normal on the seventeenth, or eight days after operation. The enemata had been gradually discontinued, and the amount of food by the mouth slowly increased. The patient had continued to do well until the fourteenth day after operation, when, without any apparent cause, the temperature had risen to 101.6° F., but without vomiting or tenderness in the region of the stomach. The following morning the temperature had risen to 102.2° F., and the pulse to 112. Food by the mouth had then been curtailed considerably, and nutrient enemata resumed. The temperature on the twenty-fifth had fallen to normal, but on the twenty-sixth had risen again to 103.4° F. The patient had had a slight bronchial cold at this time, and so it was probable that the temperature was due to this or other causes not connected with the wound healing. The condition had become normal on the twenty-eighth, and since then he had been doing perfectly well. Microscopical examination by Dr. B. H. Buxton showed the tumor to be of chronic inflammatory origin, without evidence of malignant degeneration.

Tumors of the Lachrymal Gland; Kronlein's Operation.—Dr. Franz Torek presented a man, thirty-nine years of age, who had come under his observation for the first time on September 22, 1901. A few months previously he had observed swellings in the region of the parotid gland, and two months previously a swelling above the right orbit. Examination had shown the eyeball to be dislocated downward and forward by a growth, and the conjunctiva injected. In the region of the parotid gland, as well as in front above and below, were swollen glands, and there were other glands in the sternomastoid muscle. The diagnosis was sarcoma of the lachrymal gland, with metastases in the lymphatic ganglia. The man had already been treated with arsenic and mercury. On October 14, he had performed Kronlein's operation, that is, an osteoplastic resection of the outer wall of the orbit. The upper incision was convex upward and the lower one convex downward, so that the periosteal connections could be preserved. The tumor was 1⅛ inches in its longest, and three-eighths of an inch in its shortest, diameter. Having removed the tumor, the outer wall of the orbit was replaced and the periosteum sutured. The stitches had been removed on the seventeenth day, the wound being healed. Seven days later, the glands had been removed through three separate incisions. Microscopically these glands appeared to be sarcoma, and the gross appearance was the same as that of the lachrymal tumor. The contour of the orbit had been well preserved, and the eyeball was freely movable in all directions.

Spina Bifida; Operation.—Dr. Torek also presented a female infant with spina bifida. The child had been successfully treated by an operation performed on October 7, when the child was eighteen days old. The tumor had been almost spherical, and measured 7 cm. in diameter. The tumor was translucent, tense, and fluctuating. Under chloroform anæsthesia, he had made a longitudinal cut through the exceedingly thin sac. The neck of the sac was very small. On opening it, clear, light yellow fluid was evacuated. No nerve elements were found, showing

that the tumor was a true meningocele. The sac was tied off and excised. Antiseptics were carefully avoided during the operation. The mother was instructed to keep the child constantly in the prone position, and not to use a diaper, thus helping to keep the wound aseptic after operation.

Mixed Cell Alveolar Sarcoma of the Fibula; Amputation Above the Knee; Recovery.—Dr. Arthur L. Fisk reported this case, and presented the patient with the following history:

N. B., male, twenty-one years of age, had been referred to him on September 5 last, because of pain and a swelling in the calf of the right leg, just below the knee, on the outer side. In May last, he had fallen from his bicycle, striking on this knee, and had been laid up for several days. About six weeks ago, he had begun to suffer general pain throughout the lower right leg, and later it had become localized at the upper end of the fibula. Since then there had been a constant dull pain at that place. On examination, there was a slight swelling over the upper third of the fibula, but no signs of acute inflammation, heat, redness, or tenderness. There had been no chills or fever. There was evidence of deep fluctuation on palpation, but no pulsation.

Upon aspiration, bright arterial blood had been obtained, and, when the needle had been withdrawn, the blood had spurted from the puncture. The clinical diagnosis of sarcoma was made, but, to be absolutely sure, exploratory incision had been advised, and had been done on September 11, Esmarch's bandage being used to control the hemorrhage, the tumor when incised showed unmistakably, from its gross appearance, that it was sarcoma. The entire upper third of the fibula was gone; in its stead was a soft granular mass containing some pieces of bone. The entire contents were thoroughly curetted away, and the wound packed. Dr. E. E. Smith, who made the pathological examination, reported that, in gross appearance, the material was seen to consist of bits of spongy tissue, together with many pieces of bone and some blood clots, and that a section of the tissues showed the structure of a mixed-cell sarcoma, alveolar in type. On September 12, amputation of the leg had been performed, just above the knee, by anterior and posterior flaps. No drainage was used, and union was by first intention. The patient had been about in one week, and had been discharged at the end of the second. Since the operation he had gained ten pounds, and was now in the best of health and spirits. Dr. Fisk said that J. Bland Sutton, in the last edition of "Tumors, Innocent and Malignant," writes: A careful examination of the literature relating to sarcoma of bone makes me think that these tumors are rare in the fibula, and certainly do not run a rapid course. This infrequency may be represented in this way. A surgeon may be in active operative practice for a quarter of a century in a hospital in a large town, and may not be called upon to deal with more than three examples.

Dr. A. L Fisk, referring to the case of spina bifida, said that he had operated upon three cases of spina bifida, and in all of them hydrocephalus had subsequently developed.

Dr. Torek replied that he had had a similar experience in a previous case, one of meningocele of the occipital region. The patient at the time of operation had been about eight or ten weeks old, and had been apparently cured by the operation; but a few weeks later hydrocephalus had developed, and had ultimately proved fatal.

Dr. W. B. Coley said that he had seen three cases of sarcoma of the fibula. One of these had been operated upon five years ago, and the patient had remained well for a year and a half, and had then developed a sarcoma of the lung. Dr. Lloyd had removed the entire fibula for sarcoma, without amputating at the knee. The patient had been subsequently treated with toxins, and had been reported well three years after operation. The reason for doing this operation was that the tumor was situated near the ankle.

Dr. John B. Walker said that Dr. Hartley had removed a myelo-sarcoma of the inferior maxilla by partial resection of that bone, and the patient had been permanently cured; nevertheless, most surgeons would favor doing a radical operation on sarcoma of the leg.

Dr. Coley said that Bland Sutton held that these myeloid sarcomata showed so little malignancy that it seemed hardly right to class them as malignant growths.

Etiology of Some Unusual Forms of Peritonitis.—Dr. B. T. Tilton read a paper on this subject. As evidence of the relative frequency of the chief causes of suppurative peritonitis, the following series of cases was cited: In thirty-four it arose from perforation of the appendix; in six, from perforation of the stomach; in six, it was due to strangulated hernia; in four, to typhoid perforation of the intestine; in fourteen, the cause was disease of the uterus and appendages; and in one, the cause was disease of the gall-bladder. In the pneumococcus peritonitis of children, there seemed to be a marked tendency for the exudation to be encapsulated. Operation should not be undertaken until the process had become localized. In adults, pneumococcus peritonitis was thought to be a great rarity. It is stated that pain, vomiting, and diarrhœa are the three constant symptoms in adults, and that fever is not observed except at the outset. Encapsulation of the exudate does not occur in adults. The presence of diarrhœa at the beginning would seem to point to the intestine as the starting point. The absence of fever is a striking point in differentiating this form from ordinary peritonitis.

Dr. John Hartwell thought that in some cases of pneumococcus peritonitis an infection of pneumococci through the diaphragm might explain the origin of the peritonitis. A certain number of cases of empyema had been reported in which the pneumococcus had been found, and yet there was no history of pneumonia, and no evidence at the time of operation of pneumonic consolidation. If it were possible for the pneumococci, to invade the pleura in this way, it seemed reasonable to suppose that it might, in like manner, reach the peritoneum. He had seen one case in which a septic peritonitis had developed four days after swallowing a fishbone. A very thorough search had been made at the autopsy for any perforation of the bowel, but none had been found, and the origin of the peritonitis could not be detected. The history was very clear, because the woman had come to the hospital at the time she had swallowed the bone; but as no urgent symptoms were present at the time, she had been told to return to the hospital if any new symptoms developed.

Dr. A. A. Berg spoke of the view that had been held, that peritonitis does not arise merely from the invasion of the peritoneum by bacteria, unless the latter are very numerous, or are unusually virulent. The speaker said he thought there was often a blood infection giving rise to toxins which destroy the normal absorbing power of the serous membranes. With regard to the cases in which the pus is encapsulated in various parts of the peritoneum, and cultures from this pus fail to show the presence of microorganisms, his belief was that these are not true cases of diffuse peritonitis, but rather examples of collateral exudation occurring in connection perhaps with a severe enteritis.

Dr. Martin W. Ware referred to a series of forty cases of ascites of young girls reported by French physicians. Nothing but turbid serum had been found in the peritoneal cavities, and cultures had failed to show the presence of microorganisms, although some of the cases had terminated fatally. These cases had been put down as idiopathic, but they should rather be looked upon as examples of defective bacteriological work.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 9, 1901.

EDWARD K. DUNHAM, M.D., PRESIDENT.

Demonstration of Points in the Technique of Frozen Sections.—Dr. F. C. WOOD made this demonstration. He said that he had found the preparation of frozen sections was made easier in very hot weather by first chilling the apparatus with the ether spray, and then spraying ethyl chloride upon the surface of the specimen. He also called attention to the value of a saturated solution of the French thionin as a nuclear stain for fresh tissues. The stain was as sharp as obtained with hæmatoxylin in hardened tissues. The thionin does not work in tissue hardened with formalin; the tissues must be fresh for use with it. This agent is also valuable as a means of demonstrating waxy degeneration, as the tissues stain blue, and the waxy portions a reddish purple. For rapid diagnosis it was quite important that the section should be held continuously in the forceps while passing through the various steps of preparation. If this were done, the preparation would not occupy more than a minute and a half to two minutes.

A Case of Glanders in the Human Subject.—Drs. WARREN COLEMAN and JAMES EWING reported this case. Dr. Coleman reported upon the clinical features as follows: The patient, J. E. D., thirty-six years of age, had worked as hostler and as a sort of veterinary surgeon, filing horses' teeth, etc. Three weeks before admission to hospital, he had been bitten on the third finger of the left hand by a horse said to have distemper. The wound had suppurated, and under treatment by a physician had healed after a week and a half. One week and a half before coming to hospital he had been taken ill with headache, disinclination to exertion, loss of appetite, vague muscular pains in the back and legs, and diarrhœa, and had grown progressively weaker. There had been no chill, epistaxis, cough, or pain. On physical examination he was found to be well nourished; face flushed and apathetic; eyes suffused and dull; pulse 88 and of good character; temperature, 104.6° F. The heart was normal in size, the sounds were fair and there were no murmurs. There were a few rose-colored spots over the abdomen, but there was no abdominal tenderness or distention. The liver and spleen were normal. The wound of the finger had completely healed. The next day, August 25, he was more apathetic, and at times slightly delirious. A tender, fluctuating swelling had developed in the middle of the outer and anterior aspect of the left leg, and the skin over it was red. The rose spots on the abdomen were more numerous, and some of them were very distinctly raised above the surface. On August 26 there was active delirium. The swelling on the leg being larger, it was incised, and six ounces of grayish, blood-streaked pus, which was deeply situated, was evacuated. It was noted that some of the rose spots had become popular, and that several small papules had developed on the forehead, face, chest, and back. A non-fluctuating swelling, about three inches in diameter, had appeared in the middle third of the left forearm. The leucocyte count was 13,000. On August 27 the swelling on the left arm had been incised, and about four ounces of thin, grayish saneous pus evacuated. A microscopical examination of this pus showed only cocci present. A few of the papules previously noted had become pustular, and fresh papules had appeared in the same localities. About this time the patient had begun to emaciate rapidly. By the next day he was decidedly weaker, and was delirious most of the time. Swellings had developed on the right forearm, the outer aspect of the left thigh, about three inches above the knee-joint, and on the outer aspect of the right leg, about the middle third. About this time a short, hacking, non-productive cough had developed. The Widal reaction was negative. On August 29 it was noted that some of the pustules had been ruptured by the manipulations of the nurse in attendance, and that they presented an umbilicated appearance. By the next day, these papules and pustules had become much more numerous. Numerous subcrepitant and mucous râles were heard over both lungs, and the breathing was roughened. The leucocyte count was 13,000. On August 31 there was a low, muttering delirium, and the eruption was more abundant. A smear from one of the pustules showed a few cocci, and fewer bacilli presenting the appearance morphologically of the bacillus mallei. Cultures were taken from the pustules, and 5 c.c. of blood, taken from a vein at the bend of the elbow for bacteriological examination, afterward gave a pure culture of the bacillus mallei. The patient died on the morning of September 1.

Commenting upon the case, Dr. Coleman said that the abscesses were remarkably symmetrical, all of them deeply situated, and, for the most part, without signs of inflammation in the overlying skin. The abscess cavities had no pyogenic membrane. The abscesses were intramuscular, and the pus dissected the muscles out along their sheaths for variable distances. The abscess in the lower part of the left thigh had burrowed nearly to the knee-joint. Practically no reaction had taken place in the incisions, and the cavities had remained nearly dry. Down through the incisions the muscles looked like those of a cadaver. The eruption had first appeared as macules over the anterior abdominal wall, presenting much the appearance of the rose spots of typhoid. That some of them disappeared was shown by the marks placed around them with an indelible pencil, but by far the majority developed into papules and subsequently into pustules. The eruption came out slowly at first; then with great suddenness innumerable papules and pustules appeared on the forehead, face, chest, and upper part of the abdomen. There were also scattered lesions on the scalp, back, and extremities. During the first part of the illness the change from macule to papule and pustule proceeded slowly, occupying two or three days, but later the transition was measured by hours. The individual lesions were situated on a hyperæmic base, which, strangely enough, became anæmic after death. According to G. S. Wood head, in Allbutt's practice, the base is anæmic sometimes during life. The nasal mucous membrane gave no evidence of involvement. The cough was due to lesions of the trachea and bronchi, to be described by Dr. Ewing. None of the accessible lymph nodes were involved. From the length of the incubation period it seemed probable that the man was not infected with glanders at the time the horse bit him. Woodhead states that the incubation is very short after inoculation, within twenty-four hours, unless the inoculation takes place through an old wound or through no apparent wound, when it may be prolonged to one or two weeks, or more. Moreover, in the former case, lymphatic involvement is prominent. Glanders in the human subject was formerly much more frequent, the older journals containing records of many cases. The present case is the fourth, according to the records of the Health Department, that had occurred in New York City since 1888, viz., one in 1888, one in 1893, one in 1899. The temperature range had been high, only once falling below 103° F., and the highest point being 105.6°. Until within two days of death the pulse rate had been remarkably low, considering the temperature, having varied from 78° to 100°.

Dr. JAMES EWING presented the pathological report on the case. The autopsy was made on September 2, thirty hours after death. The skin showed about one thousand papules, macules, or pustules, irregularly distributed over the body, varying in size from a pinhead to 1 cm. in diameter. They were generally acuminate, sometimes slightly umbilicated, while the largest lesions were ulcerated and excavated. Many of them resembled variolous pustules, but were more distinctly purulent and not markedly umbilicated. They were usually surrounded by a peculiar anæmic halo, 1 to 2 cm. in diameter. In

some areas the lesions were confluent, and the skin and subcutaneous tissue was indurated and discolored by hemorrhage. A few of the same pustular lesions were found in the respiratory musosa. The skeleton muscles were the seat of perhaps a score of abscesses, ½ to 3 cm. in diameter, containing thick blood-stained pus. The heart was normal. Both lungs exhibited numerous consolidated areas, ¼ to ⅕ cm. in diameter, single or conglomerated, resembling tuberculous foci. These areas were very light colored, and were very sharply marked off from the surrounding pulmonary tissue, which was markedly hyperæmic. These nodules projected slightly on section, and on the pleural surface. They were quite firm. The upper portion of the left lung was diffusely consolidated. The pleura was irregularly coated with fibrin. The bronchial mucosa was hyperæmic, very slightly coated with mucus, and exhibited a few well-raised pustules. The bronchial nodes were all hyperæmic; two of them were softened, and one of these two had ulcerated into the left bronchus, producing a large ragged ulcer of the mucosa. The pneumonic area in the left lung had resulted from the inspiration of the contents of the softened node. No other lymph nodes in the body were found to contain specific lesions. Those in the groin, axillæ and along the left arm were not enlarged on palpation, but were not dissected out. The spleen was the seat of a well-marked acute hyperplastic splenitis. There was acute degeneration of the liver and kidneys. The testicle and bladder were normal. The gastro-intestinal tract showed slight catarrhal inflammation, and Peyer's patches were atrophic. Over the right external occipital protuberance was a subperiosteal collection of thick, coherent pus, and between the dura and skull a similar collection. The meninges were hyperæmic and œdematous, but the brain was normal. The bone marrow in the ribs was cellular and hyperæmic. Microscopical examination of the inflamed tissues in both the human subject and in the guinea-pig demonstrated the usual peculiar lesions of glanders. The main features of these lesions appeared to be the following: (1) An acute exudative process, the exudate being composed chiefly of leucocytes, among which the polynuclear cells were slightly in excess of the mononuclear; (2) A peculiar necrotic process affecting the exudate and the tissue involved. Karyorrhexis of nuclei and hydropic and fatty degeneration of the cell bodies appeared to be the exclusive type of necrotic process induced. The wide areas of complete coagulation necrosis seen in tuberculous foci of equally rapid formation were missing. Giant cells were not observed; (3) A striking feature, especially in the muscles, was the very sharp line of demarkation between the necrotic process and normal tissue. No evidence of a productive process could be discovered

The bacteriological study of the case had consisted in the examination of smears of the exudate from various lesions, cultures from these lesions, and from the blood, and the inoculation of a guinea-pig with the material. On August 31, slightly less than twenty-four hours before death, Dr. Coleman had drawn about 5 c.c. of blood from the median basilic vein and had distributed it in two tubes of ordinary broth. These had been kept on ice until September 2, and had then been placed in the thermostat. On September 3 there had been no growth, but on the following day an abundant flocculent growth had appeared, resembling that of the streptococcus pyogenes. It was flocculent, occasionally adherent to the sides of the tube, leaving the fluid clear. These proved to be, morphologically, bacillus mallei in pure culture. From the post-mortem, blood colonies of the glanders bacillus and of various unidentified cocci had developed on blood serum. Pus from the intramuscular abscesses had given the glanders bacillus and the staphylococcus pyogenes aureus. The lung had yielded an abundant growth of bacillus mallei and of a large filiform bacillus. From a pustule of the skin previously penciled off with 5-per-cent. formalin and sterile water, a growth was obtained of the glanders bacillus and of a large unidentified coccus. Smears of the skin lesions showed only the glanders bacilli without cocci; from the pus of the abscess, glanders bacilli and staphylococci were obtained, while from the lung only glanders bacilli developed, but in great abundance. The earliest identification of the glanders bacillus had been obtained in a diffuse, slightly brownish growth at first in pure culture, but later overgrown by a large filiform bacillus from the lung on potato. This growth had appeared in less than twenty-four hours. On September 3, a male guinea-pig had been inoculated intraperitoneally with an emulsion of the lung tissue. The pig had not appeared much affected until September 8, but it had died the following day. The autopsy showed a few small collections of thick pus in the skin and muscles at the site of puncture. The parietal peritoneum was granular, the visceral shiny. There was no ascites. There was one large pustule projecting prominently from the peritoneal surface of the small intestine. Peyer's patches were inflamed and swollen. The lungs and kidneys were negative. The Malpighian bodies of the spleen were prominent. The liver showed numerous small whitish foci. The testicles were much swollen, both measuring 4 cm. across. The tunica vaginalis was thickly infiltrated with the typical whitish foci of glanders. On section, these foci were found to be limited to the tunica, and microscopically they exhibited the usual necrotic lesions of glanders. The cultures taken from the heart's blood were sterile. On broth, cultures from the testicles gave staphylococcus aureus; on blood serum the bacillus of glanders,

Dr. W. H. Park said he thought he had seen the case reported by the Health Department as having glanders in 1899. The man was between sixty and seventy years of age, in poor condition, and he had a series of small abscesses on one of his legs. These measured one to one and a half inches. Some of them had opened, and all of the abscesses were sluggish. He had taken the pus from two with a hypodermic needle, and had scraped out two or three of these abscesses. From none of these had he obtained the glanders bacillus, and inoculations into guinea-pigs had proved negative. It seemed to him that the case was not really one of glanders.

Dr. A. J. Lartigau asked Dr. Ewing if he had succeeded in staining the bacilli in sections, and if so by what method. He had personally found the methods recommended rather unsatisfactory because of the rapid decolorization of the organisms.

Dr. Ewing said that he had made some attempts to stain the glanders bacillus in the tissues, and had succeeded only very imperfectly. The intramuscular abscesses had given the best results. For ordinary purposes he had succeeded in getting with methylene blue some results, but they were far from satisfactory. He had not tried Loeffler's alkaline methylene blue. Early in the summer, he had been asked to examine the mucus from two or three horses on Long Island. One of the animals had died from what the Board of Health called glanders, and the other horses had contracted the disease from the first horse. The diagnosis was in dispute. Numerous cultures of the mucus had been made on various media, but they had failed to show any glanders bacilli. Then, some of the mucus scraped from the nostrils had been examined. In smears of this material he had found a few bacilli, but nothing even suspicious of glanders. All the plates had been negative. He had inoculated two guinea-pigs with an emulsion of this mucus and crushed tissue. One of them had died within two weeks of a slow septicæmia, and no lesions were found in the body. The other pig had survived and had presented no symptoms. The horses had gone on, two of them dying naturally and one being shot by the health authorities. None of them had developed farcy-buds, though the health officers and the veterinarians in the vicinity were agreed that the

disease was glanders. From conversation he had been led to believe that glanders was rather common. If this were so, there should certainly be more cases in the human subject, and he was of the opinion that certain cases of cutaneous and muscular pyæmia belonged in this category, but were differently diagnosed. Mallein had been injected into the horses in several instances, and in each instance there had been a rise of temperature; but for various reasons the reaction had not been regarded as satisfactory. The experiment had also been tried, at his suggestion, of injecting small doses of mallein as a curative agent. This had also yielded negative results.

A Case of Idiopathic Acute Diffuse Phlegmonous Gastritis.—Dr. Otto H. Schultze presented a stomach with markedly thickened wall. With this exception, the stomach was normal in size and form, its peritoneal coat was smooth and glistening, its contents a small amount of bile-stained mucus, and its weight nineteen ounces. The mucosa was bile-stained; no solution of continuity could be found. On section, clear serum had flowed freely from the cut surface on the slightest pressure. The wall was thickened throughout, measuring 1 cm., the increase being chiefly in the submucosa, but also in the muscularis, the former being equal to, or greater than, the other layers combined. The process extended into the first portion of the duodenum, and the cardiac end of the œsophagus.

Sections from the pyloric and cardiac regions, and winding between them, stained with hæmatein and eosin and by Van Gieson's and Weigert's methods, were presented.

The mucosa showed the changes of chronic catarrhal gastritis, namely, increase in the stroma with infiltration of lymphocytes, not sufficient in extent, however, to have caused any marked atrophy of the tubules. At very infrequent intervals the stroma adjoining the muscularis mucosæ showed evidences of œdema in microscopic areas.

The muscularis mucosæ was normal.

The submucosa was the seat of marked œdema, the meshes of the fibrous tissue being distended with amorphous and granular matter which remained sustained in the Weigert sections. Adjoining the muscularis, infiltration with polynuclear leucocytes became evident.

The fibers of the muscularis were separated from one another in larger and smaller groups, even to individual cells, by an infiltration of polynuclear leucocytes, most extensively in the portion adjoining the submucosa, less so toward the peritoneum, which this infiltration reached in places, but did not invade.

The mesothelial lining of the peritoneum was not preserved in the sections. The connective-tissue layer showed no evidence of reaction.

Streptococci in short chains were found throughout the submucosa and muscularis; none were found in the mucosa. Cultures were not made.

The lesion was considered idiopathic, since no other focus of infection was found, nor could the evidences of injury, namely, contusions of the cheek and temple of no great effect, and simple fractures of the left fifth, sixth, and seventh ribs, be considered of etiological importance. The other lesions were, subacute meningo-encephalitis of the type usually found in cases of dementia paralytica, chronic interstitial nephritis, chronic interstitial pancreatitis, chronic perisplenitis, and slight brown pigmentation of the heart muscle, although not without effect, could not compare in importance as a cause of death with the extensive stomach lesion.

Numerous sections from the peritoneum, besides that of the stomach, were examined. With the exception of the old perisplenitis mentioned, they showed no evidence of peritonitis. The case had been made the subject of a coroner's inquest, since the coroner's physician had ascribed death to traumatic peritonitis—a diagnosis which he failed to substantiate at the inquest.

The clinical history of the case, on account of unfavorable circumstances, showed little of diagnostic value. The deceased, a male, forty-one years of age, of spare physique, a native of Austria, by occupation a truck driver, was admitted to the insane pavilion of Bellevue Hospital on June 13, 1901. On that morning he had entered a strange apartment, thinking it was his home, and became so violent that he had to be forcibly restrained, and finally taken by the police to Bellevue Hospital. On admission, his temperature was 99.4° F., pulse 76, respiration 22. He was excited, noisy, and so violent that during much of the time restraint was found necessary. His appetite was good until June 16, when, after having eaten his dinner, he vomited and refused his supper. Vomiting of bile continued during the 17th; he was restless, excited, seemed weaker, especially during the night, and was apparently in pain, since he rubbed his abdomen with his hands. There was no tympanitis. Death took place 5.30 A.M., June 18.

His medication consisted of hyocine, atropine, and morphine during his violent periods; strychnine and whiskey when weakness set in.

An autopsy, admittedly incomplete, since larynx, heart, and brain were the only organs incised, was performed by the coroner's physician on June 18. The second autopsy was made 2.30 P.M., June 19, the body having been kept in cold storage during the interval.

Dr. L. A. Conner referred to a case at the New York Hospital during the past year. Here, too, there had been a diffuse phlegmonous gastritis with the same violent gastric symptoms for a few days, and with the same obscure etiology.

Results of Feeding and Inoculating Calves with Tuberculous Material from Human Subjects.—Dr. W. H. Park presented a report on these experiments. Five calves, weighing about 150 pounds, had been taken and tuberculin injected into them. Four had been taken for feeding experiments and one reserved as a control. The feeding had been done entirely with sterilized milk so as to exclude any possibility of bovine tuberculosis being transmitted by the milk. The sputum from tuberculous patients at St. Luke's Hospital had been collected for two weeks, and the calves had received a quantity of this sputum in their milk, and also some of the bacilli from the sputum were injected. Four days ago they had been inoculated with tuberculin, and three out of the four had reacted, one slightly. The autopsy on one calf showed nothing but enlargement of some of the lymph nodes. Smears from these nodes showed no tubercle bacilli. Therefore, after two months and a half, this calf showed no lesions of tuberculosis except enlargement of some of the lymph nodes, and no tubercle bacilli were found in these glands. However, they had reacted to tuberculin. The other three calves had gained in weight just about as much as the control calf.

Dr. E. L. Dowes suggested that some of the calves be subjected to inhalation experiments.

Dr. Park replied that such a method would be very troublesome, and as tuberculosis in calves is more apt to be of the glandular type, there was not the same interest in experiments on introducing tuberculous matter by way of the lungs.

Injection of Quinine.—Professor G. Bacelli, head of the Medical Clinic at Rome, and Minister of Agriculture in Italy, recommends the intravenous injection of quinine for malignant ague. Professor Bacelli, speaking at Novara, a short time ago, stated that, in accordance with his suggestions, some Italian veterinarians had treated foot and mouth disease by intravenous injections of corrosive sublimate. The results had been most gratifying, and far surpassed those of any other methods.

MANHATTAN DERMATOLOGICAL SOCIETY.

A Regular Meeting Was Held on Friday Evening, November 1, 1901, at the Residence of Dr. R. Abrahams, 156 Clinton Street.

Dr. Gottheil Presided.

Acute Generalized Seborrhœal Eczema.—Dr. R. Abrahams presented a child of eight weeks, with a generalized macular and diffuse lesion. There were cough and snuffles, but the palms and soles were free.

Dr. Sobel considered the lesions too highly inflammatory for syphilis; all the stigmata of a congenital syphilide were absent.

Dr. Oberndorfer stated that the freedom of the palms and soles and the absence of fissures are significant.

Dr. Bleiman thought that the case required careful watching.

Dr. Gottheil remarked that the presence of macular lesions was unusual.

Chronic Papular Urticaria.—Dr. J. Sobel presented a child of two and a half years who for a year and a half has had a papular eruption of the face, arms, buttocks, thighs, and legs. Itching was intense, scratch marks were evident, the inguinal glands were enlarged, and some papules had become pustular on account of infection by scratching. Such cases are often diagnosed as prurigo iritis. The interdigital regions were free and scabies was excluded.

Dr. Bleiman thought that scabies and prurigo could be excluded. Chronic papular urticaria is the condition present.

Dr. L. Weiss believed that such cases were better termed strophulus infantilis. (Blaschks.) This condition begins in early childhood, is obstinate and persistent, and is often the forerunner of prurigo.

Dr. Gottheil does not think that scabies can be ruled out.

Dr. R. Abrahams considered it chronic papular urticaria. Pilocarpine in daily doses of gr. $\frac{1}{12}$–$\frac{1}{10}$ is highly recommended.

Prurigo.—Dr. Bleiman presented a boy of eleven years who from his second year has had a hard papular eruption on the face and exterior surfaces. This had been persistent, with periods of remissions, never disappearing entirely. Improvement occurred during the warm months. Prurigo buboes were absent. Dr. Geyser thinks that the condition may be the remains of a prurigo.

Dr. J. Sobel believed that on account of active treatment a positive diagnosis cannot be made. He should want to see much more of the lesions before venturing a positive diagnosis of prurigo.

Dr. Oberndorfer considered it a chronic papular eczema. He has had similar cases lasting as long as twelve years.

Dr. L. Weiss stated that this is positively prurigo. The existence of the eruption since infancy, the involvement of the extensors, and the infiltration of the skin speak for it. The absence of buboes does not mitigate against the diagnosis.

Dr. R. Abrahams stated that the case does not correspond to his conception of prurigo. In nine years typical lesions ought to exist all over the body. He would call it chronic eczema.

Dr. Gottheil did not see why any characteristic lesions ought to exist all over the body. He would call it chronic eczema.

Dr. Gottheil further did not see any characteristic lesions of prurigo. He has seen the patient when the flexors were involved, and looks upon it as a chronic eczema.

Rhinoscleroma.—Dr. Gottheil showed a woman of sixty-four, with involvement of the nose and lip. The alæ nasi have the hard, cartilaginous, ivory hardness so characteristic of the condition. The hard palate is also attacked. Despite the books, ulceration occurs as in this case. Recently, a cure has been reported from treatment with antitoxin from the bacillus of rhinoscleroma.

Dr. Geyser remarked that radiotherapy would only hasten the end of the patient.

Dr. J. Sobel had previously observed this case in the service of Dr. C. W. Allen. With him he had seen a second case in which the lesion involved the post-nasal space and larynx, necessitating a tracheotomy. Ulceration may certainly occur. Rhinoscleroma may involve the tonsil primarily, and render differentiation from chancre and cancer necessary.

Dr. L. Weiss stated that ulceration may take place when the vitality of the tissue is encroached upon by pressure.

Keratosis Follicularis.—Dr. L. Weiss presented a man with lesions of both forearms.

Mollusca Contagiosa of the Penis.—Dr. J. Oberndorfer showed a young man with multiple lesions limited to the penis. The location was interesting and rare.

Dr. J. Sobel stated that the situation was uncommon. In children the lesions often became infected, producing pustules. The condition is both auto- and hetero-inoculable.

Dr. Bleiman has seen similar cases in children in combination with involvement of other parts, face, chin, and body.

Dr. L. Weiss stated that, as a rule, other parts of the body are affected.

Dr. Abrahams has seen many family cases.

Dr. Gottheil observed one case in which multiple mollusca occurred on the penis and scrotum.

Atrophia Cutis Propria.—Dr. R. Abrahams presented a man of fifty-seven, in whom forty years ago eczematous lesions appeared in the popliteal space. Later, similar lesions appeared at the ankles. This was followed by atrophy, varicose veins, and ulcerations at the ankles.

Dr. J. Sobel said that his first impression was scleroderma. He looks upon it as an atrophy due to trophoneurosis.

Dr. Oberndorfer first thought of scleroderma. It is, however, a clear case of atrophia cutis propria, with atrophy, varicose veins, and ulceration. The varicose veins do not bear any relation to the atrophy, because otherwise atrophy would be more common.

Dr. Gottheil has seen but one similar case. The erythema at the edges points toward an inflammatory condition.

Dr. Gottheil showed photographs of cellulitis of the lip, secondary sarcoma cutis, generalized lichen planus, lichenification in old eczema, erythrasma of the buttocks, dysidrosis, and erythema multiforme.

Rarefying Osteitis Simulating Atrophic Rhinitis.—From a series of cases, E. E. Musson concludes that the differential diagnosis of atrophic rhinitis and sinus suppuration complicated with rarefying osteitis is a difficult one. In atrophic rhinitis the process of resorption of the tissues is a more extensive and more generalized one and the mucosa is thinned out, closely outlining the formation of the nasal cavities. It is smooth and of a dirty gray color, while in purulent sinus disease it has a congested and granular surface. In sinus disease the probe will reveal carious bone, in atrophic rhinitis only smooth mucosa. Crusting is more common in the latter, but localized in the former in the superior and middle meatus. In the latter the olfactory twigs are always eventually destroyed, not necessarily in the former. The atrophic membrane does not tolerate surgical procedures, while in osteitis removal of carious bone with the opening up and drainage of the sinuses improves the ozæna.—*Proceedings of the Philadelphia Medical County Society.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 23, 1901:

	Cases.	Deaths.
Measles	316	11
Diphtheria and croup	269	46
Scarlet fever	184	12
Smallpox	6	1
Chickenpox	34	..
Tuberculosis	241	131
Typhoid fever	75	16
Cerebrospinal meningitis	..	3

Transmission of Scarlet Fever to the Cat.—At the present time, when the tendency of a large number of scientific men is to discourage the belief that disease can be transmitted directly from animals to man and vice versa, the account given by Dr. Rapin in *Le Progrès Médical*, May 4, of scarlet fever being communicated from children to cats, possesses exceptional interest. Dr. Rapin gives an account of two instances in which he believes cats were attacked by the disease. The first instance occurred in 1894. A small white cat, quite young, was the constant companion of two little girls who were suffering from scarlet fever. This kitten soon became ill, and continually uttered little plaintive cries. Its body was hot, skin rosy, and tongue bright red in color. This was followed by a mealy desquamation of the skin, and falling out of the hair, most pronounced at first in the posterior part of the body. The second instance was observed in February, 1900, in a cat three weeks old, belonging to a little girl, who had an attack of scarlet fever. It also suffered from a febrile illness, followed by falling out of the fur, and branny powdering all over the body. In both instances, the cat was very young, and to this circumstance, Dr. Rapin attributes a great deal of importance, his view being that the susceptibility of the cat to the disease becomes gradually less with age, and gradually wholly disappears.

The Position of the Medical Profession in Austria.—The Vienna *Free Press* says: "The number of unemployed or scarcely employed doctors is shocking, especially in the larger cities, and this does not apply alone to the younger men. In vain do they struggle to make a decent living. They look with envy up to their professional brothers, who, in spite of the best qualifications, the finest training, in spite of "good luck," are only able to make enough to support their families in a very modest manner, and are unable to provide for their old age and the future of their family. The medical profession is the victim of so-called humanitarian legislation, especially of the law of 1888, founding companies insuring working men against illness. It is not an overcrowded condition of the profession which is to blame; for Vienna, a city of 1,500,000 inhabitants, has scarcely more than 2,000 doctors, and several hundreds of these are army and hospital doctors, hence who are scarcely a factor in the general practice. Neither is it the retrogression of the so-called "middle class," the members of which summon a physician not less often than formerly, and pay him not much less, but it is the abstraction of the most numerous classes of the population through the Kranken Kasse (insurance company) law which accounts for the degeneration in medical practice.

Ringworm in Schools.—An important question in London, says Dr. P. Abraham, is the prevalence of ringworm in schools. The majority of the subjects of the condition who come under my notice have contracted their ringworms in the board schools. I think the time has come to do something in the matter. It is not fair that poor people should be forced, as they are, to send their healthy children to institutions where there is every probability of those little ones contracting such diseases. Under the present system, infected children may, and often do, attend school for weeks or months, and spread ringworm, pediculosis, etc., unchecked. The obvious remedies are that, in the first place, every school be periodically inspected by a skilled medical observer, and secondly, that all cases of ringworm be isolated from healthy children, and taught in separate rooms from the others, or, better still, in distinct and special schools. Mr. Malcolm Morris, speaking on the same subject, a short time ago, urged that special schools should be established for children suffering from contagious affections of this nature.

Yaws and Syphilis.—The question of the identity of the disease known as "yaws" with syphilis, says Mr. Jonathan Hutchinson, has been illustrated by two remarkable cases. In one of them a man presented himself, who had contracted yaws from a primary sore on his forearm, while in West Africa. He had passed through the ordiary secondary eruption, which had been recognized as yaws by several good authorities on the spot. He came to us eight months from the onset still covered with a polymorphous eruption on his limbs, and with peeling patches in palms and soles. No one who saw him doubted that he was now suffering from syphilis, and when subsequently he was presented at a meeting of the Tropical Society, British Medical Association, a unanimous vote to this effect was taken. Portraits have been preserved in the museum and with them those of another exactly parallel case.

Counsel to Smokers.—The Royal Academy of Belgium gives the following advice to smokers:

"Do not use moist tobacco, since nicotine then escapes with the vapor and is not decomposed.

"Do not smoke either while fasting or a short time before meals.

"When smoking cigars or cigarettes always use an amber, meerschaum, horn, or cherry holder.

"Nicotine vaporizes at 250 degrees, and the portion of it which is not decomposed in the center is attracted toward the tip, and accumulates there; it is, therefore, prudent to throw away the last quarter of a cigar.

"Do not smoke a pipe which has a short stem.

"Of all methods of smoking, the cigarette is the least offensive."

Quinine Administration in India.—The Sanitary Commissioner's report shows that some progress is being made in the Northwest Provinces and Oudh toward Professor Koch's ideal, the quininizing of the population. A scheme for the sale of quinine, through landlords and their agents, was introduced in the districts of the Allahabad, Rohilkhand, Lucknow, and Fyzabad, Dursious; but as a beginning was made only in October last, it is too early to predict whether the non-official agency will prove successful. The government of Madras has recently offered to reduce the price paid for quinine in bulk, and we are told that it will be possible, when the arrangements have been completed, to reduce the sale price of quinine packets by one-third. An increased sale of the drug may then be expected.—*Journal of Tropical Medicine.*

Shop Hours in Great Britain.—The report of the select Committee of the House of Lords on early closing of shops was issued recently. The committee state that the evidence taken has convinced them that earlier closing would be an immense boon to the shop-keeping community, to shop keepers and shop assistants alike; that the present hours are grievously injurious to health, especially in the case of women, and under these circumstances, the committee recommend that the town councils should be authorized to pass provisional orders making such regulations in respect to the closing of shops as may seem

to them to be necessary for areas under their jurisdiction, these provisional orders to be submitted to Parliament in the usual manner before acquiring the force of law. The committee add that special enactments for restraining the outlay involved and providing for its discharge may be necessary.

The Treatment of Gastric Ulcer.—Robin bases his treatment on four fundamental indications, viz., prophylaxis, functional rest, treatment of secondary symptoms, and relief of complications. Formerly, the milk treatment was commenced immediately the existence of gastric ulcer was recognized; but the author's experience has shown him the necessity of subjecting the patients to a preparatory treatment, consisting in absolute rest, before putting them on a milk diet. The following is the treatment adopted to fulfil this indication: The patient is kept in bed; a towel steeped in hot water and covered with oiled silk and cotton wool is placed over the epigastrium, and kept in position by means of a flannel bandage; no nourishment is given by the mouth, not even milk or water. Each day the patient is given four enemata composed of two eggs beaten up with two spoonfuls of peptone, thirty grains of salt, a few drops of laudanum, and three ounces of glucose (20 per cent.). The whole enema should measure about six fluid ounces. Two other enemata of simple warm water are given during the day to supply the organism with the necessary amount of liquid. To accustom the patients to this treatment, it is well to increase the number of enemata gradually until complete tolerance is obtained. When intolerance is present (which happens in about one of every fifteen cases according to Robin's experience), we must endeavor to overcome it by increasing the laudanum to twelve or fifteen drops, or by suppressing the salt and the peptone, which seem to be the substances that usually provoke intolerance. In the majority of cases, the symptoms are appeased, the gastric pain and the epigastric tenderness disappear, and the loss of weight is checked. The rest cure having come to an end, the patient should be put on a milk diet, gradually increasing the daily amount up to four quarts. This *régime* should be continued not less than six months. At the expiration of this period, a mixed diet may be ordered for a fortnight, consisting of milk foods prepared with tapioca, arrowroot, rice, etc., and a few vegetables. After this period of transition, the milk is suppressed, and meat and fish ordered, as well as eggs, vegetables, and cooked fruit.—*Medical Press and Circular.*

A Position to Aid in Surgery About the Diaphragm.—G. Kelling says that difficulty is frequently experienced in gaining access to the abdominal regions in the neighborhood of the diaphragm, and describes a change of position that he has found useful. The patient is slid down the table till his pelvis is free and hangs vertically down over the edge, while the trunk is still horizontal and held in place by straps crossing the thorax. The median laparotomy incision is enlarged by a transverse cut to the tip of the twelfth rib, when it will be found that the whole abdomen opens up, and the intestines must be held in place by an assistant to keep them from falling out of the wound. The anæsthetizer and the patient's head should be shut off from the wound by a sterile screen.—*Centralblatt für Chirurgie.*

Treatment in Inebriety.—The question of treatment in inebriety must be determined largely from the physical conditions which enter into the problem, of which age, constitution, physical and mental vigor, temperament, occupation, previous habits, and purposes and ambitions in life are the prominent factors from which to draw conclusions. Often associated with this are physical states, such as failures and successes in life, the element of hope, and faith, or the disappointments which have influenced and changed the current of events, previous treatments, in asylums or at home, and their success and failure; also use of other drugs, together with worriment, mental care, and anxiety. *Journal of Inebriety.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended Nov mber 23, 1901:

		CASES	DEATHS
SMALLPOX. UNITED STATES.			
California, San Francisco,	Nov. 3d to 10th	1	
Illinois, Chicago,	Nov. 9th to 16th	1	
Indiana, Evansville,	Nov. 9th to 16th	2	
Kansas, Wichita,	Nov. 9th to 16th	5	
Kentucky, Lexington,	Nov. 9th to 16th	2	
Louisiana, New Orleans,	Nov. 9th to 16th	4	1
Massachusetts, Boston,	Nov. 9th to 16th	28	3
Michigan, Grand Rapids,	Nov. 9th to 16th	1	
Nebraska, Omaha,	Nov. 9th to 16th	4	
New Jersey, Camden,	Nov. 9th to 16th	1	
Newark,	Nov. 9th to 16th	18	1
Passaic,	Nov. 9th to 16th	3	
New York, New York,	Oct. 9th to 16th	8	3
Ohio, Cincinnati,	Nov. 8th to 15th	1	
Zanesville,	Sept. 3d to Oct. 3d	1	
Pennsylvania, Lebanon,	Nov. 3d to 17th	6	
Norristown,	Nov. 9th to 16th	16	
Philadelphia,	Nov. 9th to 16th	50	12
Rhode Island, Newport,	Nov. 9th to 16th	2	
Vermont, Burlington,	Nov. 9th to 16th	1	
SMALLPOX—FOREIGN.			
Austria, Prague,	Oct. 26th to Nov. 2d	2	
Belgium, Ghent,	Oct. 19th to Nov 2d		7
Brazil, Rio de Janeiro,	Oct. 12th to 19th		52
Canada, Quebec,	Nov. 9th to 16th	41	
St. John,	Nov. 10th to 16th	4	
Colombia, Cartagena,	Oct. 19th to Nov. 2d	7	7
Panama,	Oct. 29th to Nov. 5th	152	
France, Paris,	Oct. 19th to Nov. 2d		9
Great Britain, Glasgow,	Nov. 1st to 8th	1	
Liverpool,	Oct 19th to 26th		1
London,	Oct. 26th to Nov. 2d	464	14
India, Madras,	Oct. 12th to 18th		1
Italy, Naples,	Oct. 26th to Nov. 2d	28	1
Nova Scotia, Halifax,	Nov. 9th to 16th	6	
Russia, Moscow,	Oct. 19th to 26th	2	2
Odessa,	Oct. 26th to Nov. 2d		2
Warsaw,	Oct. 12th to 19th		2
Spain, Corunna,	Oct. 26th to Nov. 2d		1
YELLOW FEVER.			
Brazil, Rio de Janeiro,	Oct. 13th to 20th		3
Mexico, Vera Cruz,	Nov. 2d to 9th	24	10
West Indies, Curacao,	Oct. 26th to Nov. 2d	2	1
CHOLERA.			
India, Bombay,	Oct. 18th to 22d		4
Karachi,	Oct. 12th to 18th		60
Straits Settlements, Singapore,	Sept. 28th to Oct 5th		2
PLAGUE—UNITED STATES.			
California, San Francisco,	Nov. 4th	1	1
PLAGUE—INSULAR.			
Philippine Islands, Manila,	Sept. 14th	3	
PLAGUE—FOREIGN.			
Africa, Cape Colony,	Oct. 12th to 19th		1
Brazil, Rio de Janeiro,	Oct. 13th to 20th		15
China, Hongkong,	Oct. 7th	[illegible]	2
Great Britain, Glasgow,	Nov. 8th	[illegible]	2
Liverpool,	Oct. 19th to 26th	[illegible]	2
India, Bombay,	Oct. 15th to 22d		170
Karachi,	Oct. 13th to 23d	[illegible]	15
Mauritius,	Oct 24th	71	

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THE MEDICAL NEWS VISITING LIST, for 1902. 192 pages. Lea Brothers & Co., Philadelphia, Pa. Price, leather, $1.25. Thumb-letter index, 25c. extra.

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STUDIES OF THE INTERNAL ANATOMY OF THE FACE. By M. H. CRYER. 8vo, 176 pages, illustrated. The S. S. White Dental Mfg. Co., Philadelphia, Pa.

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Original Articles.

SOME OBSERVATIONS ON THE BORDERLAND BETWEEN MEDICINE AND SURGERY.*

By GEORGE WOOLSEY, M.D.,
NEW YORK.

SURGEON TO BELLEVUE HOSPITAL, ASSOCIATE SURGEON TO THE PRESBYTERIAN HOSPITAL, PROFESSOR OF ANATOMY AND CLINICAL SURGERY IN THE MEDICAL DEPARTMENT OF CORNELL UNIVERSITY.

MR. PRESIDENT AND MEMBERS OF THE WESTCHESTER COUNTY MEDICAL SOCIETY:

I wish, in the first place, to thank you for the honor you have conferred upon me in inviting me to read a paper before this society, and in the second place to say that in choosing my subject, I felt that the majority of you would be more interested and edified with some remarks upon the topic chosen than if I had selected a technical surgical subject With the improvement of our art and practice, an increasing number of conditions which were formerly treated symptomatically have been subjected with more and more success to operative treatment. Thus the frontier or borderland between medicine and surgery has been a changing one.

To bring together expressions of opinion of physicians and surgeons on topics more or less definitely within this borderland, a journal is published in Germany called *Mittheilungen aus den Grenzgebieten der Medicin und Chirurgie.* I merely instance this fact to show the interest that is rightly taken by both physicians and surgeons in pathological conditions that concern both. The number of such conditions is so great that I shall confine myself to the more common, and hence more important, ones, merely mentioning some of the others which are engaging the interest of both branches of the profession.

One of the commoner conditions that interest both the physician and the surgeon is carcinoma of the stomach. Patients afflicted with this malady almost always are first seen by the physician, while to the surgeon falls the operative treatment, either palliative or radical. It is the most common form of malignant disease, constituting from 21.4 per cent. (Welch) to 41.5 per cent (Haberlin) of all forms of malignant neoplasms. Hence its great importance from a practical standpoint. As surgery offers the only hope of cure, it should properly be considered a surgical disease, yet as its diagnosis usually falls to the physician, it is one of those diseases that belong to the "borderland." This very question of diagnosis is of the greatest importance, for upon an early diagnosis and an early operation depends the success, and even the possibility, of any radical treatment. Pain in the stomach, loss of appetite and flesh, digestive disturbances, vomiting, etc., the presence of a tumor and chemical or bacteriological changes in the stomach contents are among the most important diagnostic symptoms. Many of these, however, are of no value for an early diagnosis, which should be the first objective. Thus a tumor gradually becomes discernible in somewhat over two-thirds of the cases, yet, according to Czerny and many others, a radical operation is out of the question by the time a tumor can be felt. Although the absence of free hydrochloric acid occurs in 60 per cent. of cases, yet it is not always found at an early stage of the disease, and in those cases of carcinoma developing upon ulcer, the hydrochloric acid may even be increased. Lactic acid, together with the Oppler-Boas bacillus, is present late in the course of the disease, for they occur only after impaired motility, absence of hydrochloric acid, and reduction of albumen digestion have been developed. The reduced motor power of the stomach, with or without obstruction, is a constant symptom, but is common to non-malignant diseases. A positive diagnostic indication is furnished by the finding of cancer elements in the fragments washed from the stomach, but they are rarely detached spontaneously in the early stages. Hence systematic attempts have been made by Hemmeter and in Boas' laboratory to detach such fragments of the growth for diagnostic purposes. Apart from the chance of obtaining a small fragment of the new growth in the stomach washings early in the course of the disease, we find that the most characteristic symptoms, those on which a positive diagnosis depends, are only developed late in the course of the disease. The importance of an early diagnosis is nevertheless all-important to the surgeon, in order that a radical operation may be undertaken. As Mayo[1] well says: "The surgeon should not ask the physician for a diagnosis of gastric cancer; if we wait for that, we are pretty sure of being too late. It is the suspicious cases which should be explored, and it is the duty of the physician to urge this when in doubt. "The exploratory incision for suspected cancer of the stomach, instead of being a last resource, should be one of the first, and promptly undertaken if the condition cannot be proved to be non-malignant." Given a person of middle or advanced age, of previously good digestive powers, or, possibly, with a previous history of ulcer of the stomach, who begins to complain of epigastric pain, loss of appetite, and considerable and continuous loss of flesh, the physician should lay the matter before the patient and call in the surgeon to confirm the diagnosis by an exploratory operation, unless a fragment can be obtained in stomach washings. In this way, and in this way only, at the present time, can a positive diagnosis be made at such an early date that a radical operation may be undertaken with a fair chance of success. There is no reason, except the difficulties of the diagnosis, why the radical cure of cancer of the stomach should not approach in its success that of cancer of the breast or uterus.

This radical operation, if undertaken early, before the disease is extensive and the patient's strength is seriously undermined, is a comparatively safe operation and offers a fair chance of permanent cure. The Kocher operation for pylorectomy and

* Read before the Westchester County Medical Society.

[1] *Annals of Surgery*, August, 1900. p. 251.

partial gastrectomy is suitable to those cases in which the new growth is situated at the pyloric end of the stomach, which comprise at least 60 per cent. of all cases. Maydl's cases showed a mortality of only 16 per cent. and a most encouraging percentage of permanent cures, 50 per cent. being still alive at the time of his report. In the Kocher operation, the pyloric end of the stomach is removed, wide of the new growth; the opening made is completely closed, and the duodenum is anastomosed by a Murphy button, with the antero-inferior stomach wall. If extensive adhesions exist within the surrounding structures, the radical operation is contraindicated, unless the case is otherwise favorable; for the adhesions increase the difficulties and dangers of the operation, and direct extension of the malignant infiltration is likely to occur along them. Fortunately, lymphatic infection is a late phenomenon and comparatively rare in gastric carcinoma. Sutton says that in only about half the cases (a rather low estimate) dying of gastric cancer are glandular involvements found, and among twenty-eight recurrences after extirpation, only one involved the glands. These facts are encouraging for the radical operation when practised early. When the radical operation is contraindicated by the condition of the new growth or of the patient, we can still, of course, resort to the palliative gastroenterostomy. In suitable cases, it relieves pain, promotes comfort, and prolongs life. The relief from the irritation of the passage of food over the new growth decidedly delays the progress of the disease, as colostomy does in rectal cancer. The cases suitable for gastroenterostomy are those in which there is, or is likely to be, obstruction at the outlet of the stomach from the presence of the new growth. This is likely to occur in the 60 per cent. of cases in which the tumor is situated at the pyloric end of the stomach. Obstruction of the cardia by the new growth, occurring in 10 per cent. of cases, demands gastrostomy at an early date.

Although the palliative operations relieve pain, promote comfort, and prolong life, so that the patient may gain flesh and strength, and even return to work and live eighteen months, or longer, it is, at best, a palliative operation. The radical operation is what we must aim at in the future. This implies early operation, depends upon early diagnosis, and demands the intelligent co-operation of physicians and surgeons.

But it is not alone in malignant disease of the stomach that this co-operation is demanded. Surgery affords the best treatment in many other conditions of the stomach, and on account of their non-malignant character, this treatment is radical and permanent.

In perforating ulcer of the stomach, no treatment but operation is of avail, and the earlier the diagnosis and the operation the better the prognosis. Fuirey[1] shows a mortality of 48 per cent. in the 268 cases so far reported, and of 38 per cent. in the twenty-one most recent cases. As perforation occurs in only 6.5 to 18 per cent. of all cases, surgical interference on this account is not particularly common in ulcer of the stomach. But there are other indications for surgical interference in gastric ulcer, such as repeated or excessive hemorrhage and intractable pain resisting all medical treatment. In the atter case, gastroenterostomy gives relief, but not as promptly as in cancer of the stomach.

It is in cases of benign obstruction of the pylorus that surgical treatment has achieved the greatest success. Whether due to a cicatricial contraction of the pylorus following a gastric ulcer or to a hypertrophic stenosis following chronic dyspepsia, often with hyperacidity, the stomach becomes dilated and there are stasis and decomposition of its contents, which condition irritates the stomach and causes hypersecretion and hyperacidity. This hyperacidity, in turn, increases the spasm of the pylorus, so that a vicious circle is formed, which is relieved but not cured by lavage.

Two rival operations, gastroenterostomy and pyloroplasty, afford a radical cure. The mortality of these operations is not great and about equal, and the complete relief of the chronic invalidism involved in the condition more than justifies the risk involved. This is one of the more recent successes of abdominal surgery in a field recently treated only medically with an unsatisfactory result.

In addition, there are other conditions of the stomach which are most radically and best treated by operative means. These conditions, which I will merely name, are simple dilatation, gastroptosis, hour-glass stomach, and adhesions about the stomach. None the less, imperative is an early diagnosis in case of intestinal obstruction, especially so in acute obstruction. The result of treatment, which must be surgical, will be found much better the earlier such treatment by operation is undertaken. The responsibility for such early treatment by surgical operation rests largely with physicians, who are the first to be consulted in all such cases. A strong suspicion is enough for the resort to operative exploration, which is comparatively safe in the early stages, and the relief of the condition is easier and more certain at this time. Don't wait for a positive diagnosis, for an operation is then a desperate and last resort, the poor results of which prejudice not only the laity, but the profession against operative treatment. I am inclined to think that it would be of ultimate benefit to refuse operation in such cases. In obstruction of a less acute character, especially in the case of those of middle life, or beyond, where the cause is likely to be a carcinoma of the large intestine, immediate operation is not so imperative, but the earlier the operation the better the prognosis. I have seen three such cases during the past eight months, and in these, as in most others, obstruction came on with no, or almost no, previous symptoms to indicate the presence of the new growth. Notwithstanding the fact that the condition cannot be diagnosed until it has grown so as to produce obstruction, it is sometimes practicable to remove the growth, as the lymphatic involvement seems to be a late development. This I found to be the case in a patient recently operated upon at the Presbyterian Hospital; but, unfortunately, pneumonia developed on the fourth day and proved fatal.

There is another abdominal condition much more common than those heretofore considered, in which the co-operation of the physician and surgeon is most essential. I refer to appendicitis. It has become somewhat of a hackneyed subject, so as almost to demand an apology for its consideration. But I ask no apology for speaking of it, as I believe that it has not been threshed out, especially before a mixed audience of physicians and surgeons like the present. I wish to emphasize certain points

Appendicitis is a surgical disease as to its treatment. In other words, the surgeon should be called in at once; the diagnosis, which is usually easy, is made. He should supervise the treatment and decide when and whether to operate during the attack or in the interval. It is unfair to the surgeon to delay asking him to operate until the condition is so desperate that the result or even the

[1] *Annals of Surgery*, July, 1900.

expediency of the operation is very doubtful. It discredits the operation in the eyes of the laity, and the result is occasionally seen in the tone of the daily press in speaking of the subject. Still more is it unfair to the patient not to afford him at once the skill and knowledge of the surgeon, which are born of experience in treating many cases in all kinds of condition. I am more and more impressed with the facts the longer my experience becomes. Either the above practice should be followed or the dictum must be—operate in appendicitis as soon as the diagnosis is made.

The latter plan I have never professed or practised, though it has much to commend it, especially if appendicitis is not considered a surgical disease and the surgeon is not called in to supervise the treatment. I am not a believer in operation in every case as soon as the diagnosis is made, because I believe that a large number of cases can, under proper safeguards and careful watching, be allowed to recover from the attack, and because I believe that there are certain advantages in the interval operation in regard to the safety of the patient and the freedom from danger of ventral hernia. The leucocytosis helps us in our decision. If it is high or steadily increasing and the symptoms are marked, operation is safer; if it is low or decreasing, operation may be delayed, provided the symptoms do not clearly indicate it. The leucocyte count, without reference to the symptoms, is not to be depended on, for so many conditions may cause it to vary. With the above limitations, I have used the leucocyte count and found it serviceable. I have always felt it safe and proper, if after twenty-four or thirty-six hours *all* the salient symptoms steadily decline, to wait for the interval, provided the case can be closely watched. There are other cases in which as soon as seen, perhaps within twenty-four hours of the onset, we feel that immediate operation is the only safe course.

The difficulty lies in the fact that it is a treacherous and uncertain disease, and no one can give a definite prognosis in a given case at the outset. I have operated within twenty-four hours of the onset of the attack and found a sero-pus free in the pelvis and the lower part of the peritoneal cavity. When seen early, within twenty-four or thirty-six hours, I am more and more inclined to operate at once if the attack is a sharp one or moderately so, and is continuing or increasing in severity and the local symptoms are marked. If any drainage is required, it is usually but for a short time, and the case is practically like an interval operation, as far as danger of hernia is concerned.

Dieulafoy has called particular attention to the "treacherous calm" which may suddenly supervene in an acute case. Most of the acute symptoms suddenly subside, so that the patient, his friends, and often his physician are deceived as to the prognosis, and the necessary operation is dangerously delayed. A rapid pulse and some tenderness persist, and distention of the abdomen commences. This apparent subsidence of the attack marks a perforation of the appendix, the relief of its tension, and a commencing general peritonitis. It is most important not to mistake this sudden calm for a real improvement.

The same author well says that even in the mildest and most benign group of cases a safe prognosis is impossible on account of the manifold accidents that may surprise us.

The uncertainty of prognosis is illustrated by a patient I operated upon at the Presbyterian Hospital within the past three weeks, after an illness of three days. His pulse was never over 88, and usually lower, and his highest temperature a little over 100° F., yet because his local tenderness, which was not excessive, did not diminish, but perhaps slightly increased, I operated instead of waiting for the interval, as had been the intention.

The appendix was found completely gangrenous from its tip to within half an inch of its base, and it was only partly inclosed by adhesions. Fortunately, perforation had not yet taken place. Other experiences of a similar character have led me to be more conservative in delaying, and more ready to operate early, if any one symptom indicates it, in the interest of the patient's safety.

I am aware that the criticism itself suggests to many members of this society that the above may be the ideal practice and possible only in cities or larger towns, but not outside. A physician practising in a country district, one hundred miles or so from New York, where the means of almost all the people forbade the calling in of a good surgeon, told me recently that appendicitis was a disease he particularly dreaded on account of its uncertain outcome, and the inability to command surgical aid. But this can hardly be said by the profession in Westchester County, with your many towns of large size where the profession is specialized, and on account of your nearness to New York City. It is quite possible for many of you, therefore, to treat appendicitis in this "ideal" way, and all of you can call in a surgeon if a case is not doing well after appropriate treatment (*i. e.* rest, local application of cold, cleaning out the bowels, and abstention from opiates), thirty-six or forty-eight hours after the onset of the attack, or earlier, if the case is progressively severe.

From what has been said, it is evident that some risks must be taken in this latter manner of treatment, although it is still regarded by some conservatives as unnecessarily radical.

In the above we have considered the subject from the standpoint of the safety of the patient, and the attempt to diminish the *unnecessary* element of the mortality. But there is another side of the case to which I wish to call your attention. If we delay operation until an abscess is formed, we not only run the risk of the spread of the inflammation in case of an imperfectly shut-in abscess or of the bursting of the abscess, but we must drain the wound and thus delay its healing. The danger in this is the occurrence of post-operative hernia. The reality of this danger is seen in the fact, stated by Coley, that at the Hospital for the Ruptured and Crippled in twenty-three months there were observed fifty-five cases of hernia following operations for appendicitis, and "in a large majority of the cases there had evidently been suppuration during the healing of the wound." Post-operative ventral hernia should never follow an internal operation, or one done so early that drainage is not necessary, if the muscle-splitting method is followed. I discussed this subject in a paper read before the New York Clinical Society a year and a half ago, and pointed out some of the means at our command to diminish the period of drainage, shorten the time of healing, and thereby lessen the danger of hernia in pus cases. Some of these means were, (1) Removal of the appendix in all cases when possible; (2) Early removal of the gauze drain (second or third day), facilitated by a rubber tissue collar when it passes through the wound. This early removal of the drain allows the walls of the cavity or sinus to become approximated by the intra-abdominal pressure, and avoids the necessity of its slowly filling up by granulations. The first drain may be replaced for a short time by a shorter one, or by strips of rubber tissue folded up, and when the purulent discharge diminishes, 5-per-cent. boric-acid ointment is injected.

(3) Suturing, by layers, of most of the wound, and the use of provisional or secondary sutures in the part left open for drainage. By this method of treatment, I have obtained complete and firm union in a considerable number of appendicular abscesses in a fraction over fifteen days on the average. But the best safeguard is the use of the muscle-splitting method, which of late I have used almost altogether in the pus cases also, and found it to give ample exposure, even where, as in four recent cases, there was free pus in the pelvis. It may well be combined with the early removal of the drainage. Some have failed to secure enough room by this method; but, if necessary, the deeper aponeurotic layers may be incised downward or upward along the outer border of the rectus and so additional room be secured, or the sheath of the rectus may be incised to or toward the median line, and the muscle retracted in that direction. For any one not thoroughly accustomed to the muscle-splitting method, it may be wiser to incise the muscles in the line of the oblique incision, and run the risk of hernia rather than of the safety of the patient. Incisions in the semilunar line are more liable to hernia, and weaken the abdominal wall. The lesson from the relative frequency of hernia after pus cases is to operate early, and it is an answer to the charge that surgeons are too eager to operate for appendicitis, expressed not only by laymen, but by some physicians who would defer operation until the chance of success is diminished, and the danger of post-operative hernia is increased.

In general, make an early diagnosis, regard the case as surgical, and if the case is a mild one, or soon becomes so, aim at an interval operation, but watch the symptoms and the patient closely. If the case is severe or progressive, operate early, so as to nip in the bud a possible progressive peritonitis; if only seen after an abscess has formed, operate at once. This practice will conduce to the safety of the patient and the avoidance of hernia. I have not attempted to r clude all or even a majority of "borderland" conditions, for time does not permit of more than the mention of cirrhosis of the liver treated by establishing a collateral circulation between the portal and systemic veins, by adhesions of the omentum, liver, or spleen, with the abdominal wall; also, of abscess, gangrene, and even tuberculosis of the lungs, treated surgically, and many others conditions of the pelvis and head, to which surgical treatment has been recently extended.

In conclusion, improvement is needed in medical practice in the line of early diagnosis, especially in cases of malignant new growth and septic processes. Along these lines much has already been done, but much remains to be done, and a vast amount of scientific work is being applied to the problem. The responsibility rests on physicians, not only to make an early diagnosis, but to call in the surgeon to confirm the diagnosis, and to apply the appropriate treatment in that ever-increasing range of conditions in which operative treatment affords the best results.

THE EXPECTANT TREATMENT.

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To the great majority of readers under the age of fifty, the words at the head of this article will be nearly destitute of meaning. To some of the older men it may recall a period in the fifties when on the Continent of Europe, and especially in Vienna, was employed a method of treatment, more particularly of acute diseases, which had for its basis non-interference by any active measures, with that general tendency to recovery which characterizes even in the most fatal acute diseases, such as Asiatic cholera and yellow fever.

To a very limited extent, and almost wholly in hospital practice, the method was employed in England, but the condition of the profession then, so different from anything that exists elsewhere in Europe, precluded anything like the general adoption of the system. The "expectant" system was, as I have implied, based on the unquestionable fact that the majority of acute cases will end in recovery, if left to themselves, and just supplied with some form of nutriment and with fresh air. It was a period when the homœopathic system was very fashionable, not merely the *similia similibus curantur*, but the infinitesimal doses. There were thousands of the best-educated persons in Great Britain, France, and Germany who firmly believed in the efficacy of a billionth of a grain of rhus, or of a drop of tincture of aconite. Hospitals were established in which patients were treated by such doses, and in which nothing more was done for the patients except to feed them properly, give them as pure air as can be obtained in a city, and apply a cataplasm or a fomentation or a wet compress, to allay some local pain.

The curious thing was that not only did the majority of the patients recover, but that a larger proportion recovered than in hospitals, where the old anti-phlogistic method, or the brandy and beef-tea method, was adopted; and still more marvelous did we regular practitioners find it, that the patients recovered more quickly, and the convalescents suffered less than under our system. This is what the few among us who condescended to visit and examine the cases at homœopathic hospitals were forced to acknowledge.

Now, putting aside the infinitesimal doses, which certainly could have had no physical effect, though they unquestionably exercised a powerful psychical effect, some physicians, not yet too old to learn, set themselves to investigate what had never yet been studied, and what is scarcely ever nowadays even thought of—the natural history of disease. How does a case, say, of acute croupous pneumonia begin, progress, and end, when not interfered with by any active treatment?

Such a case in any man under sixty, and in some above that age, would in the early fifties have been treated by two out of three of the physicians for in-patients in the hospital of which I was a student (the Middlesex Hospital, London) by the old anti-phlogistic treatment. Milk diet; venesection to twenty ounces the day of admission; calomel gr. ij, pulv. opii gr. ¼, antimon. et potass. tart. gr. ½, every four hours. Perhaps, a larger dose of the tartar emetic would have been given in a saline mixture, until vomiting occurred. The next day, there would have been a repetition of the bleeding, either from a vein or by means of cupping glasses, to the amount of ten or twelve ounces. The calomel and opium and the tartar emetic would be continued. The third day the same medicines, with a dozen leeches to the chest. The calomel would by this time have begun to affect the mouth, and then some milder form of mercurial, such as gray powder or blue pill, would be substituted. This would be continued until the solidified being had recovered its function, and respiration was heard all over it.

Then, the patient would be carefully fed up during a long period of convalescence, and would have thought himself fortunate if discharged cured at the end of six weeks' treatment. During all this time he would have been taking some kind of drug at least three times a day. If there had been any pleuritis with effusion, cantharides, blisters, or iodine paint,

to the point of blistering, would have been applied to the chest.

The third physician, a much younger man than his two seniors, would probably have either tried the expectant plan or the brandy treatment, which was just then and for a few years all the rage in London, six, eight, or even ten ounces of brandy in the twenty-four hours.

The expectant treatment of such a case would be: Jacket poultices, renewed every four hours to the affected side; a pill made of bread or extract of grass, and a draught of colored water every four hours as a placebo; milk diet for the first few days; perfect rest for the lungs, no talking allowed, and a more nourishing diet as the case improved. When redux crepitation was fairly established, probably meat and wine would be given, and the poultices would be discontinued.

Under such treatment, supposing the patient admitted were under fifty and of fairly healthy habits as regards drink, he would be convalescent in ten days or less. The mortality, when only one lung was affected, was *nil*. By this I mean that one lung should be almost free from inflammation—a touch at the base of the other would not count.

In England, we did not follow out the expectant treatment quite so rigorously as they did in Vienna. When there was acute pain, I question whether any of us would have abstained from the use of opium or morphine. Certainly, I never did. And when the temperature was high with a dry skin, we should have used the wet pack, warm. In typhoid fever, we always used a pack round the lower part of the trunk, and I followed Dr. King Chambers' (of St. Mary's Hospital, London) plan of giving twenty minims of dilute muriatic acid every four hours in the colored water, in order to aid the digestion. With this treatment, I had only three deaths in a batch of ninety-seven cases, chiefly among negroes and the lower class of colored people in Trinidad, British West Indies. They were treated in their own houses under every disadvantage.

Now, when I see any new method of treatment vaunted, I always ask myself, have the people who advocate it any idea of what is the natural rate of death and recovery from this disease? Suppose, they say that their treatment cures 90 per cent.; how many per cent. would die under an expectant treatment?

It is not often one is able to get any large series of cases that have had no medical treatment from first to last, but it was my good fortune, as medical officer of health for the colony of Trinidad, to be able to investigate such a series. In the year 1870, the inhabitants of a district on the east coast of the island memorialized the governor to send them a doctor, as for several months they had been suffering from a severe epidemic of acute dysentery, which had attacked six hundred out of eight hundred of the inhabitants of the district. These people, with the exception of the French priest and a government officer, were all colored, and most of them pure negroes. They were densely ignorant and superstitious, and their treatment, such as it was, was barbarous in the extreme. For instance, when sloughing of the rectum took place, as it did in the worst cases, their treatment was to stuff the rectum with some boiled herbs. They had been living for months almost entirely on fish—mostly salt—and Indian corn. All their ground provisions, such as yams, had been destroyed by a prolonged drought. I was sent over to investigate the matter. I found that some months previously a woman had come over from the capital—about sixty miles through the bush—and the day after her arrival was attacked with acute dysentery, of which she died. From her the disease spread to six hundred other persons. Even among these persons, all suffering more or less from scurvy and without any medical treatment, the mortality was only sixty, that is 10 per cent.

I made my report to the governor, and he sent fresh provisions, vegetables, and cattle, also medicines and a dispenser. I took over 111 cases, residing on a strip of coast sixty miles long. I used to ride out every day with a supply of medicines in my saddlebags, chiefly one-grain opium pills, and I lost only four out of the 111, and they were very ill when I commenced their treatment. All, therefore, that medical aid and the much more powerful aid of good food did was to save about 6 or 7 per cent.—not 94 per cent., as the moderns would have reckoned it.

I may say, before I conclude, that colored water and pills as placebos are indispensable in the expectant treatment. The public will not believe in it; they want some objective on which to pin their faith. And they must not have the faintest suspicion that no active treatment is being used, otherwise they will immediately leave the hospital, or in private practice send for some one else.

I suppose that every septuagenarian is more or less *laudator temporis acti*, but in my own justification I must say that I am terrified when I see the mortality of some modern treatments, and contrast it with that of the good old times. Take diphtheria, for example. I have attended cases of that disease ever since it first appeared in London; I have seen it in that city, in large towns in England, in the West Indies, and here in New Zealand, and I have never had, for any series of one hundred cases, anything like the mortality that is supposed to be a matter of congratulation under the antitoxin treatment. I have had as many as twenty-two cases in succession, without a single death. The mortality of typhoid fever under the milk and perchloride-of-mercury treatment is to my mind shocking.

I wish to say a few words on the present system of reporting cases, as contrasted with the careful method of my younger days, but I had better not weary the readers with any more of the maunderings of an old man, whose medical education commenced in 1848. I may be allowed, however, to add a few words as to the effects on the minds of students who saw the expectant treatment carried out by their seniors. The first effect was to make us medical agnostics; we believed in nothing but the recuperative powers of Nature. Then, as the responsibilities of practice came upon us, and we were compelled to do something to relieve pain and other urgent symptoms, we found that besides rest, food, and the simple applications of the expectant method, there were powerful drugs that unquestionably expedited a cure, when a cure was possible, and relieved suffering even when death was inevitable. We used opium and belladonna and their alkaloids, quinine for malaria, mercury and potassium iodide for syphilis, arsenic for many skin diseases, and purgatives and occasionally calomel or blue pill. But instead of using the enormous doses of our predecessors, we carefully tried the minimum dose that would produce the desired effect. We laid more emphasis on rest and sanitary measures than our predecessors, and we urged preventive measures when the constitution of the patient was at fault.

Those of us who are left *rari nantes in gurgite vasto*, are shocked and horrified at the brutal and barbarous methods, both medical and surgical, of the present day; at the huge doses of powerful medicines poured into the stomachs, or injected under the skin of sick persons; at the bloody and protracted operations for the removal of diseased tissues, as if cutting

off or cutting out a diseased portion of the body could ever be called a cure, and we thank God (even if in this we resemble the Pharisee in the Gospel) that we are not as these other and younger men, and that if Nature does not always succeed in curing our patients, we do not kill them!

THE PSYCHIC HALF.

By J. ALLEN GILBERT, Ph.D., M.D.,
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It would seem that nowadays all appeals to medical men must be made in the atmosphere of laboratories, operating rooms, x-ray machines, microscopes, test tubes, and the like, else one runs the risk of being classed as a heretic, and being cast from the roll of a respectable physician into the outer darkness reserved for quacks and charlatans. A review of the tendencies in modern medicine almost makes one feel that psychology has sold her birthright to physiology, physics, chemistry, and kindred objective sciences, and fears to enter an appeal for that psychic aspect of man which makes him what he is.

All men seem to agree to general statements in regard to mind, but many, when pushed to more definite explanations, either deny the existence of mind as such, or involve themselves in a hopeless tangle of contradictions in attempting to explain it in terms of physics. The present age seems to be running riot in its devotion to the sciences which admit of statistics, computations, and demonstrations, apparently forgetful of the fact that not all truth and not all reality can be subjected to the various methods at the disposal of the so-called objective sciences. All praise to scientific investigation, whether in lines of physiology, chemistry, psychology, or what not; but some of the devotees to statistical methods have expressed their hope of seeing the time when the laws of the mind's activity can be given in tables and formulæ as exact and precise as those of mathematics and astronomy. Admirable as their aspirations may be, one is forced to smile at the narrowness of their conception of conscious life, and is almost impelled to ridicule a postulate which so completely inverts relations as to presuppose a law of causation back of ultimate reality. To take time to emphasize the value of laboratory work and the mechanical accessories and helps to investigation would be to rehearse that which even the laity appreciate; and so, in emphasizing the psychic side of man, the other aspect is not lost sight of in the least, for our present advancement is due largely to the experimental tendency which characterizes recent decades.

Whatever our conceptions may be as to the relation and individual nature of mind and body, thought demands reference to an ultimate unit; and both mind and body must have their roots piercing back into one ultimate reality—call that reality what you please. Religion calls it God, philosophy calls it the absolute, science calls it nature, physics calls it force, psychology calls it mind—all names for one and the same entity.

It is almost instinctive in man to ask for an explanation of how human consciousness springs into existence. The fact is "you are," "I am," and every man knows that "he is." Mind is known by direct experience, and agnosticism refutes itself by the mere statement of its theory; for knowledge is a precondition of theory and discussion. Is one to be criticised for dogmatizing on the fact of knowledge, for accepting knowledge without question? It is the basis of criticism, and any attempt to undermine knowledge is futile; for in so doing the fact of knowledge is established beyond dispute. It is the *sine qua non* of self-conscious life, and only by knowin do we spring into existence as objects for psychological data. Physiology and biology fail utterly to explain it, and it is not only unjust, but unscientific to demand that psychology shall assert and defend herself in terms of sciences entirely foreign to her true nature. That science which rejects a fact is guilty of treason; and if there is any fact which stands out unique in that it needs no proof, it is the fact "you are—I am;" and every man, when he says it to and of himself, thinks not of his body, but of that inner process of consciousness which is to him—for the time being, at least—convincingly real. It is a strange paradox that throughout the history of thought men have demanded proof that they exist; and, failing to get such proof, have relapsed into agnosticism, which is in itself a theory of knowledge. It is still more queer that men do not hesitate to give objects in the external world an abiding reality, and yet deny reality to that consciousness upon which so-called things are dependent for their existence as things—mark you, "existence as things," not "existence." We often forget that things as such are constructed through a process of perception—tedious and irksome at first, to be sure, but soon accomplished with such ease and rapidity that we are prone to deny the existence of the process at all. It would seem incontestable that either mind is real and an entity, or we have no right to speak of the effect of mind upon body. Non-entities can *do* nothing, and simply *are not;* for things only gain their existence and their reality by manifesting themselves by some sort of activity; and, furthermore, that which is able to manifest itself is entitled to reality, and may therefore be called an entity. At any rate, we cannot speak of the effect of a non-entity upon an entity.

All attempts to explain how molecular motion can account for, or be transformed into, conscious states imply two distinct separate entities, and plunge one into the fallacies of a materialism, or a dualism with materialistic basis. Several years ago, a fellow-teacher advocated the doctrine that the stomach was the first organ to appear in animal life, and all else had its origin in this stomach. Consciousness also was evolved from this same fountain of existence. As he put it: "If the fumes of the stomach mounted upward, they became consciousness; if they descended in their course, they passed as débris from the system." Such expressions can be nothing but figurative, and yet, is the idea involved any more inconsistent than when Spencer says: "The quick succession of changes in a ganglion, implying, as it does, perpetual experiences of differences and likenesses, constitutes the raw material of consciousness?" nor does it become more consistent by Huxley's explaining the mind as an interaction of atoms; nor does one feel more enlightened when Carl Vogt says: "As contraction is the function of a muscle, or as the kidneys secrete urine, so, and in the same way, does the brain generate thought, movements, and feelings." All such statements are based upon a sworn allegiance to the atomic theory, and the atomic theory has absolutely nothing to do with consciousness as such; space, which is but a category of mind, has no objective reality, and yet, in our carelessness of thought, we not only give space objective reality, but endeavor to subject mental phenomena to its limitations, and describe all conscious processes in spatial terms, forgetting that a unit of consciousness cannot arise from the mere combination of individual parts. Comparison, judgment, criticism, admiration, and the like, all imply a unit; and where, pray, is unity to be found in brain tissue, or even in the atomic theory, where unity is but hypothetical? Mind cannot be considered as a sum; but, on the contrary, it is the only unit known in

science, and from this unity of consciousness as a starting point we construct our sciences. By this unit, and this alone, can qualities and attributes be synthetically unified into things. Things are one, because, and only because, we *make* them one. The simplest of so-called things is a thing not because it, so to speak, has length, breadth, thickness, color, weight, hardness, roughness, etc., but because these varied elements are unified and given meaning in consciousness; and the unity, which consciousness is, is carried over into things, thus constructed, through a process of sensation, perception, apperception, with objectification. Such a conception does not, in the least, rob things of their reality; but, on the contrary, gives them a vivified existence and a reality which pulsates with a warmth that helps us to look upon things as our fellows indeed. Instead of dead, inert substance, to which we owe our existence, we find confronting us a coworker, as it were, in that great throbbing reality which we call Nature. In the diversity of Nature is, after all, the best proof of an underlying unity. And also in consciousness. The very inception of unity is when the child, for instance, playing with his toe, realizes that he is not his toe, but that "he is he," or what is equivalent —that "he is." There is the beginning of human thought—that beginning which is, which must be, an unsolved enigma. All explanation begins and ends in the unexplained. To explain the simplest fact in the Universe is to explain the Universe; and, moreover, to explain scientifically is not to explain exhaustively.

> "Flower in the crannied wall,
> I pluck you out of the crannies;
> I hold you here, root and all, in my hand,
> Little flower—but if I could understand
> What you are, root and all, and all in all,
> I should know what God and man is."

The highest desideratum of the physical sciences is an absolute unit upon which to base their deductions and inductions. Instead of reducing the multiplicity presented to our sciences, research only increases it. The farther chemistry pushes her tests, the more so-called units she thrusts into the list of elements. In time the atomic theory will—yes, must—go under, even as the old corpuscular theory of light, for it has contradictions upon its very face. Even at best its unit—the atom—is a hypothetical unit, based by analogy upon the unit of consciousness. When we speak of the effect of mind on body, or when we speak of giving certain treatment for moral effect, are we using mere terms to fill in a gap—a mere worn expression to cover up ignorance—or are we in reality paying tribute to an entity which must be taken into consideration in our etiology and pathology? It is aptly said when we say, "Man's body." He who treats patients has more than a mere disease to handle. When we call man a cognitive, social, political, esthetical, and moral being, do we not carry him in a sense above the realm of physiology and beyond mere medication? How much of the physical organism is to be found in such terms as history, philology, politics, morals, theology, philosophy, sociology, and jurisprudence? Meager, indeed, would be our literature if they were removed; and, yet, what are they but records of ideals!

> "In man's self arise
> August anticipations, symbols, types,
> Of a dim splendor ever on before."

But what will neurology and physiology do with an ideal? How will they classify an ambition? Where will they locate a compunction of conscience, or a noble determination? We laugh at Descartes for assuming that the pineal gland was the seat of the so-called soul. We repeat our smile as the throne of psychic life is transferred to the pituitary body; but are we more consistent when we label the frontal lobes "higher psychic life?" Where is the mind? Nowhere. Space and space-terms have no reference whatever to consciousness as such.

View the subject for a moment from the standpoint of esthetics. A thing is beautiful or ugly, because it attracts or repels an esthetic being in whom relation and comparison are possible. Standing at the summit of some mountain ridge, where all shades and shapes of wildness and civilization blend to form one magnificent panorama, all we can do is to exclaim, beautiful! But stop a moment. Analyze that conception. Where is the beauty? Is it in the water, in this tree or that grass plot, in yonder train or village, in cloud or sun? Whence, I repeat, comes that beauty? What wrests from this multiplicity and diversity the unitary conception of the beautiful? The physical sciences can do absolutely nothing with such conceptions as the beautiful and sublime. Why? Because the physical sciences have no real unit through which relation and unification become possible.

Now, a glance at the moral aspect. Reality as such cannot be subjected thoroughly to the physical law of causation. Entities act, and from the activity of these entities we formulate a law of causation. Ultimate reality merely manifests itself, and because it is self-consistent, we deduce the laws of its activity; and then, forgetting that they were deduced, we reverse the relation and put the law of causation back of reality. Men make laws, not laws men. A misconception of causation has led to nine-tenths of the prolific discussion on freedom and necessity. We have been taught time and again that man is what he is because of heredity, education, and environment. That is part, not all. By such a tenet, man is subjected thoroughly to the physical law of causation. It means that you deny man his self-activity, and it also forestalls the use of any such terms as "ought" and "ought not." Is man a mere effervescence from brain tissue, to be produced, to be acted upon from all sides, and upon whom moral responsibilities are imposed without any capability of reaction? On those terms, a McKinley is not one whit better than a Czolgosz, a hero no more to be admired than a villain, a king no nobler than the horse which he rides. In terms of causation, good and bad lose their meaning. Such terms as character, ideals, ambitions, heroism, and honor fade into a mere mockery, and vice, debauchery, and crime lose their hideousness. Courts of justice stand as a living monument to that psychic half in which alone is found the justification for "ought," and "ought not." Physical sciences can speak in terms of "shall" and "must," but never in terms of "ought." If consciousness and mental processes are but products of the brain, then give it attributes and qualities, but cease speaking of character and cease condemnation of fellow-men. The most rampant of materialists would scarcely claim that brain-processes or nerve-currents ought to do so and so, and yet they demand it of this so-called product of cerebration, even though they deny its entity. Take from the world "I ought" and "you ought," and you have taken from the world humanity. Take from the world mind as an entity, and you annul courts of justice and reduce the world to a mechanism in which manhood and rascality are reducible to the same basis, viz., a brain-process. Aggressive assertion of the psychic half is the very essence of manhood, and if there is any entity known to man, it is the reality—mind—asserting itself along the line of its own ideals.

Is medicine, then, justified in looking upon her field as one merely to deal with the physical? Be-

cause the poorly informed take up one idea—truthful in itself, perhaps—and make that one idea include all of the healing art, is no reason why those of broader mind should hoot at and reject this idea which was merely unfortunate in falling into the hands of advocates too ignorant, rampant, and fanatical. Christian Scientists, though they have rendered themselves ridiculous by the extent to which they have carried their tenets, have, nevertheless, incorporated in their doctrines a truth which is of value. We laugh at them with justice, and yet, has science of the so-called orthodox type always been perfectly staid in her positions?

Has not experimental psychology, for example, promised more than she has fulfilled or ever can fulfill? The field of medicine is man; and if, after proper study, man is decided to be moral, esthetical, and political, does not treatment at times reach beyond the materia medica and laboratory? On the other hand, if man in his entirety is capable of reduction to a mere nervous mechanism, should we not, at least, be consistent and cease speaking of the effect of mind, if we deny its entity and make it but a product? Where is the consistency in giving lectures upon "Mental Diseases" and denying the entity of mind? Is it not lecturing upon diseases of a non-entity? Why speak of mind and the effect of mind at all, if mind is not an entity? Is anything less real, less an entity, because to our means of perception it fails to establish its continuity in time? Must all being have length, breadth, and thickness before we will grant it existence and reality?

SPASMODIC BRONCHOSTENOSIS.

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To my knowledge, this affection has heretofore enjoyed no specific place in our medical nomenclature. The affection in question must be dissociated from bronchostenosis as ordinarily interpreted, insomuch as the latter is, relatively speaking, a permanent, whereas the former is a transitory, condition. Spasmodic bronchostenosis is, practically, nought else but asthma without paroxysms.

Before describing the symptomatology of spasmodic bronchostenosis, I wish to refer succinctly to the bronchial musculature. The entire bronchial tree is provided with smooth muscular fibers which contract by irritation of the pneumogastric nerves and their branches. If in a dog a section is made of one vagus, relaxation of the bronchus on that side ensues. According to the conception of Biermer, the bronchial tubes are the antagonists of the inspiratory muscles in the same sense as the muscular coat of the arteries is antagonistic to the heart. The bronchial muscles, in other words, represent the so-called "lung tone," offering resistance to the volume of inspired air, and act, at the same time, in conjunction with the elasticity of the lung in promoting the act of expiration. Biermer contends that the bronchial musculature facilitates expectoration after a manner similar to other canals, like the ureter, œsophagus, intestine, etc., which are supplied with a muscular coat lined by mucosa. Whatever theory may be espoused in the pathogenesis of asthma, all clinicians agree that the spasm element plays an important rôle. I have already referred* to the production of typic asthmatic seizures in individuals subject to asthma, after impaction of cotton in one or both nasal cavities. If the nasal mucosa were previously cocainized, no paroxysms could be induced. This simple experiment shows that in susceptible persons bronchial spasm may be invoked by a stimulus acting indirectly on the vagi through the terminal fibers of the trigeminus. In the same contribution, I assumed the existence of two distinct functions of the vagus nerve, or, at any rate, the presence of nerve fibers with a dual function; nerve fibers which could dilate the longitudinally disposed muscular fibers of the bronchial tree (bronchodilator nerves), and nerve fibers which could contract the circularly disposed muscular fibers (bronchoconstrictor nerves). In the action of these two sets of nerves fibers, I saw an analogy in the vasoconstrictor and vasodilator nerves of the vasomotor system.

Etiology.—As in true nervous asthma, a nervous element is the most prominent feature of bronchial spasm, other changes being either absent or secondary. More often, the bronchial spasm may occur coincidently with an attack of bronchitis, and this is the more frequent form of the affection.

Symptomatology. In bronchospasm, associated with bronchitis, we have all the symptoms of the latter affection plus a spasmodic cough, which is exceedingly distressing to the patient and usually resists the conventional expectorants. If the spasmodic element predominates in bronchitis, the sputa are scant and viscid. The spasmodic cough, the concomitant of spasmodic bronchostenosis may persist for an indefinite period after resolution of the bronchial catarrh. If we auscultate the chest of a patient with bronchitis in whom is associated bronchial spasm, we hear in addition to the usual râles of bronchitis, dry, squeaking, and groaning sounds which, unlike those in bronchitis, are chiefly expiratory with prolonged and accentuated expiration. In differentiating the râles of bronchial spasm from those of bronchitis, I have recourse to the inhalation of a few drops of nitrite of amyl, a manœuver which I have described elsewhere.† Such inhalation carried to its physiologic effect will temporarily dispel râles due to bronchial spasm, while on the râles of bronchitis no effect is produced. In spasmodic bronchostenosis independent of bronchitis, the ordinary physical methods of examination are, as a rule, negative, and the diagnosis may be verified only by treatment, for which affection iodide of potassium is virtually a specific. Occasionally, one hears after repeated auscultation, when the patient is instructed to practise forced expiration, wheezing sounds which are more manifest over the large than the small bronchi. An invariable subjective symptom is a persistent spasmodic cough which is resistant to ordinary medication. Associated with the cough at times is slight dyspnœa with a feeling of constriction about the chest, which is invariably aggravated at night. If asthmatic paroxysms should ensue from the bronchial spasm, they are always ill-defined and of short duration. Expectoration is slight or absent, and free expectoration always signalizes a suspension of the bronchial spasm. Like the cough of nervous asthma, the cough in bronchial spasms may be relieved by the most varied conditions, among which the influence of climate is paramount. In a cold and damp atmosphere, bronchial spasm is especially common. A transfer to dry climates and high altitudes, or even any change of locality, may cause an almost miraculous disappearance of the cough, even after medication has been most persistent and has failed. Errors in diet also constitute a common factor in bronchial spasm, and I have frequently noted its disappearance after correction of a gastric affection. I believe that many of the "stomach coughs," so called, are due to bronchial spasm.

Treatment.—Many cases designated as bronchitis

* Heretofore Undescribed Neurosis of the Lungs, *New York Medical Journal*, June 13, 1896.

† Drugs in Diagnosis, *Am. Med. and Surg. Bulletin*, October 10, 1898.

are merely cases of bronchial spasm, for which there is only one remedy, and that is climatic change. As in asthma, every individual with spasmodic bronchostenosis is a law to himself, as regards climate. I wish particularly to emphasize the value of the iodide of potassium in bronchial spasm.

In my experience it is a specific, but it must be given with circumspection in this as well as in other diseases in which its action is extolled. A medium daily dose is about 30 grains, although a daily dose of 60 grains is not excessive, when no idiosyncrasy is displayed toward the drug. We must guard against iodism, especially iodism of the mucous membrane, which manifests itself as œdema and acute inflammation.

We must not forget the observation of Neumann, viz., the occurrence of a tuberculous iodide eruption on the stomach mucosa, similar to the tuberculous skin eruption. Iodide of potassium by provoking tracheobronchitis may induce a paroxysm not unlike that of asthma, and, furthermore, it may induce acute pulmonic congestion, as noted by Fournier in his "Traitement de la Syphilis." Individuals with a defective renal apparatus are particularly liable to the development of iodism. Tincture of iodine in 10-30 drop doses in water may be substituted for the iodide of potassium in those who show an idiosyncrasy toward the latter drug. The promotion of diuresis by drinking largely of water or milk may prove a means of obviating iodism. Belladonna, in the form of the tincture (5 drops) with each dose of iodide of potassium, will prevent the objectionable iodide coryza. Should the iodide cause digestive disturbances, Fowler's solution may be given concurrently. Briquet suggests bicarbonate of sodium in overcoming iodism, and sulphanilic acid has been given for a similar purpose.

The following formula is of value in certain cases of spasmodic bronchostenosis:

℞ Iodide of potassium..... 5 drachms.
Tincture of lobelia..... 10 drachms.
Spirits of glonoin (1 per cent.)... 16 minims.
Elixir bromide of potassium...to 4 ounces.
Mix. A teaspoonful three times a day after meals.

This dose may be gradually increased if necessary.

THE HEMORRHAGIC DIATHESIS IN RELATION TO OPERATION ON THE NOSE AND THROAT.

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I DO not know if the patient with a hemorrhagic diathesis is more prone to tell an untruth than one who has the normal blood circulating through his anatomy, but I have found it to be a fact that it is impossible to obtain a history of bleeding until after an operation has been performed, and we are face to face with the fact that we have operated in a hemorrhagic case. I invariably ask a set of questions previous to an operation to ascertain if my patient belongs to that class known as the bleeders. My answers have always been negative.

These patients are generally anxious for an operation if one is indicated, and will generally deny the fact that the slightest cut will produce an excessive hemorrhage.

A number of cases are on record in which the unfortunate possessor of this diathesis has lost his life through the error of not informing the surgeon that he bled, and bled profusely, after the slightest cut.

These cases will tax the ingenuity of the surgeon to the utmost, and will greatly shake his belief in all astringents after he has tried one after another to control this class of hemorrhage, and found them all to fail. Even the suprarenal extract he will discard in a true case of hemorrhagic diathesis as useless, and wonder where it received its reputation as a hemostatic.

Miss B. was referred to me by Dr. Richardson on account of a nasal obstruction, which interfered with the proper nasal breathing.

An examination showed a marked hypertrophy of the inferior turbinated bone on the left side, which impinged upon the septum and interfered with her breathing space. Miss B. was a brunette, aged about twenty-two, slight in build, and weighing about one hundred pounds. The nature of the operation was explained to her, and she readily gave her assent to have it performed.

She was placed under the quinine treatment for two weeks, and a day was then set for the operation. Miss B. was questioned in regard to any hemorrhagic diathesis, and all my inquiries met with a negative answer. The nose was treated with cocaine and the suprarenal solution, as is customary in these cases. The operation was without incident. The lower section of the turbinated bone was removed on the left side. The hemorrhage during the operation and immediately following it was about the normal amount that is customarily found in an operation in this region.

The nose was plugged from the anterior portion by a series of plugs, the operator carrying the first well back and then plugging upon top of that again. The post-pharyngeal hemorrhage was controlled by the introduction of the first plug.

Upon interrogating my patient as to how she felt, she replied: "Fine; I did not have any pain and did not have any discomfort." I directed her to sit in my front office for a time, when I would look at her again, to be sure that there was no bleeding. She told her sister that the operation was nothing, and that she was not going home directly when she left my office, but was going shopping.

Fifteen minutes after this, she knocked at the door, and told me that her nose was bleeding. I found blood streaming from the anterior part of the nose, and pouring in large quantities down the posterior pharynx. The latter she was swallowing. I removed the plugs, and immediately substituted a new series, carrying these plugs farther back, and after a great deal of trouble, was able to control the hemorrhage. After the nose was plugged and the posterior and anterior nasal bleeding was subdued, the hemorrhage continued through the eye by way of the lachrymal duct. I wiped the eye again and again, to relieve her discomfort. The escape of blood through this channel continued for over half an hour after the posterior and anterior nasal hemorrhage had been conquered.

When the hemorrhage was once controlled, she began to complain of intense pains in her abdomen. Her sister who was with her told me that this was caused by her sickness which was now due, during which period the patient suffered intense agony. Miss B. was now attacked by profuse vomiting, ejecting the clotted blood that had run down her pharynx into her stomach. She vomited enough clotted blood to fill a large cuspidor I had in my office. The exertion of the vomiting brought on hemorrhage again from both the anterior and the posterior nares.

I now placed Miss B. prone on her back and gave her one-fourth grain of morphine. Before this had time to act, she had another attack of vomiting. The

same amount of morphine was repeated in half an hour.

This quieted the case and subdued the hemorrhage. Morphine I consider to-day acts better to control hemorrhage in a case like this than any other drug or series of drugs we have in the pharmacopœia. At four o'clock I accompanied her home in a cab, attended by her family physician, Dr. Richardson. She reached her home and was put to bed, without any recurrence of the hemorrhage. Morphine was again administered at half-past four o'clock. The patient was placed upon a milk diet and warned not to leave her bed until directed.

The operation was performed on Monday. On Tuesday one anterior plug was removed; two others were removed on Wednesday, and the last two on Thursday, and the patient was able to breathe through her nose. When I called Saturday, I gave my patient permission to sit up for two hours in the afternoon, but positively not longer. However, she left her bed at twelve o'clock, and in the evening entertained some friends until after twelve midnight.

At four o'clock, Sunday morning (six days after the operation), she awoke with blood streaming down her throat and pouring out of the front of her nose. The nearest physician was summoned and her brother came for me in a cab. Upon my arrival at the house, I found her bed, sheets, pillow cases, night-gown, and everything near, saturated with blood. The patient was still bleeding, notwithstanding the efforts of the local surgeon to control it by alumn water. I again plugged the nose, administered a dose of morphine, placed a trained nurse in attendance, and left strict injunctions that the patient must be kept absolutely quiet. There was a slight attack of vomiting after I left, which caused the hemorrhage to recur. The patient was kept in bed for two weeks and fed upon a soft diet. After this, she performed her usual avocation in life without incident.

The family history in this case is more than interesting, showing how patients will conceal the fact that they are bleeders, when they are desirous to have an operation performed. The mother bled for four days when she was a girl, after having a tooth extracted, and the hemorrhage was controlled only after a great deal of trouble. She bleeds to-day profusely, if she is scratched by a pin, or cuts her finger. The brother of the patient, aged about sixteen, bleeds copiously from his nose. He awakes often in the morning to find his pillow stained with blood, and the blood pouring from his throat and nostril. The slightest scratch produces an excessive hemorrhage.

Patient C., male, applied at my office to have his tonsil excised. He was questioned in regard to a hemorrhagic diathesis, but his answers were negative. The tonsil was excised at half-past ten one morning. Moderate bleeding occurred, which was followed soon after by a copious hemorrhage from the side of the cut. The patient was given ergotin and gallic acid internally, and various astringents were applied locally. Ice was used without any diminution of the bleeding. His mouth would fill with blood, which he discharged into a cuspidor. Direct compression was made over the cut surface by the finger covered with cotton. This seemed to irritate the throat and augmented the flow of blood.

The patient bled profusely from the time of the operation until four o'clock the same afternoon, when he had a fainting attack after taking a dose of one-fourth grain of morphine. The hemorrhage lessened considerably after he came out of the faint. I now removed him to a hospital.

There was a slight oozing of blood for two days. Upon the third day he left the hospital, very much against my will, and returned to his home. He had another hemorrhage on the fifth day after the operation; this was easily controlled. Ten days afterward he was back at his occupation of musician in one of our theaters.

A clear history of hemorrhagic diathesis was obtained after the operation. The slightest scratch would produce a hemorrhage. This history was obtained only after the operation had been performed.

Patient D., female, aged sixteen, applied at the clinic for hypertrophied tonsils. Both were removed by my associate, Dr. J. C. Sharp. Profuse hemorrhage followed the operation, and lasted off and on for one month, during which time she was confined to one of the wards of Bellevue Hospital. A history was obtained of hemorrhagic diathesis on her father's side. A cut by the razor in shaving would produce a loss of a considerable amount of blood. The patient recovered.

Patient E., male, applied at the clinic for an obstructed nose. His answers to a hemorrhagic diathesis were negative. This case is particularly interesting, for only one week previous to his applying to the clinic for an operation he came near bleeding to death and had to have a transfusion of milk to save his life. Still, one week afterward, he applied for an operation on his nose, and denied any knowledge of a hemorrhagic diathesis, although he was closely questioned in regard to bleeding from a scratch or a cut. Subsequently, he admitted bleeding upon the slightest injury, and losing blood to an enormous quantity, entirely out of proportion to the nature of the injury. This patient also recovered.

A case was related to me by Dr. Woodend, the surgeon of the Third Avenue Railroad, where an employee of the road had been operated upon for a deflected septum. The hemorrhage following the operation was so severe that he was sent to a hospital. He left the hospital three days after. A recurrence of the hemorrhage happened two days later, at which time the patient died. A hemorrhagic history was obtained.

The above cases will show how important it is to quiz one's patients in regard to the hemorrhagic diathesis, and at the same time to go into every detail. If an operation is in question, and the patient thinks such an operation will relieve his suffering, he is apt to give a rosy color to the situation, and will deny all knowledge of being a bleeder, and oftentimes a knife is introduced when the sequence will bring into action all the artifices that surgery can command.

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THE TREATMENT OF XANTHOMA OF THE EYELIDS.

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Rayer, who was the first to mention xanthoma, describes it as "yellowish patches on the eyelids and in their vicinity, resembling chamois leather, slightly elevated, soft, without heat and redness, often appearing symmetrically." Bazin speaks of it as "molusum cholestérique;" and Addison and Gull as "vitiligoidea," on account of its supposed similarity to Willan's vitiligo. Erasmus Wilson called it xanthelasma, which term is still in use, though it is more universally known by the name xanthoma, given to it by W. F. Smith.

To the above clinical description the following additions may be made: It is not hereditary nor congenital. It most frequently develops after puberty. Spontaneous involution, after the lesions have once become stationary, does not take place,

except perhaps by accidental traumatism. The region of the left upper eyelid (internal canthus) seems to be affected oftener and earlier than that of the right. Change to a malignant new growth is extremely rare, if occurring at all. Pollitzer of New York has proved that xanthoma of the eyelids is not a neoplasm, but the product of the degeneration of embryonically misplaced muscle fibers, and bears no histological relationship to xanthoma tuberosum disseminatum and xanthoma diabeticorum. A connection between xanthoma of the eyelids and systemic disturbances, particularly those of the liver, has not been established. People with dark complexions seem to be more liable to develop the affection, but it occurs also in those with light complexions. It has been very often noted that patients exhibiting xanthoma of the eyelids have a dark discoloration of the orbits, sometimes of a bluish or yellowish tint (xanthochromie).

A chemical analysis of the xanthomatous tissue made by Mays proved the presence of fat and fatty acids, but the absence of tyrosin and lecithin.

In regard to treatment, internal medication (arsenic, phosphorus, turpentine, etc.) is absolutely futile. Excision is recommended by the majority of authors, and is practised extensively. It is done with a pair of curved scissors followed by careful suturing of the wound with a very fine needle and silk. In cases of superficially located patches, this method of treatment is efficient; but if practised on large or deep-seated spots, it is liable to be followed by a disfiguring scar, or even ectropion or epiphera. It is also very difficult to remove all the affected tissue at once in this way, on account of its irregular extension into the deep layers of the integument.

The Paquelin cautery is not applicable by reason of its radiating heat. The galvanocautery, on account of the absence of radiating heat, is undoubtedly preferable to the Paquelin; but the destruction which is produced is too far reaching, and, therefore, somewhat beyond the control of the operator. The same may be said of caustics (nitric acid, carbolic acid, chloride of zinc, arsenical paste, etc.). Some authors have devised measures to safeguard the eye and the healthy skin against excessive cauterization by using a layer of thin metal or strips of adhesive plaster, exposing only the affected area.

Electrolysis has none of these disadvantages. It attacks the deposits of degenerated tissue in an elective manner, and its action is strictly local and at all times under perfect control. Furthermore, the pain connected with it is very moderate. The hydrates of calcium, potassium, and ammonium, which are formed on the negative pole (needle), combine with the fat of the xanthoma cells, forming a saponaceous material which partly escapes in the form of a lather at the point of entrance of the needle, partly remains in the tissues, with continuing destructive action. In order to reach the xanthoma deposits, it is necessary to introduce the needle horizontally with the skin, penetrating in the direction of the levator palpebrarum muscle.

In a previous communication, I called attention to the establishment of local anæsthesia produced by the galvanic current on the negative pole. This anæsthesia is, I believe, the same as that which is produced by the forcible endermatic injection (infiltration) of an inert liquid, for example, water, by aid of a hypodermic syringe. It is probably due to the formation of free hydrogen, which forces the liquids formed simultaneously with the hydrogen rapidly into the tissues. The intensity of this anæsthesia is in direct proportion to the voltage of the current. The voltage would, therefore, be equivalent to the pressure exercised upon the piston of the hypodermic syringe. A current of one-half milliampere and thirty volts will render a spot of the size of a pea anæsthetic in two or three minutes. After that the amperage of the current may be increased without causing pain. It is advisable to let an assistant manipulate the rheostat, while the patient touches the sponge electrode connected with the positive pole, and the operator introduces the needle connected with the negative pole. In this manner, the current can be started very gradually and increased without the production of unpleasant shocks. The hand of the milliameter should be brought back to zero in the same gradual manner. A current strength of two to three milliamperes is sufficient, but it must be continued for about thirty seconds. Some experience, however, is required in order to judge if the needle should or should not be left *in situ* for a somewhat longer period.

The electrode to be connected with the positive pole, advised by me some years ago, is very useful in this operation. It enables the patient to close or to open the current by simply closing or opening the hand, and, by more or less compressing the sponge of the electrode, to increase or to decrease the current strength independently of the operator. In order to introduce the needle in a horizontal direction as pointed out above, it is advisable to have the needle fixed at an angle of about forty-five degrees.

After the operation, there are sometimes œdematous, urticarial swellings, which, however, soon disappear. Patches more superficially located soon assume a dark greenish color, the deeper ones become brownish, or almost black. It is hardly possible to remove the somewhat larger spots at one sitting, but two or three sittings are usually sufficient. No dressing is required after the operation, except, perhaps, the application of a little dusting-powder, boric acid, oxide of zinc, or amylum. The patient should be directed not to rub or to wash the parts which have been treated. I have found that in this manner a considerable quantity of the caustic alkali, developed by electrolysis around the needle in the tissues, is left in place, and allowed to continue to exercise its destructive action. A firm adhering scab is formed as early as the second day. It is often surrounded by a slightly raised area of inflammation, which gives the spot an umbilicated appearance. In some cases, it takes rather a long time before the scab is dropped. After it has become detached, any remaining xanthomatous tissue is well exposed to view, exhibiting a strikingly bright yellow color. It seems that, by the inflammatory action produced after the first application, the deeper deposits are lifted toward the surface, where they are within easy reach for further electrolytic treatment.

741 Madison Avenue.

The Treatment of Tetanus.—Rostevtzev has treated five cases of tetanus by the injection of an emulsion of calves' brain and spinal marrow, with four recoveries. Ehrlich has demonstrated that tetanic antitoxins are formed in the spinal cord, and Wassermann and Takaki confirmed his theory by their experiments, having prevented and arrested tetanus in animals by the injection of an emulsion of spinal marrow. Their explanation of the immunity obtained is that the injected substances circulate in the blood, and there combine with the free tetanic toxins and prevent their penetration into the cerebral centers. Four cures do not permit of definite conclusions; but in view of the difficulty there is in obtaining antitetanic serum, and the innocuousness of the injections of brain and marrow, with the possible benefit to be obtained therefrom, the author holds that this method may well be given a trial.—*Gazetta Medica di Roma.*

The Etiology of Tabes Dorsalis.—G. M. Holmes denies that tabes is a syphilitic disease, as the term is usually applied, because (1) The anatomical substratum has not the character of a syphilitic change; (2) Anti-syphilitic treatment is unanimously admitted to have little influence on the course of the disease, and may do positive harm; (3) Tabes generally occurs many years after syphilitic infection, and is seldom associated with true syphilitic processes; (4) Even the strongest supporters of the dependence of tabes on earlier syphilitic infection must admit that cases occur in which syphilis may be certainly excluded. Further may be mentioned the rarity of tabes among prostitutes, who have almost all had syphilis, and among people and tribes where syphilis is extremely common, as in Japan (Grimm), Bosnia (Glück), and among the colored population of the United States (Burr, Trennen). He inclines to the compensation theory of Edinger. His explanation starts with the theory of Weigert and Roux that the various constituents of a tissue are in a state of equilibrium so correlated one to the other that no cell can disappear without the surrounding tissue growing to fill its place, and when one constituent becomes weaker or less resistant, the energy of growth of its neighbors represses it still further. But, should the proof of the accuracy of the Weigert-Edinger theory for the whole nervous system succeed, it is necessary that the possibility be proved that certain tracts under normal conditions are worked more than others, and that these tracts degenerate when stress, in the form of overwork, either relative or absolute, is associated with a disturbance of the general metabolism with deficient nutrition. There are undoubtedly a small number of nerves which are constantly or very frequently at work, or at least much more constantly in action, than any of the other nerves of the body. These are the sensory nerves from the muscles, which take an important part in the regulation of muscular contraction, and are constantly transmitting those stimuli by which we can become aware of the condition of our muscular system or the position of our limbs. These nerves are almost constantly at work, and if the hypothesis be right, these must suffer, and their degeneration is clinically expressed by loss of muscular tone and the deep reflexes, with ill-directed movements, without loss of motor power—ataxia. On similar grounds can be explained the sensory disturbances. These disturbances of sensation would naturally be found in the regions of the body where the nerves are most irritated by the pressure of the clothes or other means; and in tabes we find the scattered, and often irregular, patches of anæsthesia most constant on the soles of the feet or round the waist. The same explanation also suffices to account for the eye symptoms, symptoms referable to the bladder and rectum, etc.; in short, it will account for all the features peculiar to the disease. Hence, Edinger's theory, to the exploitation of which the whole paper is devoted, postulates the action of predisposing agents by which the nutrition or power of repair in the nervous system is affected; and, secondly, that on the soil suitably prepared by such noxious agents, function, normal or excessive, sows the symptom-complex.—*Dublin Journal of Medical Science.*

Hæmaturia in Childhood.—Campbell Williams says that it is often extremely difficult to decide as to the cause of the hemorrhage in these cases. Hæmaturia may depend upon purely local causes, or it may form but one symptom of some general systemic disorder. It is met in conjunction with rickets, infantile scurvy, and hæmophilia. Again, it occurs in connection with renal infarction, pneumonia, acute nephritis, typhus fever, variola, malaria, diphtheria, and scarlet fever. It is sometimes due to the presence of the bilharzia hæmatobia in the pelvis of the kidney or in the vesical veins. Another parasitic cause is the filaria sanguinis hominis, or it may result from the intravesical presence of migratory intestinal worms. Chlorate of potassium, turpentine, cantharides, and other drugs with definite action upon the kidney, or even heavy doses of boracic acid, may be provocative causes. Hæmaturia may result from traumatism of any portion of the uterine tract, or it may be due to the presence of a renal, ureteral, vesical or urethral calculus. It is likewise a symptom of tubercle or sarcoma of the kidney or bladder. The author gives details as to the differential diagnosis. —*Medical Press and Circular.*

The Hydriatic Management of Pneumonia.—David Paulson holds that the best way to combat the local congestion of the lung tissues is to produce a cutaneous hyperæmia in the blood vessels of the back, by prolonged application of heat to the back, alternating once an hour with cold applications, as this will increase the physiological action of the heat. At the same time, excellent results will be secured by applying, especially during the early stages of the disease, the cold compress or ice compress to the chest, exchanging it every hour or two for a hot fomentation to prevent the superficial tissues from becoming dangerously chilled from too prolonged application of intense cold. Cold to the chest causes contraction, not only of the surface blood vessels, but of the pulmonary vessels as well. The elimination of poisons will be encouraged by copious water drinking, by daily enemas and short sweating packs, or even short hot baths, when the patient is not too feeble. All hot applications should be supplemented by some brief cold treatment. The dietary should consist of well-dextrinized cereals and the easily digested fruits, rather than flesh foods, which must contain more or less of the waste products resulting from animal metabolism.—*The Medical Standard.*

Birdlime for Catching Rats and Mice.—S. Vernon Kay says that climate has everything to do with the variety of birdlime to be used. In England, or similar temperate climates, the birdlime's greatest adhesive powers should be active between 60° and 80°. The thick green "Cheshire" birdlime is found to be the most effective, but in hot weather it becomes rather thin. To make a colony of rats desert the burrows, it is only necessary to smear a little birdlime round the entrances. If it is desired to catch them, dress plenty of straws and spread them thickly on the ground near the burrows, throwing among them some attractive bait, such as malt sprinkled with oil of caraway. The next morning, the straws will be found gathered up into little bundles, in the center of each of which is a rat. The same method may be used in catching mice. Birdlime will not adhere to anything wet, therefore the hands and scissors should be kept in that state. The knife should be kept dry. If the birdlime is bought in tins, it should be warmed gently to thin it, then the lid may be removed, and the point of a dry knife dipped into the birdlime, drawing it out in ropes. These may be cut with wet scissors, and the birdlime smeared with the knife on whatever it is expected to cover.—*The Hospital.*

Beriberi and the Heart.—Arthur Stanley concludes that this disease has a marked degenerative action on the heart muscle, which frequently causes fatal circulatory failure, in this respect resembling other toxæmic diseases, such as diphtheria, influenza, alcohol, and arsenic poisoning, which often cause peripheral neuritis; and toxæmic diseases, such as typhoid fever, plague, and acute rheumatism, which do not, or rarely, give rise to peripheral neuritis. Beriberi and diphtheria are the diseases *par excellence* in which sudden heart failure occurs. The heart-muscle degeneration is not a secondary result of neuritis of the vagus. It takes place, as a rule, before skeletal-muscle degeneration, and is probably the result of direct action of the toxin. Sudden heart failure does not indicate a sudden lesion, but is the result of a gradually increasing heart weakness from myocardiac degeneration, which may be precipitated by any sudden exertion, but more frequently is the result of the principle of "all or nothing"—the transition from "all" to nothing being necessarily rapid. The cardiac physical signs in beriberi closely resemble those

found in diphtheria, and are of paramount importance in prognosis and treatment.—*The Journal of Tropical Medicine.*

History of a Peculiar Outbreak of Diphtheria.—Marshall O. Leighton states that from the 16th to the 23d of March, 1901, there appeared in the town of Montclair, N. J., twenty-one cases of diphtheria. The fact that they all occurred on one dairy route, the cessation of their occurrence two days after the quarantine of the dairy, and the existence of virulent diphtheria germs in the throats of milkers formed a chain of circumstantial evidence leaving no question as to the culpability of the milk. Moreover, during the same interval of time, there occurred on the route of this dairy in the city of Newark sixteen cases; in East Orange, ten cases; Orange, two cases; South Orange, two; West Orange, one; Verona, one; Passaic, two. There was also a case in New York City, the patient being stricken upon the day following that upon which he left Montclair, where he had been living in a family supplied with this milk. Again, in Caldwell, where the dairy is situated, and where no milk is delivered by this company, a case occurred in the family of an Italian cheesemaker, who bought all the skimmed milk from this dairy.

Richard Cole Newton, speaking of the same epidemic, calls attention to some of its more striking clinical features. What most excited his wonder was the average age of the patients, nearly all were adults, and the youngest patient was six years old. The course of the epidemic seems to have been mild. The human breath, as a vehicle of direct contagion, has not received the attention which its importance demands. Aside from the danger caused by coughing and sneezing and thus blowing particles of moisture from the mouth to the milk, the milkers probably talk and laugh together while milking; this source of danger should be carefully guarded against in the model dairy. A shield of gauze or wire could easily be interposed between the milker's mouth and the milk pail.—*Pediatrics.*

Treatment of Tuberculosis by Feeding.—Samuel Bernheim holds that mere stuffing of tuberculous patients is not wise treatment. They must be treated individually, and the dyspepsia so frequently accompanying the disease must be taken into consideration. Nitrogenous food has the property of repairing tissues, and is therefore valuable. Meat, especially beef and mutton, is to be recommended. It should not be highly seasoned, for tuberculous patients easily tire of condiments, which are also injurious to the digestive powers. It should be given raw. The experiments of Richet and Héricourt show that dogs, rendered tuberculous, die at about the fortieth day if they are not fed on raw meat; whereas, if this constitute their entire diet, they live about 240 days. Clinical facts bear out these experimental researches. Raw meat contains many toxic principles, animal alkaloids, ptomains, albumins, and extractives, which very probably possess an antitoxic property in regard to the bacillus and its toxins, or they may act merely as antidotes. Whatever the method of action, the practical conclusion is to feed consumptives on raw meat.—*L'Union Médicale du Canada.*

Cancer of the Genital Organs.—Attilio Faconti states that carcinoma of the genital organs occurs more frequently among poor women than among the well-to-do. Cancer of the left mammary gland in two-thirds of the cases is rare in nulliparæ, and occurs most frequently in women between forty and sixty years of age. Carcinoma of the vulva is found in 3 per cent. of the genital cases, and usually between sixty and seventy years. Vaginal carcinoma occurs in 33 per cent. of the genital cases, but is primary in only 2 per cent. Nine per cent. of the cases are found in nulliparæ. Uterine cancer is rare in nulliparæ, but is most frequent in those who have borne five or more children. The author does not believe that the generative functions have a direct influence on the production of carcinoma. Indirectly, the ignorance of hygiene of the puerperium and neglect of inflammatory uterine affections among the poorer classes, may influence the development of the malignant growth.—*La Tribuna Medica.*

Minute Foreign Bodies Superficially Wounding the Eye.—A. C. Corr emphasizes the statement that these superficial wounding particles (bits of steel, iron, cinders, rock, wood, sand, etc.) are often very hard to locate. He gives minute directions for the search which should be initiated by copiously washing out the cul-de-sac with collyria (boric acid, 15 gr. to the ounce, or tepid salt solution). Cocaine should then be instilled, the cul-de-sac above and below well turned out and inspected closely. The offending particle may be found sticking in the cornea, when the spud, or needle, or other sharp-pointed instrument, will have to be used. In the case of a piece of steel, the point of a clean magnet may possibly be successfully applied while the particle is being removed, the eye should be well irrigated with the syringeful of collyria; if the particle has been imbedded for some time, and especially if there is the least infiltration around it, the curette should be used, and a small amount of yellow oxide ointment (1 gr. to the drachm) carefully rubbed into it. Minute corneal wounds open the way for a variety of infections, hence the necessity for treating them with antiseptic precautions. —*The Medical Fortnightly.*

Cæsarean Section.—C. Everke, who has performed the operation sixty-four times with great success, urges its more frequent employment in routine practice. Perforation of the living child ought no longer to be performed. Under modern conditions, some institution where a section can safely be done is nearly always accessible, and the chances of the operation for the mother are as favorable as those of perforation, and the after-effects (peritoneal tears, fistulæ, etc.) much less to be feared. Antecedent examinations are not a contraindication, for energetic disinfection removes most of the germs, and vaginal injuries offer more chance of infection than does the laparotomy. The long median incision is to be preferred, while, to prevent hemorrhage and uterine atony, it is advisable to wait for the advent of labor pains before operating. Even in the most serious cases of eclampsia, mother and child may be saved by cæsarean section.—*Monatsschrift fur Geburtshülfe und Gynækologie.*

The Treatment of Ecchinococcus Cysts of the Liver by the Baccelli Method.—A. Claps reports the case of a girl of eleven years, in which a diagnosis was made of ecchinococcus cysts of the liver. For four consecutive days aspiration was practised, fluid was removed, and washings were made with a 1 to 1000 solution of bichloride and a 1 to 100 salt solution. On the fourth day, the fluid was perfectly clear, and the operations were brought to an end. In all, 1000 grams of liquid were removed, the immense swelling of the epigastric region disappeared, and the volume of the liver was reduced. The patient made an excellent recovery, and a month later was found to be in good condition, well nourished, light hearted, and active.—*Giornale Medico del Regio Esercito.*

Notes on the Use of Tuberculin as an Aid to Surgical Diagnosis.—J. M. Elder concludes that tuberculin is valuable as a diagnostic aid in suspected lesions of glands, synovial sacs, and bones. In tuberculous peritonitis, in two cases tried, it gave no reaction. Its use was followed by no particular untoward symptoms, either local or constitutional. The reaction, as shown by rapid increase in temperature, varies in time, appears early in acute cases where the lesions are extensive, and should be looked for even as late as the end of thirty-six hours. The reaction does not appear to be constant, even when tuberculosis is undoubtedly present, but contra, in no case did the author obtain any reaction when tuberculosis, so far as could be determined otherwise, was not present.—*The Montreal Medical Journal.*

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THE INFLUENCE OF MALARIAL INFECTION UPON CARCINOMA.

IN a short article by F. Loeffler, in *Deutsche medicinische Wochenschrift*, October 17, 1901, there is a discussion of considerable importance in connection with the pathology and possible treatment of carcinoma. The point involved is the effect of malarial infection upon the growth of the malignant neoplasm which we call carcinoma. It is very interesting to note that as early as 1775, a Polish observer, Truka de Krzowitz, wrote upon a case of mammary tumor, which is said to have disappeared under his observation some weeks after the supervention of a form of malarial fever. Although the growth in this case is said to have been cancer, modern observers would probably not accept this experience as very valuable, since the pathological data are necessarily defective, according to present-day ideas. However, it opens a line of investigation which is decidedly worth following.

Loeffler calls attention to certain facts which it is well to mention before discussing possibilities. It is hardly necessary to say that malaria is most frequent and most severe in the tropics, and that its frequency and severity diminish, in general, as we move away from the equator. It is also claimed, and the claim is believed to rest on sound statistical evidence, that carcinoma is practically unknown among the inhabitants of tropical regions, but that it increases in proportion as the temperate regions of the earth are reached. These facts may be admitted at once without conceding that there is an interdependent relation between absence of malaria and frequency of carcinoma, since it is the temperate regions which contain the largest proportion of human beings, and also the largest proportion of those who are designated civilized, upon whom all the other alleged causative factors of carcinoma are continuously at work. Mode of life in the tropics is so different from what it is in the temperate zones that much direct evidence would be required to show that malaria either prevented carcinoma or interfered with its cellular metabolism, and we might have to admit, after all, that the evidence collected supported the theory that carcinoma is a disease due to some deleterious effect of modern civilization and mode of life upon the most vital activities of epithelial growth and development. In this connection, what is most needed is a collection of trustworthy clinical observations, and physicians who live in the tropics and sub-tropics are those who can most rapidly accumulate experiences from which to support theories.

The action of the micrococcus of erysipelas upon some forms of sarcoma is analogous to the effect which malarial infection is said to have upon carcinoma by those who are willing to concede a certain amount of reason to the theory which we are considering, but in experimenting with erysipelas, the danger of serious or fatal consequences from the inoculation is always present, and has to a great extent discouraged experiment. In those cases of sarcoma in which erysipelatous inoculation has seemed to have caused disintegration and disappearance of the growth—and there are some such cases—the action is brought about by certain toxins, elaborated by the vital processes of the infecting bacteria, and by them sent into the circulating fluids of the inoculated individual. These substances then exert an unfavorable action upon the perverted cellular growth of the neoplasm, and eventually cause it to break down and undergo absorption. Of course, the nature of the malarial organism is different from any form of bacterial life, but it is reasonable to infer that whatever special action it has upon normal or perverted cell growth is brought about, not by the organism itself, but by the toxic substances to which its vital processes give rise. Indeed, the effect of malarial toxæmia upon the cells of the liver and kidneys is so well known as scarcely to need comment. Why the toxins of malaria should show a predilection for attacking the neoplastic cells of a carcinomatous growth, or why such cells should be specially influenced, we are unable to say; but we know in a general way that, although these cells show great activity and power of proliferation, their power of resistance is, under some circumstances, small, for many specimens of carcinoma show extensive and disseminated areas of cellular degeneration upon microscopic examination. It is not improbable that there is no specific action of the malarial toxins upon the carcinoma cells, and that any effect upon them is due to their inability in a marked degree to resist unfavorable influences.

We must look to experimental research to throw light upon this interesting and important question, so that we may, if possible, have some means of treating the most dreaded of all diseases, other than what is offered by early diagnosis and radical surgical operation. Gerhard and many Italian observers have shown that it is possible to inoculate a healthy individual with malaria from the blood of one who has malaria, and having quinine in our possession, we need not fear that this disease will become uncontrollable. Nothing but experimental observation and study of the life activities of the plasmodium can ever give us the knowledge of how to pursue such inoculation experiments rationally, accurately, and with a reasonable prospect of uniform results; but we need not fear that we shall lack subjects for experiment, for there are very few victims of carcinoma who would refuse to risk a malarial infection, if any prospect of benefit could be held out to them. To prove anything, a large number of observations would have to be made, and the statistics of neoplasms of all kinds from notoriously malarial regions, especially those in the more temperate parts of the earth, would have to be collected. A series of inoculation experiments with the blood-serum of a victim of malaria upon a patient with carcinoma would be interesting and might lead to valuable results.

TYPHOID FEVER AMONG SOLDIERS.

A BOOK recently published by Dr. Leigh Canney, entitled "Typhoid, the Destroyer of Armies, and Its Abolition," has been the occasion of no small amount of discussion. There are several reasons for the extreme interest which has been taken in the book, not the least being that it is exceedingly well written, and that although the writer's views as to the causes of the disease differ in degree from those of most authorities, he nevertheless suggests means apparently practicable for preventing its outbreak and for checking its spread.

Enteric fever in all the wars ever waged has probably killed more men than sword or bullet, and any measures whereby its ravages might be appreciably controlled would be gladly welcomed.

Dr. Canney is a firm believer in the theory that polluted water is the predominant cause of typhoid fever; in fact, he goes so far as to attribute but little weight to the opinion of those observers who hold that there are other vehicles of infection which, in the origin and spread of the disease, must be taken into account. He looks upon the matter as simply a question of pure or impure water.

It has been remarked many times in the RECORD that while fully agreeing with the majority of investigators, that water is the chief agent in the causation and dissemination of typhoid, yet there are strong reasons to believe that flies and dust play an important rôle in spreading infection. The results of the enquiries made in the military camps of this country, during the Spanish-American War, by Dr. Victor Vaughan and others, and embodied in their report, as well as the outcome of investigations carried on in South Africa and elsewhere, leave little room for doubt that such is the case.

However, it is certain that the assuring of an uncontaminated water supply would lessen, to a most remarkable extent, the danger to soldiers in the field of becoming infected with the poison of typhoid.

Thus recommendations tending to effect this object, and which seem to promise any hope of success, should be received with gratitude, and discussed thoroughly by practical men before being rejected as chimerical or Utopian.

Dr. Canney suggests that, in order to ensure a pure water supply for soldiers on the march, a "water corps" should be formed, with duties somewhat as follows: Two men of this corps would be attached to every unit of 100 men, and in charge of a mule able to carry two appliances for boiling water, with apparatus for cooling, petroleum for fuel, the allowance for each man to be, if required, as much as four pints a day; the water-mules to take precedence of all transport except ammunition, while the troops would be instructed to drink no water that had not been boiled.

Difficulties undoubtedly there are in the way of bringing such a scheme to successful issue, but at the same time it would appear to possess numerous good points. Any plan—not wholly impracticable—which will tend to decrease the fearful scourge of typhoid fever among troops on the march is at least worthy of consideration.

Dr. Smith Ely Jelliffe has been appointed visiting neurologist to the City (Charity) Hospital, N. Y.

COMMERCIALISM IN THE MEDICAL PROFESSION.

THE charge has been frequently brought, of late, against the profession that it is becoming to some extent, imbued with a too great love of money-making, and that business instincts are overcoming the honorable traditions, with regard to the practice of medicine, handed down by physicians of the past. Doctors have ever borne the name of being among the most charitable and self-abnegating of men, whose integrity has been beyond cavil. Of course, there have been black sheep within their ranks, but, taken as a class, the dignity of the calling has been splendidly upheld.

Therefore, when from many quarters it is proclaimed that some are deviating from the line of conduct enjoined upon them by their forerunners, both by example and precept, it would seem that a slur, unmerited or otherwise, has been cast upon the entire medical profession.

Dr. John R. Roberts read before the Philadelphia County Medical Society recently a paper which is the most severe indictment yet made of certain of the present-day methods which obtain in the practice of medicine. He lays bare the various means adopted by tradesmen to undermine the principles of the doctor, he inveighs against the advertising dodges of all sorts and kinds which are made use of to lure him from the paths of virtue, and he breaks a lance with the life insurance companies, and asserts that they have a code quite unlike that which the true profession believes to be honorable. In fact, Dr. Roberts makes war upon all practices which he deems unworthy or detrimental to the best interests and honor of the medical profession.

Especially is he severe on the custom—said to have developed of late—of dividing fees, and declares that a large number of consultants are sadly lacking the milk of human kindness.

He is of the opinion that the triumphs of modern medicine and surgery have turned the heads of some practitioners, and that charges have been so large in certain instances as to be properly dubbed extortionate.

Much of this is undoubtedly true, and it may be that the medical profession has grown somewhat lax, as regards strictly ethical conduct. Many things done by some medical men nowadays are greatly to be reprobated, and perhaps a belief in the "omnipotency of gold" has debauched the professional spirit of these times; but, on the other hand, as Dr. Roberts himself allows, possibly "the doctors only breathe the same air and react to the same environment as their business associates."

While it does no good to play the part of a Don Quixote, and to tilt against windmills, yet it is only right and proper to protest vigorously against the infringement of those laws, written and unwritten, which have for so long regulated the conduct of the medical profession.

This is a matter which intimately concerns doctors, both individually and collectively, and it must be left to them and their governing bodies to sweep away abuses, and to keep the profession as free as is possible from this subtle, dangerous, and pervasive taint of commercialism.

CAMPAIGN AGAINST MOSQUITOS IN WEST AFRICA.

A very vigorous campaign—undertaken at the initiative of Major Ronald Ross and under the auspices of the Liverpool Tropical School of Medicine—is being waged against the pestilent mosquito in West Africa. The work was begun under the immediate supervision of Major Ross, who has now returned to England, and is being conducted at the present time by able lieutenants.

On October 21, Major Ross gave a lecture in Liverpool, in which he told of some of the steps being taken to relieve, as far as is possible, the West Coast from the menace and discomfort of the malaria-bearing mosquito. It seems that the British Governors and officials generally, in that part of the world, are loyally co-operating to render this experiment a success; and every known means is being brought into play for the extirpation of the pernicious insect. The breeding pools when found are drained, and larvæ destroyed by oil. Quinine is also universally used, the white population segregated, and entrances and windows of houses protected by wire-gauze screens. It is interesting to notice that, contrary to common report, Major Ross declares that he does not believe it possible entirely to eradicate mosquitos, but thinks it quite feasible greatly to reduce their numbers in towns by abolishing their breeding places. If this much can be accomplished, the life of Europeans who live in tropical countries where mosquitos abound will be rendered more endurable.

Yellow Fever Stamped Out in Havana.

A report from Major W. C. Gorgas, Surgeon United States Army, chief sanitary officer of Havana, just received by Surgeon-General Sternberg, shows a great improvement in the sanitary condition of that city. This is particularly noticeable with reference to yellow fever, not a case of which occurred in Havana during the month of October, usually the period of the greatest prevalence of the disease. For the past ten years the average number of deaths in Havana from yellow fever during the month of October was 66.27. In October of 1896 there were 240 deaths from this disease, and 25 in 1899, the lowest previous rate in the past decade. In October, 1900, there were 308 cases, with 74 deaths. During the same month of the present year there were no cases of yellow fever and no deaths from this cause.

In his report Major Gorgas says: "The great truth that yellow fever is transmitted by the stegomyia mosquito, maintained by Dr. Charles Finlay against much ridicule for so many years and recently demonstrated by the army board, must soon change our methods of quarantine in the United States. In Havana, this year, we have worked upon the hypothesis that the mosquito is the only way of transmitting the disease. We have not considered fomites in any way. Clothing has not been disinfected, nor any effort made except to kill the mosquitos which had bitten a sick person and to prevent any more mosquitos from biting, after the case was discovered. Our results with this plan were so positive that we soon saw that we could not only rid Havana of yellow fever on these lines, but that we could destroy each focus as it was removed from the outside. . . .

The practical application of this great truth, made in Havana this year, will, within a few years, it seems to me, be carried out by our Southern cities liable to yellow fever. It seems to me that if, in Havana, where yellow fever has been epidemic for 150 years, and where at present there is a non-immune population of something like 40,000 people, we cannot only get rid of yellow fever, but have free communication with half a dozen infected towns in our neighborhood, and yet prevent the introduction of the disease, then all our Southern cities ought more easily to do the same thing.

"The general health of the city is most excellent, better than that of any past October, and compares favorably with healthy cities of civilized communities. The death rate from month to month shows steady improvement, indicating generally improved conditions."

Mortality in the Concentration Camps of South Africa.

The death rate of these camps has given rise to somewhat harsh criticism of the policy of the British Government in establishing the same, and of its assumed neglect in not keeping them in a good sanitary condition. The mortality is stated to be excessively high; indeed, among children, if accounts be true, appalling.

The *London Daily News*, a journal of pro-Boer sympathies, gives a most ghastly description of the state of the camps, and the British public seem inclined to take up the matter and to insist upon a thorough investigation.

Manifestly, the question as to how to dispose of the Boer women and children, during the progress of the war, is a most difficult one for the British authorities successfully to solve; but certainly every effort should be made to render these camps as healthful places of abode as circumstances will allow.

The Albany Filtration Plant and the Death Rate.

There are in this country many prominent examples of the good effects following the installation of filtration plants, and the consequent purifying of the water supply, none of which can show better results than that at Albany.

Wherever the slow sand filtration of water has been adopted, the mortality from typhoid fever has been greatly reduced, in some instances to an almost incredible degree. Mechanical filters are cheaper as to cost, but so far as public health is concerned, there is no comparison between the two methods.

In Lawrence, Mass., before filtration was established, the average number of deaths from typhoid fever was 52 per annum; after filtration, 13.8 per annum, a reduction of 75 per cent. In Ashland, Wis., before filtration, average number of deaths from typhoid fever was 39 per annum; after filtration, 4.5, a reduction of 88.5 per cent.

In Macon, Ga., before mechanical filters were established, deaths from typhoid fever totaled 10.5 per annum; after filtration, 7 per annum, a reduction of 33 per cent. In Oakland, California, before mechanical filtration, deaths from typhoid, 19; after filtration, 17, a reduction of 11 per cent.

A comparison of the average number of deaths per year in Albany for the year 1900 with that of the average for the decade previous to the installation of the sand-filtration plant yields the following results: The average number of deaths for the ten years immediately preceding 1900 had been 2,186 per year; the number of deaths for the year 1900, during which filtration was in operation, was 1,742, a decrease of 444 deaths.

The year 1900 was distinguished throughout New York State by the high mortality rate, so that the figures from Albany have a special significance.

Regarded from the point of view of typhoid fever

alone, the Albany plant has shown itself a most important factor in the decrease of that disease. The deaths from typhoid fever per year for the decade up to the installation of the filtration plant had been 84, while in 1900 the number of deaths from the same cause amounted to but 39.

Sand filtration in every city or town in which it has been given a trial has largely reduced mortality, and the method is undoubtedly the greatest safeguard against typhoid fever that has been introduced.

The citizens of New York would appreciate the establishment of a system which has plainly demonstrated its efficiency in practically banishing the scourge of typhoid fever.

The Modern Corset and Visceral Ptosis.

Grave charges have been on several occasions brought against the corset as being the cause of much discomfort, and not infrequently of serious complaints, among the female sex.

Dr. Agnes Victor, assistant surgeon to the New England Hospital, Boston, has recently advanced yet another indictment against the modern corset, and asserts that it is an important factor in visceral ptosis.

Dr. Victor supports her contention with numerous instances drawn from her own experience, and proves, in a more or less convincing manner, that the modern corset is really often mainly responsible for the condition referred to in women.

There is no doubt that a tightly laced, ill-fitting corset, although it may have the desired effect of shaping the female frame in consonance with the prevailing fashion, is ofttimes not only an instrument of torture, but the *fons et origo* of many dire diseases.

Dr. Victor would seem to favor what is known as rational dress for women, and advises a corset for visceral support constructed as follows: "A straight front made of several sections, running from below obliquely upward and backward; hip gores; back gores; fit the abdomen first, and from below upward; then fit the chest; leave the waist in its place. Especially should patients be warned that it is not enough to have a straight front; they must also have room in the back for an oblique pelvis." Dr. Victor is an advocate for a radical change in the mode of women's dress, and believes with Abernethy that the less lacing the better will it be for the health of the weaker sex.

This is doubtless the correct attitude with regard to the question; but it is to be feared that the time is not yet ripe for so revolutionary an alteration in woman's dress as suggested by Dr. Victor. Fashion still exercises such a potent sway over the minds of the majority of women that they will undergo manifold discomforts and injuries rather than look dowdy or unstylish.

Rats and the Plague.

From the time when plague was first known, rats have been thought to be intimately connected with the disease, and to be one of the most fruitful means of dissemination. Latterly, this belief has become so strong that it would seem to have almost passed from the region of conjecture to that of established fact. That rats suffer from plague has been verified with certainty, although the exact connection between the malady as affecting man and as affecting rats has not been determined.

Major Deane, R.A.M.C., special plague medical officer, Calcutta, according to the *Indian Medical Gazette*, in a report recently made by him, has absolutely denied that rat plague can be transmitted to man, and says that "rats have practically no concern with plague."

With all due respect to Major Deane's experience and knowledge, the history of former epidemics of plague is altogether against this view of the case. It must be something more than a coincidence that, in nearly every outbreak of plague among men, there has been beforehand either an epidemic among rats, or the disease in both species has been discovered at the same time.

True, clear evidence is lacking to show that rat and human plagues are intercommunicable, the most plausible theory in favor of this supposition being that the flea acts as intermediary, advanced by Simond and supported by Ashburton Thompson and others. Major Deane's attempted refutation of the long-held belief that rats play a part in the propagation and spread of plague is original, but he must adduce further and more convincing proofs before his statement will be generally accepted.

Sumptuary Legislation Again.

Elated by the success which, during the last session of Congress, attended their efforts to legislate out of existence the army canteen, an institution created for the temperance, discipline, and comfort of the soldier, the prohibitionist element now proposes to go still further and make it a military offence for the soldier to indulge in a glass of wine or beer, or to refuse to partake of the literary pabulum which these gentlemen propose shall be furnished to the army. A draft of a proposed law to this end, having the endorsement, among others, of President Jordan of Stanford University, is now being circulated among Congressmen by the Anti-saloon League of Berkeley, Cal.

The draft of the proposed measure is as follows:

"An act prohibiting the use of intoxicating liquors and opium in the military service, and providing libraries, reading-rooms, and schools for the military and naval forces of the United States.

"*Section One.* No person who is addicted to the use of intoxicating liquors or opium shall be enlisted into the military service of the United States.

"*Section Two.* No person during the term of his enlistment in the military service of the United States shall use intoxicating liquors or opium except upon the prescription of a physician or surgeon.

"*Section Three.* Libraries, reading-rooms, and schools for enlisted men, with compulsory attendance thereto, shall be established throughout the army and navy of the United States.

"*Section Four.* The secretaries of war and navy are hereby directed to carry the provisions of this law into full force and effect."

The provisions of this bill illustrate the intolerance of the sentimentalists through whose efforts the army canteen was abolished, and at the same time show their complete ignorance of the military matters upon which they presume to pass judgment.

The requirement laid down in Section One is totally unnecessary, as War Department instructions have for many years expressly forbidden the enlistment of the class of persons mentioned therein, recruiting officers being cautioned to use due diligence in this respect. With respect to Section Three, libraries and reading-rooms have long existed in army posts, and are patronized freely by the men, all of whom, on enlistment, are required to be able to read and write the English language with ease and clearness. As to Section Two, to make the drinking of a glass of beer a punishable offence is an insult to the intelligence and character of the soldier, who, like any other citizen, has his rights and does not desire or need to be made the victim of sumptuary laws devised by a handful of irresponsible and

unreasoning zealots. Such bills as the one above mentioned excite the surprise, contempt, and disgust of the fair-minded and do much to bring the whole question of temperance into disrepute.

Institute of Medical Research Founded on the Malay Peninsula.

Circulars recently sent out by the British Resident General at Selangor, Federated Malay States, calls attention to the institute for medical research recently established by the government of those states. The institute is situated in Kuala Lumpur, the capital of the Federated Malay States, and is open to all workers irrespective of nationality. The medical department is stated to be fully equipped for special and general pathological work, for the scientific study of clinical medicine, experimental physiology and bacteriology. A modern mortuary with a refrigerator chamber is a feature of this department. A department of chemistry is equipped for both organic and inorganic research. There is, in addition, a well-equipped photographic department, facilities for biological research, and a good working library.

The circular states that the institute and its resources are open to all, irrespective of nationality, under the conditions that usually obtain in such establishments. To the members of scientific commissions who visit the Malay Peninsula and neighboring islands, the institute affords excellent facilities for working up and preparing collected material. To students of tropical medicine the field for work is large. Beriberi, especially, exists under unique conditions. Malaria is found in at least four distinct types. The institute is at present under the direction of Hamilton Wright, M.D., a graduate of McGill University, Canada, and any communications addressed to him with reference to the Institute will be welcome.

The Decreased Birth Rate in France.

The gradual but steady and progressive decline in the population of France has long excited feelings of distrust and concern among all thoughtful people. Not only is the birthrate smaller than in almost any European land, but the infant mortality is also extremely high. This state of affairs has been recently recognized by the government as one to which attention must be paid, and steps be taken to provide, if possible, remedies to combat the evil. According to the New York *Sun*, November 24, a debate on the subject took place in the Senate on November 23, when the Premier, M. Waldeck-Rousseau, accepted in the name of the government a proposal for the nomination of an extra parliamentary commission, to seek means of increasing the birth rate and diminishing mortality.

That France has failed to keep pace in point of population with the other large nations of Europe will be clearly evident when it is stated that, at the commencement of the nineteenth century, France had 26,000,000 inhabitants, Germany 15,000,000 inhabitants, and England 12,000,000 inhabitants. Now France has 38,000,000 inhabitants, Germany 56,000,000, and England 41,000,000.

The remedies recommended by one Senator were the adoption of fiscal measures in favor of large families, and, above all, of legislation to check the terrible mortality among infants.

The high death rate among infants is largely attributed to the pernicious habit of baby farming which prevails among the rich and upper middle classes of France, while probably one of the causes of the low birth rate is the fact that a large number of the French people are too penurious to desire the expense of raising a large family. France, however, has now come to the conclusion that such a system is in the long run one of false economy.

Compliment to the Medical Department of the Army.

A report has just been received at the War Department from Capt. J. S. Kulp, assistant surgeon, U. S. A., in regard to the hospital and sanitary service of the British Army, and his conclusions are flattering in regard not only to our own medical department, but to the American soldier. On the whole, he thinks that the Medical Department of the United States Army has little to learn from Great Britain. He says that the British recruits compare unfavorably with our own, largely due to the poor pay of the British private, about 28 cents a day, which keeps them in a condition of practical poverty. He says: "The undersized, underfed and undeveloped boys one sees in the English ranks or invalided from South Africa are not at all representative of the sturdy English race. Our own recruits, even among our volunteers, are mentally as well as physically superior to them, and our instruction very properly begins at a more advanced point. In concluding his report, Capt. Kulp says: "South Africa has taught England what it is hoped we have learned during our late war, namely, the value of an organized medical department possessing real authority in relation to all subjects affecting the health of troops."

Wound of the Heart—Recovery After Suture.

Watten, in *Deutsche med. Wochensch.*, September 12, 1901, adds to those already reported a case of stab-wound of the heart and pleura which was operated upon. A thoraco-plastic operation was done, and the wound in the right heart closed with two sutures after some difficulty. A point of interest is that the operator was compelled to introduce his hand into the pericardial sac behind the heart and thus to steady it while the sutures were being introduced and tied. It is said that the heart's action became much less tumultuous and of a better character as soon as the wound in it was closed. The pneumothorax disappeared after a time, and the patient made a complete recovery. The case well illustrates how much handling the heart will endure and still do its work. All the wounds in skin, pericardium, and pleura were closed practically, completely, a method of handling which seems to be necessary in cases of this kind. Asepsis is, of course, of pre-eminent importance.

What Overwork Means.

Professor Huxley gave his opinion in 1893 that what is called overwork means, in a large proportion of cases, under-oxygenation, and consequent accumulation of waste matter, which operates as a poison. Sir J. Sawyer Birmingham, in corroboration of this opinion, urges that much chronic invalidism is chronic suboxidation, and one of the worst of wrong conditions is work in stale air. Whenever we doubt about our vitality, we should doubt about our ventilation. Dr. Cheadle reminds us that one-third of our lives is spent in our bedrooms, of which the air is poisoned, beyond what would be tolerated in a sitting room. It is well conceded that many of the cases of nervous disease, and especially the various forms of neurasthenia, depend largely upon want of open-air exercise.

News of the Week.

A Very Willing Witness.—A man who represents himself to be from some "Press Association" is now calling on physicians claiming to have some information concerning the practice of "Osteopathy" which would be of the greatest value to the medical profession. He, of course, designates the practice as a gigantic fraud and an imposition, and a menace to the public health. He offers to sell this evidence, and, failing in this, wishes moral support in his self-imposed missionary work. He asks for signatures to a petition of some kind, and solicits subscriptions, using the names of different prominent men, that of Dr. Van Fleet among the rest. Physicians should be careful in signing any petitions which he may present, or in making subscriptions until they are certain the cause is a worthy one, and the person representing it is authorized by some organization or person other than himself to represent it.

Barring Out Consumptive Immigrants.—The case of the man, Thomas Boden, whom the United States Treasury officials ordered to be taken back to Ireland, because he had tuberculosis, which they held to be a "loathesome or dangerous disease," and consequently a bar to his admission to this country, was passed upon last week in Brooklyn. Judge Edward B. Thomas decided in favor of the ruling of the Treasury Department, and unless the case is appealed, the man will be deported on Saturday. His wife and child will return with him. He arrived here on November 9. Physicians examined him on his arrival, and when they reached the decision that he was suffering from tuberculosis, he was sent as a temporary patient to the Long Island College Hospital. The Treasury Department, on special appeal, ordered another examination, and the original diagnosis was confirmed. It was then ordered that he be deported, but relatives took the case to the United States Court for decision.

Naval Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the Navy for week ending November 30, 1901. November 22—Asst. Surgeon J. J. Snyder, ordered home and granted three months sick leave. Asst. Surgeon Edgar Thompson, detached from the Naval Hospital, Chelsea, Mass., and to duty at the Charleston Exposition in charge of the exhibit of the Medical Department of the Navy, and in attendance on the Marine Guard, and the Marine Recruiting Rendezvous. Medical Director R. C. Persons, commissioned Medical Director from November 3, 1901. Medical Inspector E. H. Green, commissioned Medical Inspector from November 3, 1901. November 25—Surgeon N. H. Drake, detached from duty as member of the Medical Examining Board, Naval Laboratory, New York, and ordered home to wait orders. Surgeon A. C. H. Russell, ordered to duty as member of the Medical Examining Board, Naval Laboratory, New York, December 4. November 26—Asst. Surgeon D. G. Beebe, resignation accepted to take effect November 30, 1901. November 27—Asst. Surgeon Edgar Thompson, commissioned a P. A. Surgeon from April 19, 1901. Dr. J. B. Buchanan, appointed an Assistant Surgeon in the Navy from November 23, 1901.

The Cause of the St. Louis Tetanus Outbreak.—The commission appointed to investigate the cases of tetanus following the administration of diphtheria antitoxin in St. Louis has concluded its labors and made a report, which is published in the *St. Louis Medical Review* of November 23, 1901. The members of the commission were Drs. B. Meade Bolton, C. Fisch, and E. C. Walden, and their report is a very serious arraignment of the methods of the city Health Department by which the poisonous antitoxin was prepared.

The following are the conclusions of the report:

"As a result of our investigations we draw the following conclusions: The diphtheria antitoxin prepared by the Health Department of the City of St. Louis, and dated September 30, and some of the serum dated August 24, was the cause of the recent deaths from tetanus in the cases where this tetanus was used. This antitoxin was sterile, but contained the toxin of the tetanus bacillus in considerable amount.

"There were two different sera issued under the date of August 24. One portion not containing the tetanus toxin and characterized by other properties, while the other contained the tetanus and was identical with the serum bearing the date of September 30.

"The most important result we have arrived at is the positive demonstration that the toxic serum dated August 24 and that dated September 30 are identical. From this we conclude that the serum of September 30 was issued without having been tested by the proper methods, and that a part of it was filled into bottles bearing the date of August 24, and were furnished with labels having previously been stamped with this date. We are justified in drawing this conclusion from two observations. First, that the serum of September 30 was issued before there was time to have performed the simple tests necessary to determine the antitoxic potency of the serum. Second, in the same way, serum, dated October 23, came into our possession on November 1. This serum had been issued to physicians by the Health Department, and by them returned to the coroner. It is obvious from this that no animal experiments could have been made with this antitoxin. As this was the case with the serum of October 23, it is the natural inference that the serum of September 30 was issued in the same way.

"We must deny any possibility of latent tetanus having existed in the horse 'Jim' from August 24 to September 30, as no well-authenticated cases have been reported in which the incubation period extended over seven days, in experiments directed to test this point. The period of incubation cannot be determined from clinical observation, from the nature of the case. It therefore follows from this that the serum drawn on August 24 was free from tetanus, but that the serum of September 30 was drawn during the period of incubation, and had it been tested upon animals it must necessarily have revealed its toxic properties.

"From the foregoing facts we are forced to conclude that the diphtheria antitoxin prepared by the city Health Department has been issued before it was possible to have obtained results from the absolutely necessary tests. Had these tests been performed, the results upon animals would have been such that the serum would not have been dispensed, and the cases of tetanus forming the basis of this report could not have resulted."

The Death of Sir William MacCormac of London.—Sir William MacCormac, Bart., President of the Royal College of Surgeons, died suddenly on Wednesday, December 4, of heart disease, at Bath, England, aged sixty-five years. This sad announcement reaches us by cable as we go to press.

The Reappointment of William K. Van Reypen, Surgeon-General of the Navy.—President Roosevelt has decided to reappoint Rear Admiral Van Reypen upon the expiration of his present term on December 18, giving him the benefit of his age limit, and thus postponing for the time being the promotion of Medical Inspector P. M. Rixey, the physician of Mrs. McKinley.

Tuberculosis in Cleveland.—An investigation into the health conditions of the city, recently conducted by the public authorities of Cleveland, Ohio, has excited some alarm, and has led to a determination to enforce more strictly the existing ordinance prohibiting expectoration in the street cars. This investigation revealed the fact that tuberculosis prevails to an unusual extent, about one in every fifty of the inhabitants being a sufferer from that disease.

Smallpox in London.—The present outbreak of variola in London, which began six months ago, is credited up to the first of December with 349 cases and 116 deaths. The mortality among the unvaccinated has been 60 per cent., but among those whose arms showed one or more vaccination scars, the mortality was but 20 per cent. The number of cases is steadily increasing, and the authorities appear to have little hope of repressing the outbreak until the winter is past.

Surgical Work of the Army Medical Department in the Philippines.—Recent reports received at Washington give an excellent idea of the character and magnitude of the surgical work being performed by army medical officers in the Philippines. For instance, at the First Reserve Hospital, in Manila, from July 1, 1901, until the date the report was mailed, there had been performed 120 major operations, besides many minor surgical operations, without a death. This record includes 16 operations for appendicitis, 3 for large aneurysms, 8 for large liver abscesses, and 24 for the radical cure of hernia. As good surgical results are being obtained in the army service in the Philippines as in the most modern civil hospitals in the United States, while the experience with certain classes of cases which can be obtained in the larger army hospitals is greater than that afforded by even the largest civil institutions in this country.

Twenty-four Hundred Hospital Corps Men are soon to be discharged from among those serving in the Philippines by reason of expiration of enlistment. To meet this contingency, General Chaffee has asked that 300 Hospital Corps men be sent from the United States to the Philippines in December, and that 110 be sent monthly, for a period of six months, after the embarkation of the first detachment. No difficulty is anticipated by the Medical Department of the Army in filling this requisition, even though it is of unusual size.

To Prevent Tuberculosis Among Troops in the Philippines. An order has recently been issued from headquarters of the division of the Philippines prohibiting spitting on the floors or walls of officers, barracks, and other buildings under control of the military authorities. Infringement of this rule thus becomes a military offence and punishable as such. This action was taken upon the recommendation of the Chief Surgeon of the division, that officer declaring that tuberculosis is both a contagious and an infectious disease.

Clinical Lectures in Orthopedic Surgery.—It is announced that Dr. Russell A. Hibbs will give a course of lectures on orthopedic surgery at the New York Orthopedic Dispensary and Hospital, on Monday and Thursday afternoons of each week during December. The course is free to students and practitioners of medicine.

An International Federation of Nurses.—At a dinner given recently in London to the returned delegates to the Nurses' Congress held in the autumn in Buffalo, a proposal was made for the foundation of a confederation of British and American nurses.

Cause of the Tetanus Outbreak in Camden.—The Board of Health of Camden, N. J., has published a report of the investigation made to determine the cause of the tetanus which followed vaccination in several instances. According to this report, the outbreak of tetanus is "to be explained by the atmospheric and telluric conditions which have prevailed in Camden during the past six weeks. There has been a long period of dry weather with high winds, so that tetanus germs, which have their normal habitat in the earth, dust, dirt of stables, etc., have been constantly distributed in the atmosphere. It is noticeable in all the cases, after careful examination as to the cause, that the wound had been exposed by the scab being knocked off or removed, or else the arm had been injured and infection resulted; frequently children scratched the vaccinated arm with their dirty finger nails and infected the wound. It is the unanimous opinion of the Board of Health, as well as of its committee of experts, that vaccination should be insisted upon by physicians as an absolutely safe procedure for the prevention of smallpox. Tetanus or any other infection can never occur if the vaccination is properly protected from contact with the atmosphere or with soiled clothing or bandages."

An Insurance Swindle.—A man who claims to be an agent of the Michigan Mutual Life Insurance Company of Detroit is traveling through West Virginia and Ohio, swindling physicians. His plan of operating is to call upon a physician and tender him an appointment as medical examiner for the company on condition that the victim takes out a policy of insurance for $1,000, or whatever sum may be desired. The agent takes part of the premium in advance, assuring the physician that the examination fees will more than cover all future premiums. That is the last heard of the agent or the application for insurance. It may be well for physicians to remember that insurance agents do not appoint the medical examiners, and any one offering that bait for an application, especially if he asks for payment of any portion of the premium in advance, is in all probability a fraud.

The Military Tract Medical Association of Illinois.—At the annual meeting of this society, held at Macomb, the following officers were elected to serve for the coming year: *President*, R. A. Kerr of Peoria; *First Vice-President*, G. E. Luster of Galesburg; *Second Vice-President*, J. E. Coleman of Canton; *Secretary and Treasurer*, C. B. Horrell of Galesburg.

The Southern Colorado Medical Association.—At the first annual meeting of this newly organized society, held at Cañon City, on November 12 and 13, the following officers were elected: *President*, William A. Campbell of Colorado Springs; *First Vice-President*, Robert J. Pease of Cañon City; *Second Vice-President*, Benjamin F. Cunningham of Cripple Creek; *Secretary*, Cyrus F. Taylor of Pueblo; *Treasurer*, J. A. Blunt of Pueblo.

The Plague.—A report is published to the effect that a St. Louis man has received a letter from a friend in Honolulu, in which it is asserted that plague is making headway in that place, seventy-three cases being known to the authorities at the time the letter was written. A detention camp has been established at Kalihi, which is guarded day and night by armed men. The Honolulu papers do not publish any particulars concerning the disease. The only sufferers at present, according to this report, are Japanese and Chinese, fourteen of the former and nine of the latter.

Suits Against the St. Louis Health Department.—It is stated that the parents of several of the children who died of tetanus following injections of contaminated diphtheria antitoxin have threatened to bring suit against the city for damages. The

coroner's verdict, in which the deaths were said to have been chargeable to the negligence of the Board of Health officials who manufactured the antitoxin, is made the basis for these suits.

Association of Military Surgeons.—Much interest is being shown by medical officers of the military service, and ex-medical officers of the volunteer forces, in the next Convention of the Association of Military Surgeons, which will be held in Washington, D. C., in June next. Since the recent adoption of a new and progressive policy, and particularly since its decision to publish an up-to-date journal devoted to matters of military medicine, surgery, and hygiene, the membership of the association has increased by more than one hundred, and applications for membership are being received at the rate of about twenty-five a month. The association is now on a sound basis as regards finances and membership, and enters on its future broader field of work in the improvement of conditions in the military and naval establishments of the National and State forces with the brightest prospects of success.

Study of Hygiene Recommended for West Point Cadets.—The Board of Visitors at the United States Military Academy, West Point, has recently expressed itself in its official report to the Secretary of War, with respect to the addition of the subject of military hygiene to the prescribed course of study, in the following language:

"The board feels that the time has come when those in charge of the academy should realize that there are other requisites to a well-rounded education, as applied to the soldier, than those that relate to mathematics and their application. There has been too great a tendency to cling to old educational traditions that have influenced, if not entirely shaped, the curriculum from the foundation of the academy, . . . while in the academy he should have time and opportunity for the study of . . . military hygiene."

Philadelphia County Medical Society.—At a stated meeting held November 27, Dr. Robert N. Willson, Jr., read a paper entitled "Tetanus Appearing in the Course of Vaccinia; Report of a Case." He presented evidence tending to show that in cases of tetanus complicating vaccination the condition was one of secondary infection due to carelessness in the management of the wound, and not related directly to the act of vaccination itself or to contamination of the virus. Dr. F. Savary Pearce read a paper entitled "Trophoneurosis Affecting the Hair: Photographs of a Case." The patient was a young woman of neurotic temperament in whom in the sequence of some emotional disturbance there occurred first alopecia, followed by partial whitening of the hair. Dr. Alfred Gordon read a paper entitled "The Effect of Nitroglycerin in Vascular Disturbances of some Functions of the Brain, with Reports of two Cases."

Philadelphia Neurological Society.—At a stated meeting, held November 26, Dr. F. X. Dercum exhibited "A Case of Hemilesion of the Cord, with Brown-Séquard Syndrome." The patient was a man suffering from syphilis, who presented paralysis of one lower extremity, with loss of painful and thermal sensibility and preservation of tactile sensibility in the opposite extremity.

Dr. John K. Mitchell presented "A Case Exhibiting the Results of Co-ordination Exercises." As a result of treatment, the patient regained considerable skill in walking. Dr. D. J. McCarthy presented "A Case of Postapoplectic Hypertonia." The patient was a woman in whom, without marked loss of motor-power upon one side, transitory tonic spasm occurred in certain of the muscles. Dr. Wm. G. Spiller exhibited "A Case of Brain Tumor" occurring in a woman presenting loss of power of gradual development, with coarse tremor, upon one side of the body, evidences of optic neuritis and exaggerated knee-jerks. Dr. C. L. Allen exhibited "An Unusual Tumor of the Brain," which macroscopically and microscopically presented the appearances of a cholesteatoma. Dr. Chas. W. Burr exhibited "A Case of Aphasia" occurring in a young man who had been a painter and had indulged in alcohol excessively. As a result of educational exercises, the man learned to speak. He used single words by preference, and principally nouns, and his language was disjointed. He could see and hear, and he learned to recognize letters and a few words under certain conditions. There was no motor disability. Dr. Wm. G. Spiller read a paper entitled "Remarks on the Tract Described by Me—the Direct Ventrolateral Pyramidal Tract." This is a tract that was discovered in the brain from a case of hemiplegia, and it had been traced from the medulla to the cervical cord. It has since been observed by other investigators. Dr. Spiller maintains that it is distinct from the tract of Helweg, but concerning its significance he had no information to give.

Jewish Hospital, Philadelphia.—Mr. Meyer Guggenheim of New York has proffered the Jewish Hospital of Philadelphia a gift of $60,000 for the erection of a building for the treatment of private patients, to be known as the "Meyer Guggenheim Private Hospital," and the income from which shall be devoted to the charitable work of the institute.

The Report of the Health Officer of the District of Columbia, for the year ending June 30th last, shows a considerable increase in the amount of work performed in the chemical laboratory of the Health Department over that of the previous year. In all, 1,206 samples of food were examined, of which number 776 samples were milk. Of the samples of milk, 15.1 per cent. of those secured from local city dealers were below standard, while of the county samples taken at the Baltimore and Potomac depot only 4 per cent. were below standard. Of the samples of cream shipped into the city, somewhat more than one-half were found to be below the legal standard. Samples of water were analyzed in 84 cases from private wells, and of these 37 wells were condemned as a result of the chemical analyses. Samples of water examined from dairy farms and dairies numbered 33, and of this number 14 were condemned. Samples taken from twelve public wells resulted in the closing of three of these wells. With respect to foods, a number of samples sold as lard were found to be mixtures of beef fat and cottonseed oil. Eight samples of vinegar were found to be imitations made from beech shavings, and a number of samples of cider were found to be preserved with salicylic acid. Samples of olive oil were frequently found to be cottonseed oil, and the butter of the cheaper groceries was often found to be oleomargarin. With respect to medicines, phenacetin was found to be frequently adulterated with acetanilid; while of a large number of samples of chlorinated lime examined, in not a single instance was the amount of chlorine present equal to that prescribed by the U. S. Pharmacopœia. The amount of available chlorine gas in the samples secured varied from 5 to 17.3 per cent. The increased work done in the chemical laboratory of the Board of Health has largely been due to an increase in the number of food inspectors recently authorized by Congress.

Naval Cruiser Condemned by Surgeons.—In the opinion of Naval Surgeons, the U. S. Cruiser *Albany*, now at Genoa, Italy, is unfit for human habitation. Surgeon Harris recently on duty on

this ship, in a report to the Surgeon-General of the Navy with regard to its condition, says that from a sanitary point of view the *Albany* is so radically wrong as regards construction that it is almost impossible to relate in detail the necessary changes which will have to be made before this ship will become a reasonably sanitary vessel. "It is impossible to overestimate the danger to the health of those who are berthed in the wing passages," says the report, "should the weather require the ship to be battened down for several days. With the temperature of 136 degrees Fahrenheit, it is obvious that people could not live in these places."

The *Albany* is a ship which was designed and partly constructed by English builders for the Brazilian Government, and which was acquired in an unfinished condition by the United States from the latter, as an emergency purchase, just before the declaration of war with Spain.

Commended for Bravery.—Private William R. Jones of the Hospital Corps of the Army was recently officially commended from the office of the Surgeon-General for energy and bravery exhibited by him in stopping the runaway team attached to an army ambulance conveying six insane soldiers to the Government Hospital for the Insane in Washington. Private Jones, by great strength and dexterity, succeeded in catching one of the horses by the bit and throwing both of the struggling animals to the ground, just as they were about to carry the occupants of the ambulance to almost certain death down the steep hill on the Capitol grounds.

Lance Acting Hospital Stewards.—A paragraph has been added to army regulations which authorizes the appointment of lance acting hospital stewards, in order that privates of this Hospital Corps may be better tested as to their fitness for promotion to the grade of non-commissioned officer. These appointments carry with them no extra pay and allowances, but the appointees are entitled to receive obedience and respect from privates in the performance of their duties. The surgeon-general and chief surgeon make these appointments; which remain in force for three months, but may be renewed for an additional period of three months. The lance acting hospital steward will wear the uniform of a private of the Hospital Corps, with the addition of a chevron having a single bar of braid.

Recent Deaths of Army Medical Officers in the Philippines include, during the past few weeks, the names of Dr. R. S. Griswold, major and surgeon, who was killed in action; Dr. J. C. Orr, captain and assistant surgeon, who died of dysentery; and G. S. Dean, contract surgeon, who succumbed to tuberculosis. The same reports brought news of the death of a hospital steward, from exhaustion, and of a private of the hospital corps, who died from sunstroke. An officer of the line who recently returned from the Philippines for treatment states that at the time he was a patient in a Manila hospital, six of the nine other occupants of his ward were medical officers, and of these six, four were suffering from wounds received in action. Facts of this sort furnish the best of evidence of the active work being done by the Medical Department of the Army in the field, and show that those attached to this department, though nominally non-combatants and under protection of neutrality, suffer at least their full proportion of wounds and casualties. If the history of the Medical Department of the Army and of the Hospital Corps for the period including the war with Spain, the Philippine insurrection, and the China expedition is ever written, it will be replete with instances of heroism, fortitude under difficulties, and self-sacrifice, which would have brought honors and preferment in any other branch of the military service.

The Cholera is still epidemic in Batavia, nearly six thousand deaths from this disease having been reported there during October and the first half of November.

Obituary Notes.—Dr. James S. Bibby died at his home in Paterson, N. J., on November 28, at the age of fifty-eight years. He was born in England and came to this country in 1869. Soon afterward he began the study of medicine and was graduated from Bellevue Hospital Medical College in this city in 1875. He settled in Paterson and rapidly built up a large practice.

Mrs. McNeal, a woman physician, and wife of a physician of Ann Arbor, Mich., was lost at sea by being washed overboard from the American Line steamer *Belgenland*, on November 24, as the vessel was passing the Nantucket lightship.

Dr. Henry C. Houghton, a prominent homœopathic physician of this city, died suddenly on December 1. He was a graduate of the New York University Medical College in 1867. At the time of his death he was Professor of Physiology in the New York Homœopathic Medical College and of the New York Medical College and Hospital for Women. He was Dean and Professor of Otology at the New York Ophthalmic Hospital. He was President of the New York State and New York County Homœopathic Medical Societies.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SMALLPOX — BIRTHDAY HONORS — HOSPITAL LEGACY — PRINCE'S FUND — PYLORIC CANCER — PROGNOSIS OF NERVOUS DISEASES — RESTAURANT KITCHENS.

London, November 15, 1901.

Smallpox is not abating. From twelve to fourteen new cases a day have been reported during the week. Yesterday there were sixteen. Comparison with the spread of the disease in the 1893-94 epidemic shows that the present is taking the same course—pressing in the most crowded parts.

Of course, overcrowding must facilitate distribution. In 1893-94, shelters for the homeless played an important part in spreading it.

The County Council has issued a return of all cases this year. Up to the 13th instant they numbered 673. Of these 574 were reported in the eleven weeks ending November 2.

Much grumbling at the Asylums Board has been heard. They were warned by the medical superintendents of the hospitals in January, 1899, to prepare for an outbreak, but did nothing until it was upon them; so now they have to push on the erection of temporary buildings at all cost.

There is too much divided authority for effective sanitary control. We commit the lodging houses to the County Council; vaccination to the boards of guardians; the removal of cases to borough councils, and the care of them, when they reach the hospitals, to the asylums board. But no one seems to be authorized to sequestrate contacts, and there are other points on which some legislation seems necessary.

Pity the poor anti-vacs. They had the annual meeting of the league on Wednesday, when thirty delegates assembled to hear the president, a lieutenant-colonel, declare that the recrudescence of smallpox is due to a resumption of vaccination!

The "birthday honors" list is a brief one, and disappointing to many who thought it might prove a long on, as the first of the new reign. A knighthood is conferred on Mr. G. A. Critchett, the King's Ophthalmic Surgeon. The C.M.G. on Dr. Henderson, P.M.O. of the Gold Coast; Lieutenant-Colonel Gimlette, M.D., and Major T. H. Hill of the Indian service, in which also four officers received the Kais-ar-I-Hind medal.

Twelve London hospitals are to divide between them

the residue of an estate estimated at about £120,000 bequeathed by Mr. Whiting.

It is proposed to offer to the King as a coronation gift a large sum to be collected for the purposes of the Prince of Wales's hospital fund which he founded.

At the Clinical Society on Friday, Mr. Moynihan read a paper on the "Operative Treatment of Cancer of the Pyloric Portion of the Stomach." Remarking on the great frequency of recurrence (estimated by Hemmater at 99 per cent. of operations), he said, to prevent this the operation must be based on a knowledge of the mode of invasion of the primary growth and of the lymphatic distribution and position of the glands into which the vessels drain. Having considered these points, he went on to describe three chief lymphatic areas; viz., an area along the lesser curvature; another, along the greater curvature; a third, comprising a greater tuberosity, extending up to the œsophagus, and on the greater curvature as far as the limit of supply of the left gastroepiploic artery, as far as the gastrosplenic omentum. Mr. Moynihan finds that cancer mostly commences near the pylorus and spreads in the two former areas, the "isolated area" being very rarely affected. Accordingly, to insure complete removal of the primary growth, with the lymphatics and glands involved, he said it is necessary to remove the stomach as far up on the lesser curvature as the point of abutment of the coronary artery, and on the greater curvature as far as the gastrosplenic omentum; also, to remove the first portion of the duodenum. He described the operation he proposes to accomplish this.

Some discussion followed, in which the views propounded in the paper did not receive much support, though great dissatisfaction was expressed with the existing methods, and the physicians were pressed by the surgeons for earlier diagnosis, one gentleman suggesting that, instead of waiting for a definite tumor, they should get an exploratory incision made. It was said, too, that extension to the duodenum was very rare—not having been met with in the course of nine years' post-mortem work at St. Bartholomew's hospital, in which Dr. Moore said that in eleven cases out of thirty the whole wall of the stomach was involved, so that no area could be regarded as exempt. In fourteen of the thirty cases there were growths in the liver, often small and not perceptible during life; in some, secondary growths were on the under side of the diaphragm, and in about a third the lumbar glands were enlarged.

It was said, further, that the feeling of late had rather grown against the removal of pyloric growths, and a preference was expressed for short-circuiting.

In reply, Mr. Moynihan said that the growth was in a part which admitted removal in 70 per cent. of cases. As to diagnosis, a patient with gastric trouble at an age when cancer might be expected and with an absence of hydrochloric acid—a most important point—whatever the physical and clinical signs, should have the opportunity of an exploratory incision. Even at this early stage radical operation might not be permissible on account of the extent of the growth. As to gastroenterostomy, life after it was not to be compared with that after the more radical measure. Statistics show a great clear gain after the latter. The improvement after gastroenterostomy was great and immediate, but ephemeral.

The Bradshaw Lecture (I told you the origin of this endowment in my last letter) was delivered this year at the Royal College of Physicians by Dr. Judson Bury of Manchester, who took for his subject "Prognosis in Relation to Disease of the Nervous System." He began by remarking that when we enter into practice we are apt to separate diseases, from a prognostic point of view, into curable and incurable; but, with increasing experience of the course of morbid processes, we find ourselves less able to draw sharp distinctions between their ultimate results. We find that accurate prognosis is about impossible, and even an approximate forecast presents great difficulties which are perhaps more prominent in nervous diseases than those affecting other tissues. It is usually easier to make a regional than a pathological diagnosis, and this will continue to be the case until our knowledge of the causes of the disease has attained a firmer basis. Our ignorance of etiology and of general pathology in its broadest meaning makes our diagnosis and prognosis too often imperfect and erroneous. Dr. Bury passed in review our knowledge of some of the essential factors in the framing of a prognosis: as the attacking agent, the lesion—its size, situation, and nature—the results. The influences at work are manifold, and the effects are exceedingly complicated. How then are we to interpret the results?

The only manifestations to us are symptoms, and these depend, not on all, but only on some of the results. Moreover, they vary in different persons quite apart from the severity, distribution, and nature of the lesion. Examples of this were given by the lecturer, who related some carefully observed cases illustrating the want of correlation between symptoms and morbid anatomy. One of these was remarkable in that definite objective signs of brain disease observed both in Manchester and London passed completely away, and the patient, a female, aged twenty-two, regained health and resumed her occupation. Others went to show that the downward progress of the majority of cases of serious nerve disease is by no means through a constant succession of regular steps, but presents a most irregular course with infinite variations in kind and in time of succession. Arrest of a chronic disease may occur at any stage; and while, as a rule, it is only temporary, it may be permanent. Sometimes, however, improvement so prolonged as to seem like recovery may be followed by symptoms almost malignant in their severity and rapidity of progress.

How explain these variations?

Finding it so difficult to understand the ups and downs on the hypothesis or primary progressive degeneration of neurons, owing to exhaustion of their specific vital energy and apart from the direct action of toxins circulating in the blood, Dr. Bury suggested that the most common existing cause of these diseases is a poison. The fluctuations mentioned reminded him, in a way, of the temperature chart of a prolonged case of typhoid fever in which, at irregular intervals, a series of high temperatures alternated with a series of low ones, the high curve corresponding with a fresh development of toxins, the low curve to abatement of their action.

In relation to treatment, the toxin view is certainly the more encouraging, as it gives us the indications to eliminate the poison and neutralize its effects. But, unfortunately, Dr. Bury could give us no information as to the nature of the poison, nor of the way in which it enters the circulation. Till we know these points, as we do, for instance, in the case of lead poisoning, our treatment will be empirical and often futile, though the want of this knowledge is but a stimulus to further investigations—clinical, pathological, and chemical.

Some nauseating revelations are being made about the state of hotel and restaurant kitchens. Dark underground places, even cellars, are in some cases fitted up for cooking in. They often adjoin lavatories and urinals. The whole, we are told, sometimes being a single apartment.

Nothing so bad has been exposed since Dr. Waldo revealed the condition of underground bakehouses, and thereby enforced reform.

Dr. Waldo is one of our most trusted sanitarians. He was M.O.H. in Southwark when he led the agitation on bakeries. He is now M.O.H. to the Temple and Coroner to the city. You will remember his Milroy Lectures of which I gave you some account, and in which he pointed out how much horse dung enters into the dust of cities and is a danger.

He favors the licensing of restaurant kitchens, and placing them under the control of the County Council.

New ones would then have to satisfy the architect as to the provision for cooking in sanitary surroundings, and the old ones would have to undergo extensive alterations. All would be inspected annually and at other intervals.

You may imagine what is likely to be the condition of cooking apartments in such places as I have mentioned, under no sanitary control, and peopled by German and French servants. To read some of the newspaper accounts is a sure destroyer of appetite.

COSMETIC SURGERY.

To the Editor of the Medical Record:

Vienna, November 17, 1901

Sir: I take the liberty to write to you concerning a procedure in cosmetic surgery which has been practised here now for some months, and is followed by such astonishingly good results that I thought it might be of more than passing interest to the readers of your journal.

The practice consists in the subcutaneous injection of a preparation of paraffin over bony excavations which have resulted either after operation or from disease or from congenital causes.

The injection of paraffin has been accomplished now frequently for saddle-nose, with most remarkable results, and, as I have seen, with absolute correction of the deformity. The needle is inserted over the glabella and is then passed down to the lowest point of the excavation, and as the preparation is being slowly injected the needle is slowly withdrawn, care being exerted that the injection infiltrates only the subcutaneous connective tissue. With the fingers of the left hand and while still warm, the paraffin is molded. Practically no irritation occurs either as an immediate or subsequent result, those cases

which have been observed now for over a year show a perfect tolerance on the part of the tissues and a permanent correction of the deformity.

This same procedure has been accomplished in order to elevate a depressed scar after operation for disease of the mastoid, but with less success, but I believe is adaptable to many other deformities which hitherto have remained uncorrected. The preparation is made by mixing together the solid and the soft paraffin of commerce until a mixture is obtained which has a melting point of 41° C. The paraffin is then sterilized and with gentle warming becomes sufficiently fluid to use in a syringe. Needless to say, it is well to warm the syringe also, and for this purpose hot water answers every requisite.

Hoping that this will prove of interest to you, I am

EUGENE H. EISING, A.M., M.D.

IX Höfergasse 5.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Nov. 28, 1901.

Abscess in the Posterior Mediastinum in Connection with Pott's Disease.—Joel E. Goldthwaite reports a case in which operation was performed on an apparently dying child, an opening being made directly into the abcess, and drainage by means of a gauze wick established. The child rallied and made a good recovery. The author wishes to emphasize the importance and possibility of operation for the drainage of abscess in the posterior mediastinum when its presence causes such serious pressure symptoms as paroxysmal dyspnœa, with more or less tubular or metallic breathing. In case the abscess does not present under the incision, puncture of the spine at the seat of the disease is probably the safest procedure, even though it drains the abscess through the neck of the sac, theoretically the least favorable position.

A Case of Papillary Adenocystoma of the Thyroid Gland. Harry C. Low reports the case of a woman of forty-nine years, suffering from a tumor situated in the median line of the neck, measuring about eighteen inches in circumference. It extended down behind the sternum, out under the sternomastoid muscles, and up to the lower jaw. It moved a respiration, and was not adherent to the skin. There was no sign of exophthalmic goiter. The tumor was removed under local anæsthesia with 1 to 1000 solution of cocaine. It was found to be a simple papillary adenocystoma. There was no evidence of any solid growth, nor any suggestion of malignancy. A tumor of this type is not very common in the thyroid. Its position among tumors remains to be settled. At least it is clinically a tumor to be removed for the sake of convenience, if not of its dangers, as a malignant growth. Future studies of these tumors may show their significance.

Pathological Lesions in Rheumatoid Arthritis.—C. F. Painter holds that the bacterial etiology of this disease, at least in the form that Bannatyne claims (the development locally in the joint of bacteria which manufacture toxins that, locally acting, injure the membrane and bones, producing the characteristic lesions), is not proved. This point is established by these facts: (1) Failure to demonstrate satisfactorily the organism itself, and the equally significant fact that the lesions found in the joint tissues are not such as are produced by any bacterial cause. (2) That the "chronic" stage in the disease does not present lesions, either gross or histological, which are at all derivative from the "acute" stage, and that therefore we must exclude from rheumatoid classifications any disease with hypertrophic bone lesions. (3) It is suggested, though not proved, that the changes in rheumatoid arthritis may be due to faulty metabolism, the absorption from the digestive tract of toxins, or some chemical product of intestinal digestion, which ought not to be thus absorbed, if all tissues were properly performing their functions.

Journal of the American Medical Association, Nov. 30, 1901.

Dissecting Abscess of the Abdominal Wall Producing Deformity Simulating Pott's Disease.—J. B. Bullitt reports a case and submits the following conclusions: (1) Abscesses of the abdominal wall without any connection with the abdominal cavity occur most frequently as a result of typhoid fever and readily heal after incision and drainage. (2) The larger dissecting abscesses of the abdominal wall communicate at their inception with some portion of the intestinal tract, occur most frequently as a sequela of typhoid fever or appendicitis, and result from an adhesion between the parietal peritoneum and a viscus, with perforation of the latter. After rupture, such abscesses follow the course of fecal fistula, healing sometimes spontaneously or as a result of incision with drainage only after the communication with the intestine has become obliterated. This obliteration sometimes occurs spontaneously, sometimes must be brought about by operative procedure. (3) A dissecting abscess may produce symptoms and deformity simulating Pott's disease; on the other hand, Pott's disease with abscess appearing after an attack of typhoid fever may be confounded with abscess resulting from the typhoidal process.

The Indications for Operation in Calculous Nephritis and Ureteritis.—C. L. Leonard says that the differentiation between the cases demanding immediate operation and those demanding a conservative, expectant treatment is based upon the result of *x*-ray examination. The symptoms suggesting the propriety of expectant treatment in cases in which small calculi have been located in the ureters are: A fairly constant dull ache in the lumbar region or along the line of the ureters, with recent and repeated attacks of more acute pain, with or without microscopic evidences in the urine of the presence and recent progression of a calculus. If the Röntgen picture also shows the shadow of an enlarged hydro- or pyonephrotic kidney, and tenderness can be elicited over the kidney and along the line of the ureter, they make more probable the subsequent passage of the calculus. These symptoms, in conjunction with the localization of a small calculus or calculi in the male ureters by the Röntgen method, are sufficient indications for adopting a conservative, expectant course of treatment. They sanction a delay, since they furnish absolute knowledge regarding the position of the calculus, so that any urgent symptom can be met by immediate operation upon a lesion that has already been determined. During such expectant treatment the condition of the kidney must be carefully watched by frequent urinalysis and quantitative estimations of the amount of urea. The employment of all exploratory instruments in the male, where there is no infection, is to be avoided. The segregator, the cystoscope, the vesicle sound and the ureteral catheter are all valuable instruments in diagnosis, but their employment in asceptic cases is a question that is still *sub judice*.

Acute Cholecystitis and Cholangitis as a Complication of Gallstones.—D. W. Eisenrath reports a case operated on unsuccessfully. From a study of the problems it suggests, he calls attention to the following points: (1) From observations on man and animals during life and an autopsy we can conclude that in the majority of cases the bile is sterile under normal conditions. This holds for the entire system of passages with the exception of the common duct close to the duodenum, where many investigators have found microorganisms even when there was no obstruction to the flow of bile. (2) Bile is a pure culture medium for germ growth. It probably contains a substance which inhibits the growth of the majority of colon and typhoid bacilli. (3) Infection of the bile passages may be either descending (hæmatogenous) or ascending from the duodenum along the common duct. The latter is the far more common mode. Any interference with the contractility of the gall-bladder musculature or the presence of foreign bodies in the gall-bladder causes a marked increase in the number of microorganisms in the bile passages. (4) As to the relation between infection and gallstones, it may be said that of prime importance in the formation of the latter is infection, usually with the colon or typhoid bacillus. These infective agents set up a catarrh of the gall-bladder and the bile ducts, and when the nuclei of the stones, which most frequently consist of masses of epithelium and fat drops, are allowed to remain in the gall-bladder, through some cause which favors bile stagnation, gallstones are formed. When colon or typhoid bacilli are injected into the gall-bladder in small numbers, they soon find their way along the bile ducts into the liver, and cause extensive changes in the parenchyma and in the gall-bladder, namely, evidences of severe cholecystitis, necrosis of liver cells in the central portions of each lobule, and interstitial changes along the interlobular vessels.

Effect of Direct, Alternating Tesla Currents and X-Rays on Bacteria.—F. R. Zeit presents the following conclusions: 1. A continuous current of 260 to 320 milliampères passed through bouillon cultures kills bacteria of low thermal death points in ten minutes by the production of heat —98.5°. 2. A continuous current of 48 milliampères passed through bouillon cultures for from two to three hours does not kill even non-resistant forms of bacteria. 3. A continuous current of 100 milliampères passed through bouillon cultures for seventy-five minutes kills all non-resistant forms of bacteria, even if the temperature is artificially kept below 37° C. The effect is due to the formation of germicidal electrolytic products in the culture. 4. A continuous current passed through bouillon cultures of bacteria produces a strongly acid reaction at

the positive pole, due to the liberation of chlorin, which combines with oxygen to form hypochlorous acid. The strongly alkaline reaction of the bouillon culture at the negative pole is due to the formation of sodium hydroxid and the liberation of hydrogen in gas bubbles. With a current of 100 milliampères for two hours it required 8.82 milligrams of H_2SO_4 to neutralize 1 c.c. of the culture fluid at the negative pole, and all the most resistant forms of bacteria were destroyed at the positive pole, including anthrax and subtilis spores. 5. The continuous current alone, by means of Du Bois-Reymond's method of non-polarizing electrodes and exclusion of chemical effects by ions in Krüger's sense, is neither bactericidal nor antiseptic. The apparent antiseptic effect on suspension of bacteria is due to electric osmose. 6. A magnetic field, either within a helix of wire or between the poles of a powerful electro-magnet, has no antiseptic or bactericidal effects whatever. 7. Alternating currents of a three-inch Ruhmkorff coil, passed through bouillon cultures for ten hours, favor growth and pigment production. 8. High frequency, high potential currents—Tesla currents—have neither antiseptic nor bactericidal properties when passed around a bacterial suspension within a solenoid. When exposed to the brush discharges, ozone is produced and kills the bacteria. 9. Bouillon and hydrocele-fluid cultures in test-tubes of non-resistant forms of bacteria could not be killed by Röntgen rays after forty-eight hours' exposure at a distance of 20 mm. from the tube. 10. Suspensions of bacteria in agar plates and exposed for four hours to the rays, according to Rieder's plan, were not killed. 11. Tuberculous sputum exposed to the Röntgen rays for six hours at a distance of 20 mm. from the tube, caused acute miliary tuberculosis of all the guinea-pigs inoculated with it. 12. Röntgen rays have no direct bactericidal properties. The clinical results must be explained by other factors, possibly the production of ozone, hypochlorous acid, extensive necrosis of the deeper layers of the skin, and phagocytosis.

New York Medical Journal, November 30, 1901.

The Blood in Infancy and Childhood.—Gertrude U. Light notes that the three specific and characteristic factors of the changes in the blood of early life are as follows: (1) The blood of an infant tends constantly to resume embryonal characteristics when the clinical balance is disturbed. (2) Such disturbances produce blood changes out of proportion to the exciting cause, as measured by the standard of later life. (3) Lymphocytosis is pronounced. Clinically, moreover, the spleen in the various anæmias of infancy in rickets, syphilis, and chronic intestinal affections, so tends to enlargement, that the single factor, splenomegaly, has not the significance of later life, and the diagnosis must be made on the microscopic findings in the blood and viscera.

Cholecystectomy for Gallstones.—C. L. Gibson submits the following conclusions: In properly selected cases it is an extremely simple and safe operation. It is a curative operation, doing away with subsequent attacks of cholecystitis, and, more remotely, of renewed stone formation. It eliminates the disagreeable possibilities of long-continued biliary and mucous fistulæ. It is indicated in certain technical conditions, such as atrophic or (for drainage) inaccessible bladder, obliteration of the cystic duct, or impacted stone in the cystic duct, and in hemorrhagic conditions of the gall-bladder. It is a prophylactic measure against the development of carcinoma on the site of long-standing irritation. It offers the prospect of a shorter and easier wound-healing and convalescence. It is not to be employed indiscriminately, but has its proper limitations and contraindications.

Frostbite of the Cornea Due to Excessive Application of Cold in the Treatment of Mild Mucopurulent Conjunctivitis in the New-born.—Two cases are reported by E. L. Meierhof. After the third day of the applications, it was noted that the eyelids were closed, but not swollen, and were easily parted, exposing each eyeball freely; there was some thin mucopurulent secretion, but it was not very abundant. The inner surfaces of the lids were red, but not thickened, the bulbar portion of the conjunctiva was quite free from swelling or redness; but there was a slight clouding of the cornea. The suspension of cold was advised, and in place thereof was substituted a gentle heat applied at regular intervals by means of warm, moist cotton pads. In a few days the clouding disappeared. The writer assumes that the heat gave the necessary support for the proper restoration of nutrition, and aided in the absorption of the necrotic exudate from the superficial layer of the cornea.

Medical News, November 23, 1901.

"What Is the Use of Making a Diagnosis in Nervous Diseases, Since Nothing Can Be Done Anyway?"—Theodore Diller declares that, besides attempting to effect a cure or even to alleviate the disease, there are other duties devolving upon the physician, viz., those of making a prognosis, and giving advice calculated to protect the patient, his family, and the community from the results of the disease. The resources of a physician are far better tested by his treatment of chronic diseases than by that of the acute and so-called curable diseases. No one can so comfort the patient and his friends as the physician. The financial questions alone are of the utmost importance in these cases. With the knowledge of what lies before them, the family can harbor their little fortune instead of wasting it on useless travel, which will in no way benefit the invalid. Again, some nervous diseases are curable, and in all of them proper treatment is of the greatest importance. Finally, for the sake of his own mental training and his conscience, the physician should always endeavor to arrive at a correct diagnosis.

A Preliminary Note on the Sterilization of Catheters; a Bacteriological Study.—C. B. Nancrede and W. H. Hutchings conclude that: (1) An infected soft-rubber catheter cannot be completely sterilized by boiling under 4½ minutes. (2) Mechanical cleansing from all dried pus, coagulated blood, or mucus will render sterilization easier and more rapid. (3) Elastic (English web) catheters and soft-rubber catheters can be repeatedly boiled for five or more minutes without roughening of their surfaces or diminution of their elasticity and strength. (4) Chemical sterilization by immersion in a 1 to 2000 mercuric chloride solution for five minutes does not sterilize any variety of catheter which has become infected, at best only inhibiting the growth of the germs. (5) The results of experiments indicate that chemical sterilization should never be employed for catheters which are to be retained in the bladder for any length of time, unless subjected to a very prolonged action of the mercurial salt. (6) If corrosive sublimate is used, it must be in concentrated solution, and for a much longer time than the period usually considered sufficient. (7) Formalin vapor will sterilize infected instruments in twenty-four hours. (8) All methods of sterilization commonly employed should be continued for much longer periods than the minimum time required for destruction of germs in the laboratory. (9) English web catheters can apparently be more readily sterilized by heat than can soft-rubber catheters, probably on account of their interior construction.

Medical News, November 30, 1901.

Courvoisier's Law.—Richard C. Cabot states this law as follows: When the common duct is obstructed by a stone, dilatation of the gall-bladder is rare; when the common duct is obstructed by other causes, dilatation of the gall-bladder is common. The writer calls attention to the value of this law in the diagnosis of cases of chronic jaundice, with or without enlargement of the gall-bladder. He believes that this rule can be relied upon to an extent rarely possible in a matter so uncertain as physical diagnosis.

Report of a Case of Diaphragmatic Hernia.—H. D. Howe reports the case of a boy, who, while he was "scorching" on his wheel, was hit by a cart, receiving the full force of the blow just below the left breast. He showed all the symptoms of shock, but no fracture was detected. Respiration was shallow on the wounded side, but the heart's action soon became regular and fairly strong. There was neither vomiting nor cough. At the end of six days the patient resumed his duties in a military school. It was over seven months from this time, when the patient was again admitted to the hospital. The trouble then began after violent exertion in a jumping match. The patient complained of nausea and a dull pain up and down the lower half of the sternum. There was a decrease in the respiratory movement of the lower half of the left chest, with distant breath sound. The heart was displaced to the right and upward. Its sounds were normal. The abdomen was somewhat scaphoid. The bowels were obstinately constipated. There was no abdominal tenderness. Vomiting was relieved by gastric lavage. The patient died ten days after admission to the hospital, having been nourished almost entirely by enemata. Emaciation had become extreme. He had been able to rest only in a sitting posture. Necropsy disclosed a rupture of the diaphragm 1½ by 1½ inches, near the center of the muscular portion, 1 inch to the left of the œsophageal opening. The stomach, transverse colon, upper part of the descending colon, and fully ⅓ of the great omentum were found in the left chest cavity. The heart was displaced to the right and upward. The patient's condition during his last sojourn in the hospital had been so critical that an operation could not be considered.

Philadelphia Medical Journal, November 30, 1901.

A Case of Pistol-Shot Wound of the Stomach, Liver, and Transverse Colon in a Pregnant Woman.—Andrew B. Gloninger reports the case of a young woman who was shot in the abdomen at close range. She was phlegmatic and showed little evidence of shock. The six orifices made by the bullet were trimmed back and the edges brought together with Lembert sutures. The bullet was not found. The abdominal cavity was thoroughly flushed, a large drainage tube introduced, and the incision closed as usual. A high enema was given on the following day. Pain was controlled by morphine. Nutritive enemata were given, and the abdominal cavity was flushed out at frequent intervals (considerable partly digested food had escaped through the stomach wound into the abdominal cavity). On the third day, the patient had a little cracked ice and a little brandy, and on the fourth day two ounces of peptonized milk. On this day, there was a normal bowel movement. On the seventh day, the drainage tube was removed. Small doses of calomel were given, with occasional high enemata, to keep the bowels open. On the fourteenth day, the temperature, which on the twelfth day had risen to 102.4°, due to a stitch abscess, reached the normal point and recovery was uninterrupted. About four months later, the patient gave birth to a healthy female child. Four years later, the bullet was located by the use of the *x*-ray in the left innominate bone.

The Early Recognition and Management of Arterial Degeneration.—Louis Faugères Bishop states that arterial degeneration is the penalty of chronic intoxication, whether this be of overwork, of alcohol, of a too rich diet, or of syphilis. It is the smaller arteries that first give the signs of disordered function by offering an unhealthy resistance to the circulation of the blood and causing tension. It is this tension that leads to organic changes in the body. All the symptoms so familiar in advanced arteriosclerosis may be seen in a shadowy form in the earlier stages of the disease. Degeneration frequently first manifests itself as a tendency. Heredity is a powerful etiological factor. However, the life of the blood vessels depends chiefly upon the use that is made of them. There are two classes of individuals most given to this affection, viz., ruddy-complexioned persons of the gouty diathesis, and pallid persons of the nervous diathesis. The management of arterial degeneration consists more in hygienic measures than in the administration of drugs. Two drugs are distinctly contraindicated in the early stages, namely, iron and digitalis. The persistent use of alkalies, the abundant use of water, and the use of bitter tonics in small doses about complete the list of drugs useful in this affection. In neurasthenics, the bromides are of great value. The early recognition of arterial degeneration calls for the most careful judgment, and hasty conclusions from a single symptom must be avoided.

American Medicine, November 23, 1901.

A New Constituent of Bone.—William J. Gies states that this newly discovered substance, osseomucoid, is practically the same as the mucoid in tendon, cartilage, and other connective tissues. It not only responds to the general proteid tests, but appears to have the same solubilities and precipitative reaction as the other connective-tissue mucoids, and yields the same proportion of reducing substance on decomposition with mineral acids. Furthermore, the combustion equivalents of osseomucoid, chondromucoid, and tendomucoid are practically identical, indicating close chemical relationship of these glucoproteid products. It is probable, then, that ordinary compact bone contains mucin substance, and that in the process of ossification, the connective-tissue matrix is not completely removed. This fact makes it easier to understand the accumulation of mucoid in various pathological formations in osseous tissue.

Annular Pancreas.—Theo. Ticken reports a number of cases, and says in regard to the genesis of annular pancreas that, if the ventral and dorsal diverticula did not unite as they normally do, but each developed independently, there would be pancreatic tissue on either side of the intestine, and as growth proceeded, the bowel would soon be completely surrounded by granular tissue. In the semiannular type, the condition might be due to an overdevelopment of the head, which sends out processes, partly surrounding the bowel. If this hypertrophy should continue until the processes meet on opposite sides of the duodenum, there would be a true annular pancreas, and there is no reason why this could not occur. The accessory pancreas may be a factor in the production of diverticula of the intestine; or it may become the seat of tumor formation. It may obstruct the bowel and lead to great dilatation of the duodenum. In the event of tumor of the head of the pancreas, there would be early stenosis of the bowel, and probably occlusion of the bile ducts. This would be a puzzling condition and might simulate the appearance of "hour-glass" contraction of the stomach. The accumulation and decomposition of food in the duodenal sacculation is another possibility from which serious symptoms might arise.

American Medicine, November 30, 1901.

Some Thoughts on Rheumatism and Rheumatic Simulants.—James J. Walsh declares that three terms in medicine—rheumatism, gout, and catarrh—cover a multitude of diagnostic sins. The fact that serous membranes are prone to be the subject of rheumatic manifestations points to the conclusion that rheumatism is a mild, generalized infection. Besides the joint symptoms that occur in connection with microbic diseases of various kinds, there are a series of arthropathies which are due alone to the presence of toxins in the blood. Lead poisoning is an example. These toxæmic arthropathies are an important part of the rheumatic simulants. Arthritic neuroses form another class. Flat-foot symptoms, for example, are frequently taken for rheumatism. In explanation of the exaggeration of pain in damp weather, the author says that superficial nerves are more sensitive in damp weather, for the skin becomes cold and the circulation is so interfered with that the terminal nerve filaments do not receive their due supply of blood. Another class of rheumatic simulants consists of those suffering from some joint injury, causing a relaxation of the tissues around the injured joints. Old people often suffer from aching joints, from the tendency to connective-tissue formation. But the most important class of rheumatic simulants is found under the head of occupation neuroses. The most common type is that of brachialgia; this is seen in telegraphers, penmen, typewritists, motormen, etc. It is the rheumatic simulants that have given to rheumatism its bad name. True chronic rheumatism is much rarer than has been generally supposed.

Tuberculosis of the Sacroiliac Joint, Its Diagnosis and Treatment.—C. O. Thienhaus states that in the beginning of the disease, the patients complain of pain in the lumbar region or in the region of the hip-joint, chiefly when sitting down or getting up. When signs of general nervousness and unrest, perhaps with astasia tibiarum and other hysterical symptoms, are noted in patients between the ages of twenty and thirty-five, and do not yield readily to treatment, the possibility of tuberculosis of the iliosacral joint must be considered, even when the hereditary history is negative. In many cases, there is a decided atrophy of the lower extremity of the affected side. Men, chiefly laborers, are prone to be afflicted with tuberculosis of the sacroiliac joint. A differential diagnosis must be made between this affection and several other kinds of abcesses, viz., that resulting from tuberculosis of the os sacrum alone, or of the inner plate of the os ilii, or the region of the acetabulum; the so-called phlegmonous processes of the iliac fossæ, tuberculosis or actinomycosis of the ileocæcum, tuberculosis of the ovary with abscess, dermoids, actinomycosis, and ecchinococcus of the pelvis, syphilis of the pelvis in the third state, and infected retroperitoneal glands; lastly, the so-called psoas abscess. In psoas abscess, the patient tries to rest the psoas muscle by flexion of the thigh and torsion to the other side. Treatment varies according to the state of the disease. In the beginning of a caries sicca, conservative treatment by rest in bed with extension or a plaster-of-Paris splint is indicated. Iodoform-glycerin injections, peroxide of hydrogen, and balsam of Peru, with good nourishment, are valuable. Operative treatment is very bloody and demands perfect technic and skill. The writer then briefly reports a case of Delbet's sacrocoxalgia fruste.

The Lancet, November 23, 1901.

The Etiology of Beriberi.—P. Manson discusses in full the dietetic and microbic theories giving in the main his adhesion to the latter. Though beriberi is a toxin-produced disease, we cannot say what the toxin is, what the germ producing it is, or where this germ resides. He adds that there are several points that investigators into the etiology of beriberi must be careful to attend to. (1) The diagnosis; they must avoid mistaking other forms of peripheral neuritis for that of beriberi. (2) They must bear in mind the possibility that the disease may not have been contracted at the place in which it is declared. (3) That the toxin which produces an outbreak of beriberi may have been imported as such and not manufactured, so to speak locally. (4) They must carefully differentiate between predisposing or favoring conditions, such as overcrowding, heat, and moisture, bad food, etc., and the actual direct cause

(5) Finally, they must recognize that the actual cause must correspond in its geographical distribution with the geographical distribution of the disease.

Sulphur in the Treatment of Dysentery.—G. E. Richmond says that sulphur is from its solidity and non-absorbability an ideal intestinal antiseptic; that it passes along the whole intestinal tract is shown from the fact that it can be seen suspended as a yellow powder in watery motions. With sulphur, the stools become much less offensive and no trouble arises from flatulence. Whatever the true cause of dysentery, sulphur seems capable of controlling and curing it, and it is possible that it may be found of service in cases of summer diarrhœa and perhaps in cases of enteric fever. Several clinical histories are given. Acute cases were treated with sulphur and Dover's powder, and chronic cases with sulphur alone. The opium brings comfort to the patient, and by its inhibitory effect upon intestinal peristalsis controls the diarrhœa and keeps the ulcerated portion of the intestine at rest, and by this means allows the antiseptic qualities of the sulphur to take effect under the most favorable circumstances. The precise mode of action of sulphur in the intestines is more or less a matter of conjecture; it is, however, reasonable to believe that sulphuretted hydrogen and other sulphur acids are formed and inhibit the growth of the microorganism of dysentery.

A Note on Neisser's Test for Diphtheritic Bacilli.—L. Cobbett advises the use of Neisser's stain as likely to detect bacilli which may escape the usual methods of detection. In his experience this result has been obtained when the diphtheria bacilli were mixed with a crowd of Hofmann bacilli, the character of the culture not admitting of the satisfactory examination of single colonies. In these cases, Neisser's stain first revealed the diphtheria bacilli, and their subsequent isolation and examination of pure cultures showed that the stain had given the right indication. In such cases when the colonies of diphtheria bacilli are few in number and crowded with other sorts, it is often difficult and tedious to prepare a second cover-slip which shall contain the bacilli that one wishes to subject to Neisser's stain. Hence arises the necessity for applying the special stain to the original cover-slip. This may be floated off, after removing the cedar oil, with filter paper soaked in xylol, washed for a minute in 5-per-cent. acetic acid, and stained by the ordinary Neisser method. But frequently one desires to apply the test to a particular group of bacilli without moving the slide from the microscope. This led the author to try the device of applying a drop of 5-per-cent. acetic acid to one edge of the cover-slip and drawing the fluid under the glass by means of a small piece of filter paper placed on the other side. If the bacilli are watched while the acid is entering under the cover-slip, one sees first a current of fluid sweeping up loose bacilli and hurrying them away. A blue cloud next appears and blots out everything for a second and passes on. Then, once again the field is bright and clear, and the diphtheria bacilli, if such they are, show the characteristic polar bodies as if stained in the way Neisser recommended: only the bodies of the bacilli are not brown, but pale-blue. Hofmann's bacilli also have a fairly characteristic appearance when treated in this way. They do not so easily decolorize as the diphtheria bacillus, and at about the middle of each half a good deal of blue usually remains. With diphtheria bacilli the change is instantaneous, and the picture revealed is often not inferior to that of a Neisser specimen stained in the usual way.

British Medical Journal, November 16, 1901.

On the Removal of Great Lengths of Intestine.—Alexander Blayney concludes that the question of exactly how much intestine may be removed without damage to nutrition concerns more the physiologist than the surgeon. The latter is confronted with a problem which admits of only one answer. His patient is in immediate danger of death, and the surgeon's first duty is to save his life. If he is dealing with gangrenous intestine, he must remove the whole of it, whether it measures a little more or less than 200 cm., he will not stop to inquire. The leaving behind of the smallest part of gangrenous gut means death, its complete removal may mean life. The teaching of clinical experience as indicated above would seem in cases uncomplicated by other lesions to point toward 200 cm. as being the limit about which the danger line fluctuates. Children can bear the removal of far more than adults

A Case of Intussusception in an Aged Patient; Laparotomy; Recovery.—C. Clement Stead reports this case of a woman, aged seventy-two years. The patient had suffered from chronic constipation and had had several attacks of extreme flatulence during which there was colicky pain with great distention. On the present occasion, when she was at stool, she felt that something was going wrong, although she did not strain at all. On examination, a large mass was found protruding from the anus. Taxis failed to reduce it. Operation was begun six and one-quarter hours after the appearance of the intussusception. The greatest obstacle to reduction was at the sphincter ani, which was divided. The tumor was composed entirely of large intestine. Bit by bit of the bowel was gradually passed back into the abdomen. The peritoneal surface of the bowel was in very good condition, although congested. The wound was closed with a row of seven deep catgut sutures, through all the layers of the parietes, and a superficial continuous suture of horse hair. Convalescence was slow but uninterrupted, except for a small stitch abcess.

An Improved Incision in Laparotomy for the Prevention of Post-Operative Hernia.—Arthur H. Buck believes that division of aponeurosis without supporting muscle is bad, as is evidenced by the frequency of ventral hernia occurring after such a procedure, that division of muscle in the direction of the fibers cannot be satisfactory if it entails division of motor-nerve fibers; nor can such division be satisfactory unless supported by other uninjured muscle or aponeurosis. The writer advocates the following method: An incision is made through skin, superficial fascia, and fat, down to the anterior layers of the sheath of the rectus. The anterior layers of the sheath are divided with the point of the knife about an inch from the inner edge of the muscle, care being taken not to injure the muscle fibers. The inner part of the muscle is readily enucleated from its attachments to the sheath anteriorly, internally, and posteriorly. The abdomen is opened in the same vertical plane as the previous incisions. The transversalis fascia, subperitoneal fat, and peritoneum are divided, and (above the level of the fold of Douglas) the posterior layers of the muscle sheath. The posterior sheath, together with transversalis fascia, subperitoneal fat, and peritoneum are united by a continuous suture. Suture of the skin and fat is accomplished in the usual way. The writer believes that there is extreme improbability of hernia after this procedure

British Medical Journal, November 23, 1901.

Syphilis Versus Tuberculosis.—Arthur Cooper describes the case of a man aged thirty-nine years, who contracted syphilis. He had previously suffered from phthisis and had been obliged to winter abroad. Six years after he first contracted syphilis, he had an attack of partial left hemiplegia. Partial paraplegia, developing into complete, finally came on. After the nervous system became affected by syphilis, the signs of phthisis steadily subsided. The patient gradually became stout and ruddy, cough and expectoration ceased, and he had an excellent appetite. Repeated examination of the chest revealed no sign of active disease. He finally died from an attack of acute nephritis which came on after a chill.

Acute Rheumatism; Hyperpyrexia; Post-Febrile Mania; Recovery.—D. Hamilton Kyle describes the case of a man aged thirty-two years, who was attacked by acute rheumatism. The temperature during the course of the disease ran up at one time to 108°. Salicylates were given at first. He was delirious, and at one time semi-conscious, then he became actually maniacal. Sodium salicylate was stopped, and a mixture of potassium iodide and bromide with antipyrin was given. His mind again became clear, and the salicylate was begun again. A few days later he became convalescent. At last accounts, although otherwise well, the right knee joint was still swollen and painful on movement. The heart sounds were normal: the skin was desquamating very freely.

Atheromatous Ulceration of the Heart; Perforation; Sudden Death.—D. E. Anderson reports this case. The patient was a man of sixty-two years. He had not been feeling well for five days, suffering from pain in the chest, running through to the back, and being more intense on the left side. The heart sounds were distant, but no *bruits* were heard. The pulse was regular and strong. Linseed poultices were applied to the front and back of the chest. The next day after entering the hospital, he died. Necropsy showed the heart to be hypertrophied and dilated, and there was a perforation on the posterior wall of the left ventricle. It was in the center of an ecchymosed patch. The perforation corresponded with an ulcer. The branches of the coronary artery near the ulcer were blocked by atheromatous thrombi. These had evidently been the cause of the ulceration.

A Lecture on Chest Complications in Abdominal Disease; a Study in Diagnosis.—J. Mitchell Bruce describes various interesting cases illustrative of this

subject. He states that associated diseases of the abdomen and chest present themselves clinically as affections of the stomach, bowels, liver, or other of the intraperitoneal viscera, or of the peritoneum itself, complicated with a secondary invasion of the chest; in other instances the first phenomenon noted is disease of the lungs, pleura, or pericardium, which proves to be secondary to an unrecognized lesion below the diaphragm. One of the cases reported is as follows: A medical student consulted the writer for distention and tenderness of the abdomen, accompanied by fever; chronic hepatitis was suspected, but soon there was heard friction over the base of the left lung, which was quickly followed by the development of crepitations upward. The case was clearly one of tuberculosis, involving first the peritoneum, then the left pleura and lung. Tuberculous peritonitis is not the only kind of peritonitis that may be associated with acute pleurisy and other complications within the chest. The commonest by far is perityphlitis, originating in appendicitis. In all diseases within the abdomen, particularly diseases of an inflammatory kind, the chest should be examined with special care. Physical examination of the base of the chest in obscure and serious abdominal cases should be repeated as often as examination of the abdomen itself. The reverse of these cases is perhaps less frequent, but quite as important. "Pleurisy" should never offer a satisfactory diagnosis. It is nothing more than an anatomical expression—inflammation of the pleura. A case described was that of a girl of eighteen, who was thought to be suffering from a simple serous pleurisy. The chief trouble proved to be a perigastric abscess. The writer warns his readers against going to the other extreme and imagining the discovery of association of diseases of the abdomen and chest which does not in reality exist.

Berliner klinische Wochenschrift, November 11, 1901.

Double Personality.—K. Gumpertz describes the case of a ten-year-old girl who, after an early childhood of great seriousness and helpfulness in household matters, began to keep the eyes open while sleeping, and a little later began to change personalities with an aunt deceased eight years previously, and of whom she had very little actual knowledge. Normally, the child is quiet, self-possessed, and well behaved, but in the transposed state shows great restlessness and is abusive and violent. In the natural condition, she has no memory of what has occurred during the hypnoid time, and is always fatigued and somnolent on awaking from it. No unusual knowledge or attributes are manifested while in the abnormal state, but simply all inhibition seems to be removed from the evil traits that are usually kept in check.

The Heredity of the Constitutional Factor of Tuberculosis.—F. Martins believes that this subject deserves more attention than has of late been given to it, and thinks that only in this way will it be possible to explain why certain individuals, even though infected with tuberculosis, do not become diseased. The one method that is available in this study is one that heretofore has been unduly neglected, and that is scientific genealogy. Riffel has collected the family trees of a number of families inhabiting a small town, and from his results valuable conclusions are to be drawn. Schluter has taken these data, which unfortunately are not arranged in the manner necessary, and by rearranging them has produced some valuable results. Taking as examples two families, each descended from a couple living in the 18th century, tuberculosis keeps cropping up on all sides in the people whose ancestors were tuberculous, while numbers of other stock, even though they chanced to be thoroughly exposed, never developed the disease. The presence of a hereditary tuberculous taint is of high importance, while its absence affords a notable but still only relative immunity.

Deutsche medicinische Wochenschrift, November 14, 1901.

A Case of Poisoning by Oleander.—S. Wateff says that this plant is commonly kept in Bulgarian households for ornament, and also that decoctions of its leaves are frequently used by the women to produce abortion. Poisoning cases from this source are accordingly not rare, and he describes one occurring in a young girl. The symptoms, which developed immediately after drinking a considerable amount of a strong decoction of the leaves, consisted in great gastrointestinal irritation with prolonged nausea and vomiting, headache, and slowing of the pulse, which did not return to normal for three weeks. In another instance, all the members of a family were poisoned by the perfume of the oleander flowers, prompt cessation of the disagreeable symptoms following the removal of the plants from the house.

Nerve Over-Excitation as a Cause of Autointoxication.—A. V. Pochl agrees with Verworn that fatigue is a manifestation of intoxication. The latter believes that this is probably due to carbonic acid and perhaps to other soluble products of metabolism. The author is of the opinion that the lactic acid formed through excitation is the important factor, and that the diminished tissue respiration also plays a significant rôle and may be recognized by examination of the urine. By making analyses of the urine excreted after mental, sexual, and physical excesses, the following conclusions were reached: (1) Fatigue diminishes the alkalinity of the blood. (2) The activity of the oxidation processes is markedly decreased. (3) The amount of nitrogenous decomposition products in the tissue juices is increased. (4) The osmotic tension of the tissue juices and its coefficient are lowered. (5) The rate of flow through the uriniferous tubules is diminished. (6) The electrical conductivity of the tissue juices is lessened. The same therapy suffices for very different types of fatigue maladies, and the factors required are means to increase the lowered respiratory activity of the tissues.

Manganate Poisoning.—In an article entitled "The Metallic Nerve Poisons," H. Embden adds one to the list of metals capable of producing chronic intoxications through the slow absorption of small amounts. Four cases of poisoning have been observed by the author in manganate mills, and as all ran a similar course it seems probable that there is a manganism just as there is a plumbism. After œdema of the feet has been observed for some time, the nervous symptoms reach their full development in the course of the next few weeks. There is first weakness of the legs and back with a tendency to staggering and retropulsion, then the arms are more or less attacked, and, finally, disturbances of voice and speech appear. The patients seem perfectly well physically, yet are unable to do any heavy work on account of the palsies of various sets of muscles. There are no true atrophies or reactions of degeneration. The face acquires a mask-like expression, the reflexes are active, and there is a coarse tremor of the trunk, extremities, and head. No nystagmus or other eye-symptoms are to be discovered. The sexual function and sphincters remain untouched. In its general symptomatology the condition strongly resembles multiple sclerosis, but it is evidently a different disease. The therapy consists in removal from the conditions under which the manganate dust may be inhaled; the prognosis is good.

French Journals.

Uterine Inversion.—Gross believes that, in cases of simple uterine inversion, irreducible by ordinary means, it is advisable to perform laparotomy with combined efforts at reinversion, both vaginal and abdominal; dilatation of the cervix should be made and the parts replaced. In polypous uterine inversion, hysterectomy, either vaginal or abdominal, will often be the only method of treatment. This operation is always more or less grave, and is well followed by drainage of the pelvis.—*Gazette des Hôpitaux*, November 16, 1901.

Treatment of Inversion of the Uterus by Anterior Colpohysterotomy.—G. Gayet describes a case of this kind from which he concludes that irreducible uterine inversion should be treated (save in cases with special contraindication) by conservative operation with the knife. Among these operations the simplest is colpohysterotomy, followed by the replacement of the uterus. Posterior adhesions and retroversion are less to be feared from this operation, and the cervix is fixed by the attachment to the bladder. In the patient whose case is reported, there had never been any deviation of the organ, nor any tendency to prolapse.—*Lyon Médical*, November 17, 1901.

A Study of the Functional Troubles of the Pupil an Their Cause.—Bonsignorio reports some interesting experiments with various conditions of light and accommodation in a young and vigorous subject, the eye being in the state of accommodation and focused on a distant object. The subject was placed opposite a window at five o'clock in the afternoon in August, and he was looking at an object in the street. Examination with a magnifying glass showed the movements of contraction and dilation of the pupil to be from 9 to 12 per minute. The subject was next placed in a room lighted by the sunlight, and while he looked at the wall the movements of the pupil were determined to be from 9 to 12 per minute, not coincident with systole. Finally, the subject was put into a room artificially lighted, and, while looking at the wall, the movements of the pupil numbered about the same as before. Each one of these movements, like all movements of the iris, is composed of a series of small oscillations, two or three in number, and scarcely perceptible, the pupil only attaining its maximum diameter by successive oscillations.—*La Tribune Médicale*, November 13, 1901.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 21, 1901.

HERMAN KNAPP, M.D., VICE-PRESIDENT, IN THE CHAIR.

THIS meeting was held under the auspices of the Section on Medicine.

The Diagnosis of Cirrhosis of the Liver.—Dr. JAMES C. WILSON of Philadelphia read a paper on this subject. He said that it was unfortunate that the name cirrhosis had come into use; for, while it had been applied originally because it signified a yellow or tawny color, and this was more or less descriptive of certain forms of this hepatic affection, it gave no direct and accurate conception of the pathological condition. It was now asserted that atrophic and hypertrophic cirrhoses of the liver are not, as formerly supposed, merely different varieties of the same disease, but totally different diseases. Again, the term atrophic cirrhosis was likewise misleading; for statistics had shown that the hob-nail liver, to which it had been originally applied, was not necessarily smaller than the normal, and might even be larger. No definition could be framed which would include, both pathologically and clinically, all forms of so-called cirrhosis of the liver. The one underlying pathological process common to all the varieties is an overgrowth of the connective tissue of the liver. Chronic interstitial hepatitis was a sufficiently comprehensive term, and should be more generally used. Certain infections, toxæmias, and mechanical irritation give rise to interstitial hepatitis. Not all forms of chronic interstitial hepatitis could be recognized. A high degree of atrophy may occur, provided the collateral circulation has been established without other symptoms directing attention to the liver. Adhesive pyelo-phlebitis closely resembles the atrophic form of interstitial hepatitis. The rapidity with which the peritoneal effusion re-forms after tapping is an important diagnostic sign. The hypertrophic form of interstitial hepatitis often presents insuperable difficulties of diagnosis in the early stage. The recurrence or persistence of jaundice, its intensity, and the presence of bile in the stools, were of diagnostic importance. After the disease had become established, the uniform enlargement of the liver, the splenic tumor, the occasional attacks of jaundice, and the fever were diagnostic. Chills and sweating are not common, thus serving to differentiate it from impacted gallstones. In terminal conditions, the diagnosis is a comparatively simple matter.

The Operative Treatment of Ascites in Cirrhosis of the Liver.—Dr. GEORGE EMERSON BREWER read this paper. He said that cirrhosis of the liver was admitted by all to be an incurable disease. It had been estimated that the average duration of life after the occurrence of ascites, in uncomplicated cirrhosis of the liver, is only eight weeks; the cases surviving repeated tappings show at autopsy other complicating conditions. While medical treatment could do much to relieve the early symptoms, the fatal termination could not be averted. The first operation done with the object of establishing a collateral circulation in cases of hepatic cirrhosis with ascites had been done in 1899, and had consisted in opening the abdominal cavity, evacuating the fluid, and stitching the omentum to the anterior abdominal wall. The patient died of shock. The more modern operation includes an additional feature, the vigorous rubbing of the upper surface of the liver and the under surface of the diaphragm with sterile gauze, so as to favor the formation of adhesions. That this collateral circulation is actually established had been demonstrated most conclusively post mortem. A number of cases had been reported in which this operation had been done, and the results afforded good ground for the belief that ascites can be cured in a fair proportion of cases without much risk. In the opinion of the reader of the paper, the operation is still in its experimental stage. At present, there was a high mortality, probably owing to the fact that the majority of physicians are not yet ready to recommend the operation until the disease process was already far advanced. According to statistics, at least five cases had been cured of ascites and had remained so for five years, while a number of others had apparently been cured, but a sufficient time had not yet elapsed to warrant them being reported as actual cures. A tabular statement was presented of the fifty-seven operative cases so far reported, with suggestions as to the clinical data needed in future reports, in order that a just estimate of the value of this comparatively new operation might be formed.

Report of a Successful Case.—Dr. F. TILDEN BROWN said that Osler and other medical authorities state that a not inconsiderable number of cases of atrophic cirrhosis of the liver improve after a variable number of tappings, and live for several years in comparative comfort. Unfortunately, however, the autopsy records of these cases are wanting. The speaker said that in his own case, about to be reported, it had seemed that the prolonged drainage had been an advantage, not only in removing the serious effusion, but in favoring the formation of a funnel-shaped mass of new tissue, of exceeding vascularity, around the drainage tube sinus. The splendid results attained by Morrison, in two out of his four cases, and the rational method which he had outlined, made it incumbent on others to adhere to that method pretty closely until we were in possession of a distinctly better technique. Dr. Brown then reported his case as follows: J. C., male, forty-three years of age, a laborer, had been three different times a patient in the Presbyterian Hospital. In July, 1888, on his first admission, there had been vomiting, along with dyspnœa and a slowly increasing abdominal girth. Abdominal paracentesis had relieved the symptoms, but there had been a gradual recurrence of the former symptoms, and he had again entered the hospital on March 27, 1889. The apex of the heart had not been palpable at that time, and the superficial veins of the abdomen were distended. The edge of the liver could not be felt. Paracentesis of the abdomen had been done on April 10, and the man had left the hospital improved shortly afterward. He had been readmitted on May 31 of the same year with an abdomen greatly distended, and with urine containing albumin and casts. Abdominal paracentesis was performed on June 1, and on seven other occasions between that date and August 20. In a period of a little over seven weeks a total quantity of 2,866 ounces of fluid was removed. On September 1, the circumference of the abdomen was forty-one inches. The next day he was operated upon under chloroform anæsthesia through a five-inch incision. The omentum was shriveled, and the veins were large and tense. The liver was hard and small, and showed the characteristic hob-nail surface. The peritoneal surfaces were vigorously rubbed with sponges, and one line of chromicized catgut sutures introduced. A drainage tube was employed. Vomiting was troublesome for the first few hours, and the bed was often wet with the serous overflow. During the second week the quantity of serous fluid was much less. The wound healed by primary union. On the twenty-third day the large glass tube was changed for a smaller one. On October 18 the abdomen had measured 32½ inches. On January 5, 1900, the superficial veins of the abdomen were found to be no longer prominent, and the percussion note over the abdomen was tympanitic. The liver dulness extended from the fifth rib to nearly the costal margin. The heart apex had descended since the previous April from the fourth to the fifth interspace, and liver dulness began at the fifth instead of at the fourth rib. It was now two years and two months since this operation had been done, and the patient had worked since then as a day laborer. The patient was presented for inspection. Dr. Brown's conclusions were: (1) The more rapid the accu-

mulations of ascitic fluid, the more the need for providing for prolonged drainage; (2) In advanced and apparently hopeless cases, there is the greatest necessity for thoroughly aseptic pelvic drainage, and (3) The advantage of Morrison's adhesive strapping had been conclusively shown during the after-treatment of his case.

Hypertrophic and Atrophic Cirrhosis in the Same Case.—Dr. Morris Manges said that he had under his care a man whom he had advised to undergo this operation two years and a half ago. The man had only been tapped three times at that time, and he refused operation. He was now a bedridden invalid in a most pitiable condition, for he felt grateful if he could go three days without being tapped. The secondary changes induced in the stomach, heart, liver, and other organs add to the misery of such persons. A series of experiments had been made on dogs, which had demonstrated that the operation is not only feasible, but is capable of accomplishing a good deal in cases of pure cirrhosis of the liver. The few cases of cirrhosis which had been operated upon successfully more than outweigh the many unsuccessful ones. In 1897, the speaker said, Dr. A. P. Gerster had operated upon a case of cirrhosis, and at the operation it had been demonstrated to be of the hypertrophic form. About ten months later the case had come to autopsy, and the liver was then demonstrated to be the seat of an atrophic cirrhosis. This one positive case should do much to offset the claims of those who believe that hypertrophic cirrhosis and atrophic cirrhosis of the liver are two distinct diseases, and not merely different stages of the same disease.

The Diagnosis of Cirrhosis of the Liver.—Dr. George L. Peabody said that in New York City it was well known that instances of distinctly atrophic cirrhosis of the liver are rare, while many cases of cirrhosis of the liver are met with in which the liver is of rather large size. He would, however, reserve the term hypertrophic cirrhosis for the cases of malignant jaundice. The latter are totally different from those of cirrhosis with large liver. Clinicians of large experience and the greatest skill had declared that it is impossible to diagnose cirrhosis of the liver in the early stage. He had been much interested in the case reported by Dr. Manges, in which a liver at first large and cirrhotic, had subsequently become a small cirrhotic liver. He had never seen such a case, and thought they must be extremely rare. He had had two cases of cirrhosis of the liver in which profuse hemorrhage from the stomach had been the first symptom that had directed attention to the underlying condition. In one of these cases, that of a young woman addicted to the excessive use of alcohol, death resulted from the first hemorrhage, yet at the autopsy the atrophic cirrhosis had not been specially marked. The interference with the return of the blood in the turgid œsophageal veins interferes with the circulation through the right azygos vein. It was this impaired venous return that explains the occurrence of right-sided hydrothorax. By palpation one could make out the size of the liver, and could tell something of its consistency, but more than this could rarely be done. The differential diagnosis from syphilis of the liver was important, particularly in view of the possibility of surgical intervention. In one case which he recalled, an exploratory operation had been done, and this had revealed syphilis of the liver. At that time the man had been in a very serious condition, but he had ultimately recovered under antisyphilitic treatment. The differential diagnosis from nutmeg liver could be made by the presence of the cardiac lesions. In cases of chronic peritonitis the fluid was apt to be bloody. It was well to remember that if we could not relieve many of these cases of cirrhosis of the liver with ascites, about one-fourth of them would succumb to tuberculosis. The surgeon should certainly be permitted to try to relieve by their skill these unfortunate persons.

Dr. Andrew H. Smith said that the old notion that a connective-tissue growth first takes place in the liver, and then shrinks, squeezing out of existence many of the hepatic cells, was not tenable in the light of modern pathology. One of the conditions likely to be confounded with cirrhosis of the liver was colloid cancer of the peritoneum. In one case of this kind that he had seen, several good diagnosticians had agreed on the diagnosis of cirrhosis of the liver, but tappings and the subsequent course of the case had demonstrated its true nature. He was surprised at Dr. Peabody's statement that tuberculosis is such a common complication of hepatic cirrhosis. There were a good many cases on record in which there had been no reaccumulation after a single tapping, and others in which the fluid had ceased to return after repeated tappings, even after as many as one hundred.

Another Successful Operative Case.—Dr. Charles H. Peck said that on June 11 he had operated upon a stoker on one of the French steamers. The urine contained no albumin or casts. There was great distention of the abdomen. He had been tapped twice at an interval of a few days, and then had been operated upon. The omentum was stitched to the parietal peritoneum with three tiers of chromicized catgut sutures. Very little shock had followed the operation, and the man had been relieved. He was tapped five times up to August 21, and then, after an interval of thirty-one days, had returned to France. A report, after a further interval of two weeks, stated that he was doing well and had had no return of the ascites.

Avoid Permanent Drainage.—Dr. Brewer closed the discussion. He said in view of the fact that in so many of the reported cases death had occurred from a peritonitis coming on so late, it seemed quite probable that septic infection had occurred in the course of the after-treatment. He was consequently disposed to think that continuous drainage was exceedingly dangerous and unnecessary, and that it would be better to operate quickly without permanent drainage.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, November 18, 1901.

Parker Syms, M.D., President.

Carcinoma of the Rectum in a Patient Seventy-eight Years of Age; Excision; Recovery.—Dr. John F. Erdmann presented this specimen. There was a history of emaciation and the passage of blood in each stool. There was no evidence of hemorrhoids or of stricture of the rectum, but there was some mucopurulent discharge in addition to the passage of blood at each stool and in the interim. Although the man was seventy-eight years of age, his physical condition was that of a man of fifty-five. Examination of the rectum showed a carcinomatous mass practically encircling the rectum within an inch of the anus, and extending upward for about three inches. There were no palpable glands in the pelvis. The patient was placed on the abdomen with the limbs in the Trendelenburg position. The entire diseased mass with the sphincter was readily extirpated. The patient had been up on the sixth day, and at the end of four weeks had been able to return to business. He had gained twenty pounds in the last few weeks.

Symposium on Typhoid Fever.—The subject was covered by the presentation of five communications, as follows:

Epidemiology of Typhoid Fever in New York.—Dr. John H. Huddleston read a paper on this subject, based on the reports of the inspectors of the health department for the past three years. He said that not a week passed without some cases being reported to the health department, and the number had varied from a minimum of seven in one week in March, 1900, to a maximum of 170 in September, 1901. The cases specially considered were 1,017, of which number 635 had been reported not to have been out of the Borough of Manhattan within the longest recognized period of incubation. There were 120 patients who had been

out of the city at a time which made it impossible to say whether or not the disease had been contracted in this city. There were 113 cases that had been clearly infected outside the city, though the first symptoms had developed after their arrival here. Ninety had come here with the disease. Apparently fifty-nine had contracted the disease from others in the family, and there were three instances in which the infection had occurred in laundries. Forty-four of the patients had been in the habit of bathing along the city water-front. The number of cases occurring in this city usually reached a maximum each year between September 15 and November 15. Studying the cases with reference to the milk supply, it had been found that 299 of the persons said that they had partaken of grocery milk, 206 had used dairy milk, and forty-two had used condensed milk, while thirty-six insisted that they had not used milk at all. Family infections had occurred not infrequently in the more unsanitary portions of the city, and it was worthy of note that in each instance the infection had begun with the spreading of the disease by a child.

The Blood in Typhoid Fever.—Dr. James Ewing discussed in this paper more particularly the question of immunity and the prospects of obtaining good results from serum treatment. He said that one would expect success to be achieved more easily in the serum treatment of typhoid fever than of diphtheria, yet all knew that experience had not borne out this theoretical view. Very recent reports had shown that the typhoid bacillus can be obtained from the blood in the majority of cases, even in an early stage of the disease, and also from the rose spots. In the great majority of cases, typhoid fever is a form of septicæmia or bacteriæmia, while diphtheria is a toxæmia. Again, there is a variation in the biological character of the bacilli and the character of the agglutinating substances liberated in the system. The bodies of typhoid bacilli contain poison which does not diffuse readily through fluids. The problem in the serum therapy of typhoid fever was the preparation of a serum which is principally bactericidal and not antitoxic as in the case of diphtheria. The author then discussed the question of immunity and showed the complexity of the problem of producing therapeutically efficient sera for combating typhoid fever.

Surgical Complications of Typhoid.—Dr. Robert Abbé discussed this topic. He said that the abscesses found in the skin and muscles often contain pure cultures of the typhoid bacillus. A not infrequent surgical complication is the ulceration of the laryngeal cartilages, usually in the later weeks of the disease. The cricoid cartilage and the arytenoids were the ones usually involved. This complication often demanded tracheotomy. Another common complication was femoral phlebitis, and it had often resulted in gangrene of the leg. The left femoral vein was attacked four times more often than the right, and this was apparently due to the situation of the vein on that side, which exposed it more than the right vein to pressure. Peritonitis was observed not infrequently in typhoid. That variety resulting from typhoid ulceration and perforation of the bowel was an especially interesting field to the surgeon. This perforation always takes place in the hyperæmic area of the ulcerated patch. He was of the opinion that impending ulceration of the bowel in typhoid fever was within the power of nature to heal, but it was a statement difficult of demonstration. If the physician could be informed that a perforation is imminent by some sign, such as tenderness on point pressure, it might be possible to avert it by the use of ice and opium. The perforation would always be found in the center of a gangrenous patch situated within fifteen or twenty inches of the caput coli, and the opening was usually large enough to admit a lead pencil. He thought that at the present time many exploratory laparotomies were made under cocaine anæsthesia, and this method should prove very useful when symptoms pointing to perforation and extravasation into the peritoneal cavity are present. He had operated upon four cases of typhoid perforation, with one recovery. Two of these patients were soldiers almost moribund at the time of operation.

Clinical Diagnosis of Typhoid Fever.—Dr. Alexander Lambert made some extemporaneous remarks on this subject. He said that the difficulty in making the diagnosis was well shown by the fact that there are different bacteria giving rise to the same symptoms. In practice, his attention had often been called to the very low tension of the pulse in the very early days of typhoid fever; it was quite different from those observed in ordinary sepsis and in cases of malaria. In these early days also, one often met with a group of symptoms which would at least afford a hint as to the nature of the disease, *i. e.* the occurrence together of intense ringing in the ears, slight photophobia, and disordered taste. Unfortunately, the Widal reaction was not commonly observed until the tenth day, while the rose spots usually appear by the seventh day. Again, many cases would run through their entire course without the occurrence of the Widal reaction. At one time, it was thought that fully 98 per cent. of cases of typhoid fever would give this reaction, but sufficient consideration had not been given to the importance in this connection of the personal equation. It was a good plan, when taking blood for examination from a patient suspected of having typhoid, to make a smear of blood as well as put a drop on the slide. The blood could then be examined both for the Widal reaction and for the presence of malarial parasites, and also a differential count could be made. Normally, the mononuclear leucocytes were present in the proportion of 6 per cent., whereas in typhoid fever they frequently form 60 per cent. In conclusion, he wished to quote a remark made by Dr. Francis Delafield to his students in regard to the diagnosis of typhoid, "There is nothing too irregular for typhoid."

Some Remarks on the Treatment of Typhoid Fever.—Dr. A. Alexander Smith discussed this phase of the subject. He said that, while hopeful, he must confess to a considerable degree of skepticism regarding the specific and the abortive treatments of typhoid fever. He did not believe there was a single well-authenticated case on record of the successful abortive treatment of typhoid fever, though the disease sometimes aborts itself.

Baths.—Baths relieve the nervous manifestations, add to the patient's comfort, and probably act as a direct protection to the circulatory and respiratory systems. The form of bath which he preferred, both for hospital and private practice, was that known as the "bed bath." He had used it in his wards for a dozen years, and had found it just as efficacious as the tub bath.

The Bed Bath.—Two woolen blankets, rolled up, are placed at the edges of a rather narrow bed-cot, and over them a large piece of rubber sheeting or a large rubber horse-cover. A pillow is then placed at the head and another at the feet, thus making a trough in which the patient is placed. The bath should be begun at a temperature of 90° F., and the temperature gradually reduced, the rapidity of this reduction being graded according to the degree of discomfort produced. It was rarely necessary or desirable to give the bath at a temperature below 70°. If, after two or three days of treatment with the bath, it was found that the patient did not experience any great discomfort, he was at once put into a bath at a temperature of 75° or 70°. The duration of the bath was about ten minutes, and when concluded the pillow at the feet was removed and the water allowed to flow out into a receptacle. He had found such a bath more convenient and less terrifying to the patient and his relatives than the tub.

Precautions and Contraindications.—As he was of the opinion that a certain amount of temperature was desirable in fevers, his practice was not to reduce it in typhoid fever below 101°. Extreme care should be exercised in using the bath in the third week of

typhoid, even though the temperature remained high and the bath seemed to afford relief. Rarely did he give the bath more than three times in the twenty-four hours in the third week of the disease, and often it was better to give only one bath in this period. Where the patient was advanced in years, special caution was necessary if a bath were used at a temperature below 80°. Here it was often better to resort to sponging, or the use of a wet-pack at 80° applied anteriorly from the neck to the knees. He agreed with those who believe that hemorrhage and peritonitis are contraindications.

Constipation.—Dr. Smith said that he favored the giving of calomel once or twice during the first few days of typhoid fever, as it seemed to add to the patient's comfort. He did not repeat this mercurial, however; but if constipation were present, made use of a mild saline cathartic or of liquid cascara. After the first eight or ten days, he did not believe it was wise to give cathartics at all in the treatment of typhoid fever, and hence if constipation continued he made use of enemata until the patient had had a practically normal temperature for at least ten days.

Intestinal Antiseptics.—He did not believe intestinal antiseptics accomplish anything in the way of modifying the duration of the disease, but they certainly add to the patient's comfort. He ordinarily employed salol, betanaphtol, or carbolic acid, or else some preparation of creosote.

Intestinal Injections.—He had tried intestinal injections, and had not found that they accomplished much more than adding to the patient's discomfort, and he was inclined to believe that they tend to cause hemorrhage or even intestinal perforation.

Coal-Tar Products.—He did not fear to use the coal-tar products in the first week of typhoid fever, provided they were given in small doses and were guarded by aromatic spirits of ammonia. His personal preference was for phenacetin, given in doses of five grains two or three times a day. He did not use them to reduce temperature, but solely to increase the patient's comfort, and he did not prescribe them after the early part of the second week. Where wakefulness was a troublesome symptom, he had found that ten grains of trional or sulphonal, combined with not more than $\frac{1}{12}$ of a grain of morphine, often gives very restful sleep.

Stimulants.—His own custom was to use alcohol if there were distinct indications for its use. He recognized as those indications, in an adult, a pulse of 120 or over and feeble, particularly if irregular, intermittent, or variable in its rapidity; brown, dry, and fissured tongue; low muttering delirium. Ordinarily, a case of typhoid fever does not require alcohol until the third week. In alcoholic subjects, it must, of course, be pushed more than in others. Of the other heart stimulants, he made use of strychnine, caffein, and camphor, his preference for them being in the order named.

Intestinal Hemorrhage.—He did not depend upon any medicament to secure a specific effect in controlling intestinal hemorrhage, but relied upon absolute quiet of the patient and the use of some preparation of opium to check peristalsis. The application of ice to the abdomen, in his opinion, accomplishes no good and possibly favors hemorrhage by driving the blood from the surface to the viscera.

Diet.—The typhoid-fever patient should receive water freely—four ounces at a time, six times daily. Bouillon or strained broths, if well salted, would often prove very grateful to the patient. Where milk is very repulsive to the patient, broths can be used with the addition of the whites of several eggs daily. He had not seen any harmful result from such practice. A very common error was to give the typhoid-fever patient altogether too much milk. His own custom was to adhere to a practically fluid diet for eight or ten days after the temperature had practically reached the normal, and he considered this of the greatest importance. He had at times tried a more liberal diet, and almost always with disastrous results. He did not believe that diet has the power of itself absolutely to cause a relapse, but recrudescence and disturbance of digestion, and the occurrence of intestinal hemorrhage and even perforation seemed to him to be favored by the too early resumption of a liberal diet.

Signs of Impending Perforation.—Dr. Francis P. Kinnicutt opened the general discussion. With regard to the perforations of typhoid fever, he said that Cushing of the Johns Hopkins Hospital had called attention to what he named the pre-perforative stage of typhoid fever. The symptoms of this stage are chiefly abdominal pain and tenderness and leucocytosis. It would be generally admitted, the speaker said, by physicians that subjective abdominal symptoms, such as abdominal pain and tenderness, are the exception in typhoid fever, and hence, if present, they should always excite attention and arouse a suspicion of impending perforation. A marked leucocytosis in typhoid fever usually indicated some serious complication. A sudden leucocytosis, in the absence of other appreciable cause, if associated with abdominal pain and tenderness, should excite a strong suspicion of impending perforation. There was, however, another sign sometimes present, and which he had been able at times to detect and demonstrate to others—he referred to a localized, fine peritoneal crepitation in all respects similar to that obtained in cases of inflamed pleura or pericardium, and produced in an exactly similar way. It could be sometimes heard with great distinctness if the abdominal respiratory movements had not been arrested. The appreciation of such a sound necessitated a very careful auscultatory examination of the entire abdomen. In cases of general peritonitis, before the abdominal respiratory movements had been largely arrested, it was a sign which would often be elicited if carefully searched for. Of course, the sign would not always be obtained, because the abdominal respiratory movements might be arrested. Again, it must be remembered that a fatal peritonitis may occur in typhoid fever without any recognizable perforation. He quite agreed with Dr. Smith as to the feasibility and advantages of the bed bath. It was used in the Massachusetts General Hospital to the exclusion of the ordinary tub. The only disadvantage was that the water does not cover the entire body. It was used in the Presbyterian Hospital of this city, though not to the exclusion of the tub bath. Where it was employed, the anterior surface of the body was kept wet by the use of a watering-pot and sprinkler. Perhaps another disadvantage of the bed bath was that one loses some of the good effect resulting from friction. He had made use of ichthoform, a combination of ichthyol and formaldehyde, a tasteless powder which is easily taken and is a very efficient antiseptic.

Diet Should be Varied.—Regarding diet, he would say that he thought a more varied diet than that obtained by the administration of milk alone was desirable. He would not give a diet less easily digested, but he thought one could give a more varied diet that is just as easily digested as milk. His rule was to vary it as much as possible. His patients get milk, a little chicken or mutton broth, barley water, oatmeal water or rice water, junket, and custard. The oatmeal water is of the consistency of cream and is made by boiling half an ounce of oatmeal in eight ounces of water and straining it. He also made use of beef peptonoids, for he had seen no harm from this, and many patients were unable to digest milk in any form.

Cases Without Widal Reaction.—Dr. N. E. Brill said that he had had an experience in the last few years with a group of seventeen cases presenting the clinical picture of typhoid fever. These had occurred in the summer of 1897. The only dissimilarity clinically between them and ordinary typhoid fever was that they were not of the customary four weeks' duration. There was the usual loss of appetite, the chill or chilly sensations, and the headache.

In a large proportion of the cases, the roseola and the enlarged spleen had been present. Examinations for the Widal reaction had been made daily, yet in none of them had this reaction been positive. Other cases in the hospital at the same time constantly gave the reaction. In a number of cases, cultures had been made from the blood procured from the spleen, and colon bacilli had alone been obtained. The experience with these cases suggested the notion that typhoid fever may result from infection with a variety of similar bacilli. Among the unusual complications of typhoid that he had encountered were otitis media and central deafness.

Dr. Francis W. Murray said that as the great majority of cases of intestinal perforation are doomed without surgical intervention, the surgeon should be called in as soon as possible after the occurrence of this accident. The appendicular form constitutes the smallest proportion of these cases. If the operation were undertaken uniformly within the first eighteen hours, the mortality should be much better than it had been hitherto. He was under the impression that at the present time the percentage of recoveries varied between thirteen and twenty-four. Among the surgical complications that he had met with were infections of the bone and periosteum, and abscess of the parotid.

Dr. Abbé said that the average statistics for operations on cases of typhoid perforation in the first twenty-four hours after the accident gave 26 per cent. of recoveries, but Dr. W. W. Keen had found that the group of cases operated upon between twelve and eighteen hours after perforation gave 32 per cent. of recoveries. He wished to emphasize the fact that the uninflamed peritoneum is not sensitive or the seat of pain, and hence the importance of the subjective abdominal symptoms referred to by Dr. Kinnicutt. This was well shown when the peritoneum is handled in abdominal operations done under cocaine anæsthesia.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, November 25, 1901.

Frank Van Fleet, M.D., President.

Address of Retiring President.—Dr. George G. Fowler said that in 1807 the Medical Society of the State of New York had been organized at Albany, and that very early in the history of this society a liberal code of ethics had been established. About 1850, the doctrine of Hahnemann had been promulgated, and one of his emissaries coming to this country, two or three members of the Medical Society of the State of New York essayed to test these new therapeutic methods. As a result, these gentlemen had been promptly expelled, and this act had led to an increase of homœopathy and the formation of a homœopathic society. As time had gone on, it had been found that the teachers and many of the other great lights of the profession were consulting with homœopaths. This practice had led to a great upheaval in 1886, and a determination to overthrow the old code of ethics and allow of more liberal relations between all sorts of practitioners of medicine recognized by law. The result of this movement was that to-day the members of the society consult with any legally qualified practitioner. This had been largely brought about through the efforts of Dr. D. B. St. John Roosa, and it had been the means, the speaker declared, of raising the standard of medical education beyond all expectations. At the time of this great movement, there had been a few left over who still adhered to the old-fashioned and less liberal notions, and who formed the New York State Medical Association. They had not amounted to much, however, for many years; but within the last few years they had been very much in evidence. Dr. Fowler said he trusted he was right in saying that there are agencies at work to-day which would result in bringing harmony out of discord and doing away with all such factions. He hoped the day was very near when they would be done away with, and there would be a general handshaking and a uniformity of opinion regarding what should be our actions. In conclusion, he expressed the hope that scientific medicine would still be the chief object of the society's work, and that in the near future the whole medical profession would be one. Dr. Fowler then introduced his successor in office, Dr. Frank Van Fleet.

Address by the President-Elect.—Dr. Frank Van Fleet gave an outline of the work proposed for the ensuing year. He said that at the present time the membership of the society amounts to nearly 1,700, and that the society aims to include in its membership all reputable practitioners of medicine who are willing to assert that they practise no exclusive system. The County Society is not a club, and membership should not be denied to any one merely because of a personal dislike. Every physician who is eligible is under a moral obligation to become a member. The speaker said that he should endeavor to increase the membership of the society, protect the community by the enforcement of the medical laws, secure creditable scientific contributions and discussions, and aim to promote more friendly feeling with the outside forces at the present time antagonistic to this society.

Prosecution of Illegal Practitioners.— The cost of securing convictions of illegal practitioners of medicine was considerable. A few years ago, it had cost the society about $145 for each conviction; last year it had cost $79 per conviction, and the average for the past seven years had been $96. Of course, this was not the net cost; after deducting the fines collected, the cost amounted to about $22 for each conviction. The average cost of maintaining the legal department had been $250 per month, and even allowing for the collection of fines and every proper economy, it must average at least $50 per month. It was proposed at each monthly meeting to discuss one particular subject.

Overtures to the County Medical Association.—Regarding the next topic, the speaker said he approached it with some hesitation. His avowed object was to "promote a friendlier feeling between ourselves and forces now antagonistic to us, to the end that our sphere of usefulness may be increased, and that we may be a thoroughly united profession." It had come to him from various unofficial sources that the American Medical Association had been reorganized so that the question of the code does not now receive official recognition. If this information were correct, there would be reason to believe that the American Medical Association would gladly receive delegates from the County Medical Society, and he would recommend that the State Medical Society take suitable action in these premises. He firmly believed that there should be reciprocity among the State examining boards throughout the United States, and that there should be a national bureau of health, with a physician at its head who is a member of the cabinet. Such objects could be best attained by means of a national medical organization; and as the American Medical Association was at present in the field, it was most desirable that this body should thoroughly represent all of the medical profession of the United States. Dr. Van Fleet said that a person high in the councils of the American Medical Association had written to him as follows: "Nearly all of the States have followed yours with reference to the laws relating to the practice of medicine, and in nearly all of these States the State medical examiners violate the code of ethics by signing diplomas of members of other medical schools." There should be, Dr. Van Fleet said, some common ground upon which the advocates of both organizations might get together and determine what, if anything, could be done. He would recommend that the Medical Society of the County of New York appoint a committee

to ascertain if the amalgamation of the two organizations cannot be effected, and that this committee report to the society in January, or sooner. He was not one of those who believe in rejecting overtures of peace; he would even present the olive branch to colleagues in other organizations which had been opposing them, and would exhaust every honorable means to bring about a reconciliation; but if their efforts were spurned, they, of this society, venerable in years and honorable in reputation, must go on in their own way.

Dr. D. B. St. John Roosa then rose and offered the following resolution in accordance with the recommendation of the president, and it was unanimously adopted:

Resolved, That the President of the Medical Society of the County of New York appoint a committee of five, of which he shall be chairman, provided a similar committee be named by the New York County Medical Association, to confer with that body with reference to the union of the two organizations; and that this committee be requested to report to the society at the stated meeting in January, 1902, or sooner, in order that this society may, if desirable, make a recommendation to the Medical Society of the State of New York at its next annual meeting.

Report of the Committee of Seven on the Prophylaxis of Venereal Diseases in this City.—This committee consisted of Drs. P. A. Morrow, Chairman; Ludwig Weiss, Secretary; C. W. Allen, L. D. Bulkley, H. D. Chapin, E. D. Fisher, and S. A. Knopf. Dr. Morrow presented the report of this committee in abstract. A circular letter asking for information concerning the statistics on venereal disease from private practice had been sent to every physician in New York County. This had elicited 886 replies, or nearly 20 per cent. Of this number, 208 replied that they did not keep sufficiently full and accurate records to be of any value to the committee. Eliminating the more indefinite replies, it was found that about one physician in seven had furnished statistics which could be made the basis of study. The statistics thus obtained yielded an aggregate of 23,196 cases of venereal disease reported by 678 physicians, 15,996 being gonorrhœa and the rest syphilis. It was reasonable to believe that an equal number of cases of venereal disease had been treated by those who had not replied to the circular, so that it was probable that over 160,000 cases of gonorrhœa and syphilis had been treated during the past year in private practice. A study of the statistics referred to indicated that about 40 per cent. of the women suffering from gonorrhœa had pelvic complications. It also showed that about 60 per cent. of the syphilitic women had been infected by their husbands. From the 37 dispensaries allowing their records to be inspected by the committee, it was found that during the past year there had been treated at these institutions 14,649 cases of gonorrhœa and 7,607 cases of syphilis, or a total of 22,256 cases of venereal disease. To this should be added 9,542 unclassified cases of venereal disease. The records of the hospitals show cases of locomotor ataxia, monoplegia, hemiplegia, and various other affections, in which syphilis is known to be a prominent factor. The committee estimated that in Greater New York there had been treated in one year, in both private and public practice, a grand total of 225,000 cases of venereal disease. There had been no disposition on the part of the committee to swell the figures, and the work had been greatly hampered by the lack of system and of a uniform nomenclature employed in the keeping of institution records. It should be noted that officially venereal diseases do not exist in New York City.

Mortality.—Speaking of the mortality from venereal disease, either directly or indirectly, the report very justly asks why it is that the Board of Health should concentrate all its forces and make use of its expensive equipment to stamp out smallpox, which caused only a few deaths in this city last year, while it ignores "the great pox."

The Remedy.—It was by no means clear, said the speaker, that the regulation of prostitution has reduced venereal disease in the countries where it has been employed, and the committee did not recommend its adoption here. Of the replies received, 203 recommended segregation of prostitutes, but the committee did not deem it wise to recommend this at the present time. The vigorous enforcement of the new tenement-house law would doubtless result in ejecting a large number of public women, and from a common-sense, as well as a humanitarian, point of view, it must be admitted that these unfortunates must have some habitation. The most feasible plan seemed to be to compel all prostitutes to inhabit houses by themselves. This domiciliary separation should be absolute and complete. No new legislation was needed to accomplish this result, but rather a relaxation of the law regarding prostitution *per se*. If left to itself, prostitution would naturally confine itself to certain quarters of the city, following the lines of least resistance, and this plan seemed best to subserve the interests of the public. In this scheme, the function of the police would be merely to preserve order and decency, and would take out of their hands the power of levying tribute. All red lights and other external and visible signs of prostitution should be rigorously banished. Venereal diseases, like other contagious diseases, are already under the control of the Board of Health, though this board does not officially recognize them. The first step, therefore, should be to awaken this board to a sense of its responsibilities in this matter. The committee was not prepared to formulate a system of control complete in all its details, and the committee did not recommend the placing of venereal diseases among those to be reported to the Board of Health, though all hospitals and dispensaries should be required to report all such diseases. If public sentiment supports the Board of Health in imposing a heavy fine for spitting upon the floors of public conveyances, surely, it would sustain a law penalizing the transmission of syphilis. The latter is a crime against society, and its responsibility for the spread of disease should be narrowed down as far as possible to a question of individual responsibility, chiefly in the interests of minors. A law raising the age of consent would be an additional safeguard. Prostitutes of minor age, when detected, should be sent to a reformatory and detained there until the age of twenty-one. The business of procuring young and innocent girls for introduction into a life of shame was a crime having hygienic as well as moral aspects, and the law should punish this class most severely. In the opinion of the committee, education and treatment promise the best means of immediate relief. Education should begin in the ranks of the medical profession, the study of venereal diseases being made an essential part of the training of every student of medicine. Those charged with the education of young men in high schools and colleges should instruct them as to the dangers of licentious living, and should combat the theory that such indulgence is necessary to health. The most effective means of preventing the spread of venereal disease is by prompt and efficient treatment. Every case of venereal disease should be looked upon as a possible focus for the spread of the disease. The number of infections that had been traced to a single source was most remarkable. The committee recommended that every general hospital, receiving stated municipal assistance, should be required to open its doors to venereal cases. Fortunately, most patients of this class can be properly treated in dispensaries. The committee did not recommend any specific legislation for the control of prostitution, because of the firm conviction that the State is powerless to control this evil.

Dr. Ferd. C. Valentine said that history showed that prostitution naturally tends to segregation, for, in this city, until an effort had been made to scatter the prostitutes, they had been pretty strictly located in certain districts. He approved of domiciliary control, and sug-

gested that in a port like New York City it would be well to have circulars of information printed in various languages and distributed freely through these districts.

Dr. James Pederson said that it was not so easy to reach and educate adults, as it was to educate the juvenile portion of the public. It was the province of the family physician to give wise council on this subject, and it was wholly within his power to impress upon men, through their fathers, the seriousness of venereal disease.

Dr. S. A. Knopp moved that the society take into consideration the establishment of a prize for the best popular essay on the means of preventing the dissemination of venereal disease. Seconded by Dr. George B. Fowler and carried.

Dr. B. Lapowski expressed the opinion that one of the great obstacles to the prevention of the spread of venereal disease was the public's over-confidence in the power of the medical profession successfully to treat these diseases. For example, in Berlin, there is 1 prostitute to 400; in Paris, 1 to 909, and in Breslau, 1 to 365; yet in Breslau, where Neisser himself has much to do with the inspection of the prostitutes, venereal diseases are especially prevalent, the people feeling confident that there can be no danger where the inspection is made by so great an authority.

The Committee of Seven was continued, and a vote of thanks was given to them for the excellent manner in which they had performed their arduous duties.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, November 5, 1901.

Joseph Collins, M.D., President.

Portrait of Dr. E. C. Seguin.—Dr. J. Arthur Booth presented to the society a portrait of one of the founders of the society, the late Dr. E. C. Seguin. The portrait was donated by Mrs. Seguin.

A Case of Disseminated Sclerosis.—Dr. William M. Leszynsky presented a man whom he had first seen about two years ago. At that time he was thirty-two years of age, and stated that he had been well up to eighteen months previously. At that time he had suffered from occasional diplopia, but it had since almost disappeared. He had had occasionally a staggering gait and speech had become slow. There had also been some difficulty in swallowing. There had been no headache, tinnitus, or vomiting, and no bladder symptoms. When first seen, he had complained of being nervous and emotional. The examination showed him to be healthy in appearance. There was slight hesitancy in speech, and he was disposed to break into tears on slight provocation. There was slight horizontal nystagmus on efforts at fixation. The fund and the visual fields were normal. His gait was slightly ataxic, and there was slight dragging of the right leg and a tendency to fall to that side. Both knee-jerks and Achilles reflexes were exaggerated. The examination of the urine was negative. On January 23, 1900, there was slight paresis in the left posterior thigh muscles and slight ataxia in the left upper extremity. In May, it had been noted that he was not so emotional, but he dragged the left leg in walking and right hip, and the scapulæ were prominent. In December, it had been noted that the static ataxia was well marked. In March of the present year, there was slight rigidity and dragging of the right leg in walking, with tendency to fall to the right. At the present time the pupils are normal; there is slight oscillation of the eyeballs; slight ataxia of the right upper extremity, muscular power is perfect; the speech is slow and uncertain; there is a tendency to fall toward the left, with a paraplegic gait. He stands with difficulty on either leg alone. Both knee-jerks are equally exaggerated. A specimen of his handwriting was exhibited. During the past year, there had been practically only an increase in the cerebellar incoördination and in the defect of speech. The man presented none of the stigmata of hysteria, and was in no way neurasthenic. While he did not present all of the characteristics of disseminated sclerosis, there were sufficient symptoms present, the speaker thought, to warrant this diagnosis.

Dr. B. Sachs thought there could be no doubt about the correctness of this diagnosis. It seemed to him a good example of the rather rare cerebellar form of multiple sclerosis.

Tumor of the Pons.—Dr. Joseph Collins presented some sections from a tumor of the pons. They had been taken from a woman, about forty years of age, who had gone to a dance on August 24, 1900, feeling quite well. After dancing a short time, the evening being very hot, she fell over and remained unconscious for two hours. She said that her head felt heavy and her feet very light. The next morning, on attempting to do housework, she found that she was very dizzy, and that the left side of the body did not seem to be under proper control. During the next three weeks, there had been three transitory attacks of unconsciousness. There was, in addition, pronounced ataxis of the extremities, but no paralysis. There was also constant vertigo with occasional vomiting, and a feeling of great weakness. She also suffered from a distressing diplopia. After an interval of about a week, during which the symptoms had abated, they had again returned. She had then exhibited inebrious speech, and had suffered from nausea on the slightest movement. He had seen her about seven weeks after the original attack, and examination had revealed paralysis of the right abducens and of the right facial, with no reaction of degeneration; slight anæsthesia of the upper two branches of the fifth nerve, with no involvement of the lower branch; also hemiataxia and an exaggeration of the tendon-jerks all over. There was not much headache at the time, and no optic neuritis. The woman died with symptoms of bulbar involvement. The lesion had been diagnosticated as an acute softening in the left half of the pons. On autopsy, a section through the pons revealed a fluid mass, but no evidence of a tumor or of an increase in the consistency of the pons. It had only been after hardening and cutting the pons that it had been found that there was an enormous angiosarcoma involving the left etage of the pons. It had pushed over the raphe and infiltrated the right half of the pons as well. The explanation of the lack of symptoms that one would expect with such a condition was that the growth had infiltrated between the motor and sensory fibers of the pons, but had failed to destroy them until a short time before the death of the patient. This was entirely at variance with what was usually observed in a growth of this character. Both acoustic nerves had escaped. At no time had there been any disturbance of vision, though careful tests had been made to determine the point.

Dr. M. Allen Starr said that last March he had seen, in consultation with Dr. Biggs, a patient who had presented a rather similar set of symptoms, namely, diplopia and paresis of several of the ocular muscles on both sides without a typical ophthalmoplegia externa. The patient also had anæsthesia of one side of the face, and had the kind of speech often observed in bulbar palsy, together with a marked ataxia. There was no choked disk, so that the question had arisen as to whether the condition was one of softening or tumor. In the absence of headache and choked disk, he had inclined to the diagnosis of softening, but the autopsy had shown an infiltrating glioma.

Clinical and Anatomical Report of a Case of Multiple Congenital Deformities.—Drs. B. Onuf and J. Fraenkel presented a joint paper, which was read by Dr. Fraenkel. The subject of the report was a girl who, at the age of four years, had been admitted into the Montefiore Home on September 22, 1895. The condition of the extremities had been noticed immediately after birth, and it was said that convulsions had occurred frequently during the first

year. One year and a half before admission, an osteotomy had been done at the hospital for clubfoot. During her stay in the Montefiore Home, the girl had been frequently examined by various specialists. The child showed normal cerebration, but the emotions were displayed in an explosive manner. The chief features were: Motor disturbance of all four extremities; asymmetry of facial innervation, the face being drawn to the left; atrophy of the muscles of the forearm and fingers; drop-wrist on both sides; decided diminution in the motor power of forearms and hands; absence of the reflexes of the upper extremities; lower extremities decidedly tapering, and the right one the longer; decided diminution of the motor power of the flexors of the leg and extensors of the foot. On attempting to walk, or standing erect, an intense lordosis developed, and there was a cock-step gait. The clinical picture had remained practically unaltered up to the time of her death from diphtheria in June, 1897. The autopsy had been made by Dr. George R. Elliott. There was a subluxation of the hand and forearm forward. The palmaris-longus muscle was absent. The ulnar half of the flexor sublimis digitorum was much reduced in volume, while the radial half was composed of fat only. The flexor pofundus digitorum was also quite fatty. The flexor longus pollicis was converted into fat and the supinator longus into a band. The muscles of the extensor side of the forearm were all small, but were not fatty. The thenar muscles were absent, with the exception of the flexor brevis pollicis. There was a dislocation of the left hip upward and forward, without any break in the capsule, and the head of the bone was situated forward of the natural acetabulum. The new acetabulum was made up of the thickened capsular ligament, but was otherwise apparently normal in shape. The pelvic and thigh muscles on the side of the dislocation were either fatty or atrophic. Microscopical examination of the psoas and entire muscle mass of the three adductors demonstrated: (1) A reduction in the volume; (2) An increase in the perimuscular fat tissue in some, and interfascicular fatty tissue in others, at the expense of the muscular tissue proper; (3) Increase of the perimuscular fat, chiefly in the adductor group of the left thigh; (4) Increase of the fibrous connective interstitial tissue; (5) A vascular change, chiefly a thickening of the vessel walls; (6) Disintegration of muscle fibers in some muscles; (7) Preservation of a relatively large number of muscle spindle-cells in the affected muscles; (8) Changes in the intermuscular nerve bundles, chiefly a scarcity of the nerve fibers, and thickening of the perineurium. No less than forty-four spinal nerve-roots were examined microscopically, and changes were found, not only in many anterior, but also in many posterior, roots. The spinal cord, on gross examination, showed an unusually meager development of the cervical and lumbar enlargements. Microscopically, there were noted: (1) A shrinkage of the nerve cells of the anterior horns in most levels of the spinal cord; (2) A shrinkage of the cells of Clarke's columns in certain levels; (3) Vascular changes and cavities in the gray matter, chiefly in the cervical and dorsal regions; (4) The presence of apparently undeveloped cells at certain levels; (5) Proliferation of the ependyma of the central canal in certain regions; (6) Changes in the white matter, probably by artefacts. On gross examination the brain exhibited nothing peculiar. Changes of an atrophic order, and apparently the presence of certain cells in an embryonic state, were noted on microscopic examination. The cells most frequently affected were the larger pyramidal cells. No vascular changes were noted. The authors concluded that in this case the primary cause of the muscular changes, and incidentally of the deformities, was either a poliomyelitis or a central neuritis of prenatal origin. The cortical changes were thought to be secondary to the spinal changes. To give some idea of the minuteness and exhaustiveness of the examination made of this case, it should be noted that 5,500 sections were made and prepared for examination.

Dr. George R. Elliott presented the right forearm and pelvis of this child, and demonstrated some of the muscular peculiarities noted in the report. The head and shaft of the dislocated bone, he said, were normal, except that they were small from disuse. The dislocation was upward. The speaker emphasized the fact that this was not the form of dislocation known as a congenital dislocation of the hip; true congenital dislocation of the hip was almost invariably backward on the dorsum of the ilium. The large ligamentum teres seemed to be only a physiological hypertrophy. There was nothing in the drop-wrists to warrant them being called congenital dislocations; they were rather the result of the pareses. With reference to the peripheral theory, Dr. Elliott said he could not quite understand how this would explain the picking out of portions of muscles and having them replaced by fat, while others remained absolutely normal.

Dr. B. Sachs said that, having seen the child during life, he had never doubted that the diagnosis lay between an intrauterine poliomyelitis and a developmental defect. The paralytic conditions were secondary to the central change. In spite of the elaborate investigation that had been made, the report was not wholly satisfying as to the character of the process. It did not seem to him that developmental defect of the gray matter of the cord could not be excluded by the findings reported. It would have been interesting to follow up the anterior spinal artery and determine if this vessel were properly developed, and had functionated properly. If it had not been normal, almost all of the changes in the gray matter described in the report could have been easily explained in that way. The case seemed to him to offer an example of a possible arrest of the development of the gray matter of the cord. He would like to know whether any unobjectionable case of intrauterine poliomyelitis had been reported.

Dr. V. P. Gibney said that, so far as he knew, this was the first case of intrauterine poliomyelitis that had been reported. In various discussions on clubfoot, the subject of intrauterine poliomyelitis had been pretty effectually disposed of. He agreed with Dr. Elliott that the dislocation in this case was not a true congenital dislocation of the hip.

Dr. Joseph Collins said that, judging from the report, he would not be satisfied to admit that the case was one of infantile poliomyelitis, because nothing had been said regarding the changes in the substance of the cell as evidence that these cells had undergone the parenchymatous changes which cells do suffer in poliomyelitis of every kind. He understood that the reason these changes had not been described was because the specimens had not been properly hardened for the Nissl stain. This was a great obstacle to the acceptance of the statement that the lesions were dependent upon a poliomyelitis. In poliomyelitis of every kind the external contour of the cord does not change, yet in the case reported shrinkage of the cord was prominent. Again, the cells were reported to be quite scarce, but the cells themselves were not materially disintegrated as should have been demonstrable in specimens so prepared. He found it impossible to imagine that this perceptible decrease of cells in size and shape in the motor region was purely secondary to the smallness of the cells in the cervical and lumbar regions. The changes in the muscles seemed to indicate very distinctly that they were secondary to central changes.

Dr. B. Onuf closed the discussion. He said that he thought that even if the anterior spinal artery had been badly developed, it would not explain why the changes observed were so much more marked in some regions than in others. Again, the intramuscular nerve bundles appeared degenerated. If there had been a developmental defect in the spinal cord, one would look for absence of

certain nerves and expect the rest to appear normal. In his opinion, the changes found in this case were fairly typical of poliomyelitis. The number of the cells appeared, on the whole, to be diminished. If this were a case of intrauterine poliomyelitis, it was probable that comparatively few lesions would be found so long afterward as evidence of the process that had taken place. The changes of contour were probably explicable also on the ground that the process had lasted so long. The distribution of the cell changes was far from being uniform. He saw no reason why the cortical changes should not be looked upon as secondary in view of the fact that the process must have occurred very early in life. In cases of congenital porencephalus of the right occipital lobe, marked atrophy of the optic nerve had been observed and reported. In a case of this kind, it was not right to draw conclusions from one or two points, but only after a careful study of the whole picture.

The Finer Microscopic Structure of the Cortical Areas in Man and Some Mammals.—Dr. M. G. SCHLAPP made some remarks on this subject. He said that he had been struck with the great differences in the descriptions of the cortex as given by different writers. The earlier authors described five or six layers in the occipital lobe, whereas more modern writers described eight or even nine layers. These discrepancies he would explain by the fact that different animals had been used for their observations. The higher one goes in the animal kingdom, the more the philogenetic secondary center tends to replace the philogenetic primary center. The secondary center does not control all movement, however. Plates were exhibited to show the differences in different animals. The motor area is not developed in the lower animals, so that it can be distinguished from the rest of the cerebrum; but such an area can be observed in the dog and in the monkey. In the dog, it is very near the frontal pole, whereas, in the monkey, it is much further back. In the monkey is found an eight-layer structure. The cortical sight center is very much developed in the monkey and in man. These differences in structure were demonstrated under the microscope. The granule cells are characteristic of a highly developed cortex. Most of these cells have ascending axons or very short axons. They are the cells which receive the impulses. These cells are very much more developed in the sensory than in the motor areas. In the sight center is found the eight-layer type. The auditory center can be recognized, but is not so sharply distinguished as is the sight center.

Rumination in Man.—Francesco Cascella reports a case. He reviews the various theories held on the subject, and concludes that, whether the habit is a morbid symptom or whether it is merely a reflex phenomenon which, by constant repetition, becomes a perversion of the digestive function, it is always the expression of an atavistic functional phenomenon. It is oftenest seen in persons who possess other signs of degeneration, as was the case with the patient described by the author. *La Riforma Medica.*

Leucocytosis from Digitalis.—Alessandro Gazza has found by experimentation on rabbits that the injection of a non-toxic dose of digitalis determines a leucocytosis. Digitalin and digitoxin produce an even greater effect. The leucocytosis lasts several days. If the digitalis be pushed to lethal doses, the number of leucocytes increases to the end. Further experimentations have proved that the digitalin leucocytosis greatly retards the death of rabbits infected with pneumococci. Those experimented upon died on an average at the end of 112.53 hours, while the "control" animals died in 44.15 hours. The author concludes that the administration of substances capable of causing leucocytosis is a valuable means of treatment in pneumococcæmia.—*La Riforma Medica.*

New Instruments.

A NEW PERCUSSION MALLET.

By HEINRICH STERN, M.D.,
NEW YORK.

FOR various purposes we possess instruments of precision which have replaced the more ancient clinical devices and appliances. However, in percussion, whether we employ finger, finger-pleximeter, or hammer-pleximeter percussion, we make use of rather primitive methods. The employment of the clinical thermometer, for instance, a standardized instrument, precludes all uncertainty as to the temperature of a patient. Percussion by the older methods, on the other hand, is solely dependent upon the skill of the individual practitioner. It is an art in which some excel and a number are quite efficient, but which the great majority of physicians employ in an indifferent and superficial manner. This indifference for and neglect of one of our foremost diagnostic means, I think, may be ascribed to the rather inexact methods which are still in vogue.

A standard percussor should exhibit the following features: (*a*) The stroke should be uniform in intensity and duration. (*b*) The intensity of the stroke should be measurable and controllable, according to position and size of the organ to be examined. (*c*) The percussor should elicit the physical condition not only of parietal organs, but also of deeper-lying structures, if it be so desired.

I have devised an instrument possessing these advantages. The same may be used with or with-

out pleximeter. The automatic dental plugger has served me as a model in constructing my percussor.

The instrument is made of metal and hard rubber. It represents: (*a*) Pressure regulator; (*b*) Hammer spring; (*c*) Pressure index; (*d*) Return spring; (*e*) Pleximeter disks, or pressure transmitter; (*f*) Sliding mechanism. The pressure regulator winds and unwinds the spring which impels the hammer. The hammer spring, unwound to a certain degree, still exerts a pressure equivalent to 100 grams; if wound up, its pressure capability amounts to 2,500 grams. The pressure index is graduated accordingly. The scale denotes a pressure of 100, 250, 500, 1,000, 1,500, 2,000, and 2,500 grams. The return spring facilitates the return of the sliding mechanism into its working position. The pleximeter disk is that part of the instrument which comes in immediate contact with the individual to be examined, and acts therefore as a clinical pressure transmitter. The hammer itself, springs, and other parts of the mechanism are encased in a metal or hard-rubber tube.

Any ordinary pleximeter will suffice if the instrument is to be used for mediate percussion. However, the pleximeter disk at the contact point of the hammer makes an additional pleximeter superfluous. In mediate percussion the smallest pleximeter disk is the one to be preferred. In performing immediate percussion, skin and subcutaneous tissues should be moderately stretched by the index finger and thumb of the left hand. The hard-rubber pleximeter disk having been attached to the sliding or movable part of the instrument, is now

firmly applied to the portion of the body to be percussed. The instrument is held between the thumb and the middle and index fingers of the right hand. If deeper-seated organs are to be examined, that is, if great pressure has to be exerted, it is best to have the pressure regulator rest against the palm of the hand. The pleximeter terminus being in a fixed condition, the hammer part is pressed toward it. Thus the individual to be examined in reality receives an indirect stroke. The sounds elicited by this mode of percussion do not materially differ from those obtained by the old method of striking. However, the uniformity of the stroke and the subsequent homogeneousness of the oscillations as obtained with this percussor can never be secured by the older means.

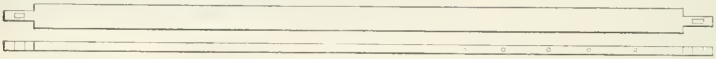
This is the first instrument by the aid of which rational percussion is possible. The inexperienced practitioner who wishes to employ this instrument has merely to train his sense of hearing, and not his fingers, and by the use of the percussor he is enabled to recognize and to locate many physical abnormalities with a similar degree of certainty as he determines the patient's temperature by the clinical thermometer.

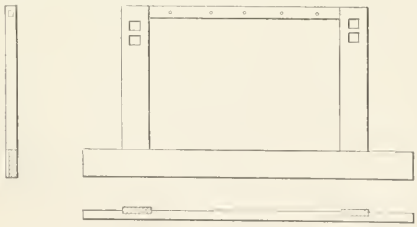
56 East Seventy-sixth Street

A FRAME FOR THE TYPHOID SLUSH BATH.

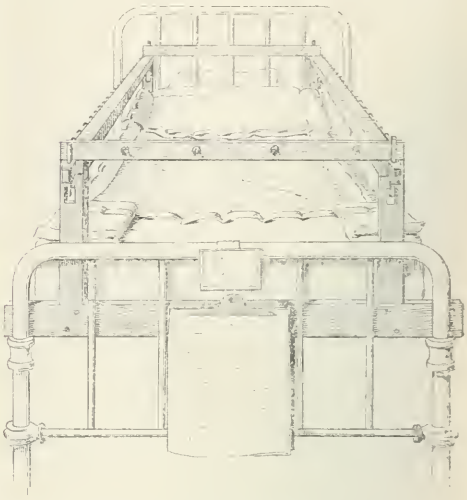
By U. F. MARTIN, B.S., M.D.,
NEW YORK.

For some time past it has been the custom in the medical wards of St. Luke's Hospital of this city to carry out the Brandt method of treatment of typhoid fever by means of a slush bath. In this way the patient was saved the strain of lifting in and out of the tub, and, in our experience, about the same lowering of temperature was secured. The construction of the trough for the water was, however, quite troublesome, and not always satisfactory. It consisted in rolling up blankets and laying them around the edge of the bed, and then, by putting a rubber sheet under the patient and over the blankets at the edge of the bed, a trough was formed of sufficient depth to permit the patient to be about half submerged. The slushing process then went on, the cooling of the water being obtained by means of ice floating as in the tub.





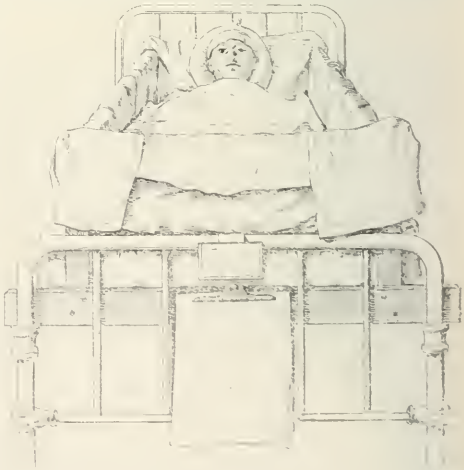
The disadvantages of the scheme were the awkwardness of the arrangement, the ease with which the bed sheets were wet, the inability to submerge the patient more than half, the difficulty in pouring the water in and out, the drying of the blankets used in making the trough, etc. To obviate some of these disagreeable features, an effort was made to secure some suitable frame, simple in construction and easy in manipulation, that might be placed on the bed to take the place of the less cleanly blanket frame. After more or less discussion among those interested,



the following has proved to be a practical and valuable means of carrying out the slush bath.

Because so many who have seen the frame in use have expressed their approval and desired a drawing of the same, it was thought that, although not altogether new, it might be helpful and suggestive to many, applicable as it is even in private practice.

The frame can be made of any kind of light wood, for it sustains practically no weight, being used simply to attach the rubber sheet. As seen in the illustration, which is drawn approximately to scale of one inch to the foot, it consists of four pieces, the two end-pieces and the two bars. For the ordinary hospital bed, the end-pieces measure across 27 inches above and 37 inches below. In height, they measure



16½ inches, the holes for the bars to fit in being placed at different levels, to permit change in the depth of the trough. The bars are equal to the length of the

bed, or about 6 feet 7 inches, their thickness being unimportant. The part which projects through the end-pieces has a small opening in which are inserted wooden pins; in use the pins have not been found necessary. They are to be seen, however, in the accompanying photographs. Along the upper part of the frame at the end and along the sides are placed small brass hooks, into which are slipped the loops of tape sewed on the rubber sheet.

When giving the bath, the bedclothing, excepting a sheet, is removed, and then the rubber sheet over a blanket is placed under the patient. The end pieces of the frame are then placed upright between the mattress and the bedstead and pushed down until they rest firmly on the iron sidepieces. Then the rest of the frame is fitted into place (see Fig. 2) and the rubber sheet is lifted up over the bars and hooked on the outside by means of the loops of tape (see Fig. 3). The rest of the sheet is allowed to hang down over the sides of the bed, thus protecting it from any water that may splash out. In the illustration it will be noticed that the rubber sheet is not quite wide enough to give this protecting flap. By having the end-pieces open, after the bath is over, this part of the sheet may be unhooked, lowered, and the water allowed to run out into a tub.

Such a frame can be modified so as to meet other requirements, *e. g.* with the wide double bed, the lower part of the end-pieces need be made only long enough to rest on the side bars or on the support for the slats in the bed, the tub frame being built so as to stand on one side of the middle of the bed. By this means, baths can be given as easily in private practice as in the hospital, for there is no lifting of the patient, and no danger of soiling the bed; the frame can be put together or taken apart with ease; by undoing the sheet, the water can be drawn off at the side as well as at the foot. A distinct advantage is the cheapness of the affair, for any carpenter can make the frame complete for three dollars or less.

A still simpler form, which was first made, consisted of two end-pieces of board with a square notch cut in the top, into which fitted the ends of the two side bars. This, of course, is not quite so light, nor does it allow the water to be taken from the foot of the bed.

The plan, as is seen, is very simple, capable of being modified to meet the varying circumstances, and yet so efficient in giving to the patient the benefit of the Brandt treatment with a minimum amount of disturbance, that one cannot urge too much its more general adoption, even in private practice. As shown by the hospital records, the drops of temperature and relief of symptoms obtained are fully as good as in the more laborious tubbing.

St. Luke's Hospital.

The Treatment of Inoperable Cancer.—Alfred Cooper reaches the following conclusions: (1) In cases of inoperable sarcoma, the patient should have the option of a resort to the use of Coley's fluid. (2) In cases of inoperable cancer of the breast in women of about forty years of age, in whom the menopause has not occurred, the operation of oöphorectomy should be proposed, and this treatment may be combined with thyroid feeding. (3) In cases of inoperable rodent ulcer, and in the superficial malignant ulceration in other parts, the Röntgen rays give a good hope of improvement. (4) In cases in which these other methods are declined, or are inapplicable, the internal administration of celandin is worthy of trial, and when the case appears quite hopeless, morphine should be pushed without hesitation. (5) Parenchymatous injections of acetic acid are also worthy of trial. —*Medical Press and Circular.*

Therapeutic Hints.

Lupus Vulgaris.—

℞ Hydrargyri ammoniat . . . . . gr. x.
Creosoti . . . . . .
Olei eucalypti . . . . . āā ♏v.
Ung. zinci oxid. benz . . . . . q. s. ℥j.

—J. V. Shoemaker

Hay Fever.—

℞ Menthol . . . . . gr. x.
Camphoræ . . . . . gr. xx
Eucalyptol . . . . . ʒj.
Olei pini pumilionis . . . . ʒss
Benzoini . . . . . q. s. ad ℥ji.
M. S. Use in oil-atomizer, q. 2 h.

—Coakley

Tubercular Meningitis.—

℞ Strontii bromidi . . . . . gr. xv.
Chloral. hydratus . . . . . gr. viiss
Syr. valerianæ . . . . . fl. ʒvj.
Syr. menth. piper . . . . . fl. ℥ij.
M. S. ʒj. q. ½ h. if necessary.

—Malba.

Scarlet Fever.—

℞ Aquæ cinnamomi . . . . . .
Liq. calcis . . . . . āā ℥j.
Tinct. gelsemii . . . . . ʒss.
M. S. ʒj. q. 1 h.

—L. Starr

Tonsillitis.—

℞ Formalin . . . . . ♏xv.–xx.
Potassii chlor . . . . . .
Liq. ferri chl . . . . . āā ℥j.
Aq. menth. pip . . . . . q. s. ℥iv.

and

℞ Quininæ hydrobrom . . . . . .
Sodii benzoat . . . . . āā gr. ij.
Salol . . . . . gr. v.
M. ft. caps. No. j. Sig. One q. 3 h.

—*Medical Times and Hospital Gazette*, September 21, 1901.

Epilepsy.—

℞ Zinci bromidi . . . . . ℥j.
Syr. simplicis . . . . . q. s. ℥iv.
Sig. Ten drops t. i. d. up to fifty

W. A. Hammond.

or,

℞ Zinci valerianitis . . . . . gr. iij.
Ext. belladonnæ . . . . . gr. ½.
Pulv. digitalis . . . . . gr. ¼
Sig. One pill t. i. d.

—Da Costa

or,

℞ Chloralis . . . . . ʒij.
Ammonii bromidi . . . . . ℥ss.
Syr. lactucar . . . . . .
Syr. zingiberis . . . . . āā ℥iij.
M. S. Dessertspoonful t. i. d.

—Dunglison.

A Tonic Laxative.—

℞ Magnesiæ sulphatis . . . . . .
Acidi sulphurici dil . . . . . x.
Infus. cascarillæ . . . . . ℥jss.
M. ft. haustus. S. Take two or three times a day.

—Brunde

Chalazion.—

℞ Iodi puri . . . . . gr. iij.
Potassii iodidi . . . . . gr. vj.
Lanolini . . . . . ʒj.
Petrolati liquid . . . . . ℥ijss.
Aquæ destil . . . . . ℥ijss.
M. ft. lotio. S. Apply each night.

—Strzeminski.

Gray Oil in Syphilis.—

℞ Mercury . . . . . 10.50 gm.
Mercurial ointment . . . . . 1 gm.
Vaseline . . . . . 2.50 gm.

Place in a mortar in which a little alcohol has previously been burned. Mix energetically and add:

℞ Vaseline . . . . . 7 gm.
Oil of vaseline . . . . . 20 gm.

Each gram should contain 40 cg. of metal. Three and a half drops, containing 7 cg. of mercury, is the dose for women, men being given four or five drops by deep injection in the muscles of the buttock.

—Barthélemy.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 30, 1901:

	Cases.	Deaths.
Measles	427	12
Diphtheria and croup	283	46
Scarlet fever	183	20
Smallpox	16	2
Chickenpox	50	..
Tuberculosis	238	166
Typhoid fever	67	18
Cerebrospinal meningitis	..	3

Lumbar Puncture in Tuberculous Meningitis.—J. K. Friedjung is not inclined to attach too great diagnostic or therapeutic value to this procedure. Headache may sometimes be relieved by it, and possibly life may be prolonged slightly, but this is doubtful. As regards diagnosis, a clear fluid obtained on puncture is an indication of a tuberculous, rather than a purulent, process; but the converse is not true, and cloudy serum may be obtained in cases that are of tuberculous origin. During the stage of irritation, the tubercle bacillus is to be found in smears in 33 per cent., in the stage of pressure in 50 per cent., and in that of paralysis in 75 per cent. of the cases. That is during the earlier periods, when its aid is most needed, the method is least helpful, while at the time when it is likely to give positive results, the clinical picture is usually too clearly cut to require confirmation in this way.—*Wiener klinische Wochenschrift.*

Tuberculous Peritonitis.— B. C. Frazier gives a general description of the disease and reports one case. His patient was a woman of twenty-seven years who presented the general symptoms of acute inflammation in the region of the gall-bladder, calling for exploratory abdominal incision. The latter revealed adhesions (presumably from tuberculous peritonitis) between the inferior border of the liver and the bowel. The adhesions were slight, and no gallstones were found in the bladder. On further investigations, spider-web-like adhesions were found all over the visceral and parietal peritoneum. These were broken down, the wound was closed, and patient put to bed. She recovered rapidly. There was no fever after the third day, but little pain after the second and third day, and the patient was up in two weeks. She has gained flesh, and weighs more now than for several years.—*American Practitioner.*

Musculocutaneous Appendix on the Chin of a Newborn Infant.—Ettore Bidone reports the case of an infant which had a little projection standing out horizontally from the center and lower end of the chin. It was club-shaped, 1.3 centimeters long, ½ cm. in diameter at its largest and 3 mm. at its smallest portion. The author removed it, and found it to be composed of muscular and cutaneous tissues. The author believes the strange growth to have been an amniotic adhesion. Van Duyse holds in regard to preauricular appendices, dermoid tumors, and cutaneous formations on the ball of the eye, that they represent persistent adhesions between the surface of the amnion and that of the embryo. It is possible that this anomalous tumor of the chin may belong to the same class.—*Archivio di Ortopedia.*

Urobilinuria in Chlorosis.—Ernesto Cavazza concludes from experimentation and clinical observation that in acute chlorosis and at the beginning of relapses there is increased but temporary urobilinuria. In from about four to seven days, the daily amount of urobilin tends to become constant, and is sometimes even below normal. Physical overexertion, cold baths, fever, and hot baths may induce urobilinuria in chlorotic patients.—*Il Policlinico.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended November 30, 1901:

SMALLPOX—UNITED STATES.		CASES.	DEATHS.
California, San Francisco	Nov. 10–17	1	
Illinois, Chicago	Nov. 16–23	4	
Indiana, Evansville	Nov. 16–23	2	
Louisiana, New Orleans	Nov. 16–23	10	1
Shreveport	Nov. 16–23	3	
Massachusetts, Boston	Nov. 16–23	37	4
Cambridge	Nov. 16–23	3	
Chelsea	Nov. 16–23	1	
Everett	Nov. 16–23	1	
Newton	Nov. 16–23	1	
Somerville	Nov. 16–23	1	
Minnesota, Minneapolis	Nov. 9–23	5	
Missouri, St. Joseph	Sept. 1–Oct 31	30	
Nebraska, Omaha	Nov. 16–23	4	
New Jersey, Camden	Nov. 16–23	1	
Jersey City	Nov. 10–26	9	
Newark	Nov. 18–25	25	2
New York, New York	Nov. 16–23	6	1
Ohio, Ashtabula	Nov 16–23	1	
Cincinnati	Nov. 16–23	3	
Pennsylvania, Allegheny City	Nov. 16–23	2	
Lebanon	Nov. 16–23	2	
Morristown	Oct 12–Nov. 23	39	5
Philadelphia	Nov. 16–23	46	7
Tennessee, Nashville	Nov. 16–23	1	
Utah, Salt Lake City	Nov. 9–23	4	
Vermont, Burlington	Nov. 16–23	1	
Washington, Tacoma	Nov. 9–16	1	
Wisconsin, Greenbay	Nov. 17–24	6	
SMALLPOX—FOREIGN.			
Argentina, Buenos Ayres	Sept. 1–30		93
Brazil, Pernambuco	Oct. 1–15		74
Canada, Nova Scotia, Halifax	Nov. 16–23	10	
Colombia, Cartagena	Nov 4–11		3
Panama	Nov. 11–18	125	
France, Nice	Oct. 24–31		1
Paris	Nov. 2–9		4
St. Etienne	Oct. 18–31	1	
Great Britain, Glasgow	Nov. 9–16	1	
London	Nov. 2–9	297	19
Russia, Moscow	Oct. 26–Nov. 2	16	2
Odessa	Nov. 2–9	5	2
St. Petersburg	Oct. 26–Nov. 9	4	1
Warsaw	Oct. 26–Nov. 2	1	
Spain, Malaga	Oct. 26–Nov. 2		4
Uruguay, Montevideo	Sept. 21–Oct. 12	161	15
YELLOW FEVER.			
Brazil, Pernambuco	Oct. 1–15		1
Mexico, Merida	Oct. 26–Nov. 2	Several cases.	
Valladolid	Oct. 26–Nov. 2	Several cases.	
Vera Cruz	Nov. 9–23	41	12
CHOLERA.			
India, Bombay	Oct. 22–29		1
Calcutta	Oct. 12–26		55
Madras	Oct. 19–25		40
Java, Batavia	Oct. 12–19	25	20
PLAGUE—FOREIGN AND INSULAR.			
Great Britain, Liverpool	Nov. 7		1
India, Bombay	Oct. 22–29		191
Calcutta	Oct. 12–26		36
Karachi	Nov. 13–20	20	9
Russia, Odessa	Oct. 31–Nov. 9		1
Hawaiian Islands, Honolulu	Nov. 8–15		1

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

TYPHOID FEVER AND TYPHUS FEVER. By H. CURSCHMANN. 8vo, 646 pages. W. B. Saunders & Co., Philadelphia. Price, cloth, $5.00 net; sheep or half morocco, $6.00 net.

AN INTRODUCTION TO THE BACTERIOLOGICAL EXAMINATION OF WATER. By W. H. HORROCKS. 8vo, 300 pages. A. & A. Churchill, London, Eng. Price, $3.63 net. P. Blakiston's Son & Co., Philadelphia, Pa.

ANATOMY IN ITS RELATION TO ART. By GEORGE McCLELLAN, M.D. Folio, 142 pages, 125 plates. W. B. Saunders & Co., Philadelphia, Pa. Price, cloth $10.00 net; half Russia $12.00 net.

STUDIES IN HETEROGENESIS. By H. CHARLTON BASTIAN, M.D., royal octavo, 61 pages, first part. Williams & Norgate, London. Price, 7s. 6d.

TRANSACTIONS OF THE MICHIGAN STATE MEDICAL SOCIETY FOR 1901. 8vo, 575 pages. Vol. XXV. Published by the Society.

THE MENTAL STATE OF HYSTERICALS. By PIERRE JANET LITT, D.M.D. 8vo, 535 pages. G. P. Putnam's Sons, New York.

MEDICAL RECORD VISITING LIST FOR 1902. New Revised Edition. William Wood & Co. Price, 60 patients, $1.50; 30 patients $1.25.

PRACTICAL MEDICINE. By F. M. LAWRENCE, M.D. 8vo, 521 pages. Boericke & Tafel, Philadelphia. Price, cloth, $3.00 net; by mail, $3.25.

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Original Articles.

OPTIMISM VS. PESSIMISM IN THE SURGICAL TREATMENT OF CANCER.

By ROBERT ABBE, M.D.,
SURGEON TO ST. LUKE'S HOSPITAL.

THE temperament of any medical man, whether physician or surgeon, is to some extent responsible for his taking a hopeful or discouraging view of whatever disease he is brought to face; hence we find men who decry the surgery which pretends to cure cancer by operation, and an occasional case of recurrence is, to such, long remembered in advising others to avoid surgery.

There are certainly many physicians who are loath to send the victim of cancer to the surgeon until it is forced upon them by the peril into which neglect has brought him.

In some instances there may be justification for this dread, by unhappy experience of past hasty endings of some simple case whose end has been shortened.

Even the thoughtful surgeon himself is brought abruptly to a halt by occasional disaster, or by the overwhelming return of disease in patients which he fondly hoped he was greatly benefiting. We all know that the late Dr. Sands refused to operate on mammary cancer from conscientious motives in the year just before his death.

I believe I am right in saying that there is a much brighter aspect to this question to-day than ever before.

The search for a causative germ-origin of cancer has not helped the improved outlook.

There is, perhaps, no more stimulating reason for good work than the growth of opinion among practical men that cancer is almost uniformly a local disease at the start. It cannot be likened to the primary sore of a syphilitic taint, which it is practically useless to cut out, for the cancer lesion *can* be cut out, and the system is free forever in a great number of cases. It may be left long enough where it first starts to beget infarction, and start anew in unnumbered points throughout the body, but not so at first.

Unmistakable evidence proves that when the disease reappears after operation the so-called "recurrence" is not a return of the disease, but a continued growth of left-over particles.

This fundamental fact in the study of the subject should be so indelibly impressed on the mind of the operator that it is present every moment of operation, so that he shall give the widest possible berth to the apparent growth.

The truth of this fact is shown by the localization of the recurring nodules, either in the immediate precincts of the scar, or in the nearest lymphatics.

This is a definite law in cancer growth, and fixes in the mind of the operator the direction of his endeavors.

The only conclusion to be arrived at is that a wide excursion must be made about the disease to include invisible particles in the lymph channels of the skin or beneath it.

But the novice in surgical operations on cancer is appalled by the gap of tissues left when he does what he knows he really should do; hence he curtails his cut, a little here and there, and tries to get his wound "nicely closed," which balm he applies to his soul when he joins the friends in congratulations that it is "all out."

The recurrence is always in the skin near the scar in such cases.

I speak of the immature operator in this field, because one finds to-day an increasing contingent of men willing and anxious to operate because the risks are so far simplified, and primary union so much more easily attained by modern surgical methods.

It cannot be too emphatically brought to the front, that if one will do surgical work, he must be guided by thorough understanding and willingness to do the best, or not attempt it, in this field especially.

No greater help has come to hand in aiding this wide cutting than the use of Thiersch skin grafting. I would even put it first among the valued adjuncts of cancer surgery. Halsted, more than any one else, has emphasized the elaborate use of this, and he removes almost all of the mammary area, applying the largest cuttings of grafts that can be taken from the patient's thigh. It is along this line that considerable of his best work has been carried on.

Encouragement has grown as operations have been elaborated, so that the time consumed in completing a proper excision is now at least double that formerly required. Hence all the best resources of surgery have to be brought to bear to sustain the patient in what has become an ordeal for both patient and surgeon. Nevertheless, it is through this increasing burden of work and responsibility that the operation has been raised from the opprobrium which it had justly received.

My own feeling is growing stronger each year that what may be honestly called a skilful operation to extirpate a cancer in any part of the body requires all the coolness and courage that a man can bring to bear on the hour or two of concentrated work.

It is out of the growth of the elaborated surgical methods that a more optimistic view has come into existence.

One must have seen the sequel of neglected and unoperated cases of cancer, common as they were in comparison twenty-five years ago, to note the contrast, and feel that a beginning has been made in conquering this frightful disease.

We occasionally see such sickening cases to-day in those who have been the victims of faith curists. I have seen three such in sorry plight two of them beyond hope when surgery was called to aid.

My own observation compels me to affirm that a radical cure can occasionally be hoped for in a few cases of cancer by extirpation, and that the resources of surgery have so far mitigated the suffering from malignant disease and prolonged life that we may look upon the present control of the

protean forms of the disease as making a long stride toward its mastery.

Every surgeon must look back upon a gratifying list of cures, and it bears on the positive statement I have made to be able to speak of a few which will emphasize the value of operative work.

Cancer of the Breast.—Until recent years, mammary cancer afforded the least hopeful field for the surgical eradication of the disease of any part of the body, excepting, perhaps, cancer of the alimentary canal.

It still would be a question in the mind of the conscientious operator whether the frequent recurrences which take place in the practice of every surgeon justify him in continuing to subject the patient to the mutilating operation, were it not that many, if not most, of the victims of this dreaded disease are granted a long respite, and often many years of immunity after he has done what he can.

At a recent meeting of this society, Dr. Bull showed a lady with non-recurrence twelve years after he had excised a malignant breast.

It is difficult to find in my private notes any case which has had so long a freedom, but out of more than one hundred and fifty excisions for cancer, excluding all benign growths, which I have recently looked into from my own hospital and private cases, I have not been able to get response from more than half of the latter, so scattered do patients become. Of these I found 50 per cent. survived the three-year limit. One case survived six years; one five and a half; four, four years, and so on. Yet it is not in the question of percentage entirely that one finds satisfaction, but rather in the gratification that certain unequivocal cases give where disaster threatens.

Two such cases which I have recently seen may illustrate: One, a young lady—the other, a lady over seventy years. Five years have gone by in each case. In the young woman, malignant disease had spread to the axilla. It has never returned. The elder patient would have come to-night, had I desired it, to show her perfect health, but said she had no objection to my mentioning an incident of some interest. She is the widow of Dr. Morton, the discoverer of anæsthesia, and postponed operation a few days in order to be present at the semi-centennial in Boston of the first administration of ether. Then she returned to New York and took ether herself for the first time, at seventy-two years of age. A malignant tumor occupied the outer quadrant of the breast, and the axillary glands were involved. The skin was adherent. Her health and faculties are still perfect, and there is no trace of trouble.

Sarcoma of the Tongue.—J. P., a youth of seventeen years, with a growing tumor of the left half of the tongue, projecting above the dorsum, but mostly buried in the muscle. Removed under cocaine August, 1885. Sixteen years later there was no return. The tumor had a recognizable fibrous capsule, and was examined by Drs. Hartley, Ferguson, and G. T. Elliot, who pronounced it angio-sarcoma.

Epithelioma of Tongue.—Mrs. F., aged thirty-three years. Four months since a small, hard pimple on right side of tongue, toward the back part, developed into a painful indurated ulcer, involving the edge and dorsal aspect of the tongue, apparently caused by a rough tooth. I excised ulcer and neighboring part of tongue August, 1897. Two months later, a chain of rapidly growing lymphatics appeared beneath the jaw, along the sternomastoid muscle. The original tumor was reported by the pathologist epithelioma, and the several glands, which were most perfectly removed, were also malignant. The patient remains absolutely free from suspicion of return more than four years from operation.

B. F. W., aged sixty years. In July, 1898, a small indurated cancer existed on the back of the left edge of the tongue. I excised the growth freely, with sound muscular portion of the tongue near by, to insure wide margin. Cocaine anæsthesia was used. The microscopical examination by Dr. F. C. Wood showed epithelioma. There was no return after three years.

Mr. V., in September, 1897, I removed a typical carcinoma from beneath the tongue, a dense mass which a nickel would about cover. It was already attached to the gum behind the incisor teeth, and encroached on the tongue.

Free incision was made below the chin, and thorough excision of the diseased part, with additional precaution of chiselling off the posterior wall of the jaw nearby. Dr. Hodenpyl reports the tumor epithelioma of the papillomatous variety. At present writing, four years after, the patient is entirely free from suspicion of return.

Epithelioma of Face.—Dr. M., China. After three removals of a true epithelial cancer of the cheek, near the nose and lip, a recurrence took place, which, when presented to my notice, was about the size of a nickel. The first operations had been done by skilful surgeons in Peking, and they now felt that some extensive plastic operation must be performed. I excised the growth with a good margin of healthy skin, and covered the defect by sliding the lip toward the middle and lowering the nostril.

A small, hard lymphatic was also removed from below the jaw. Seven years have passed in perfect health and no recurrence.

Epithelioma of Floor of Mouth.—Mrs. B., aged forty-five years, for a year noticed a small lump beneath tongue, adherent to the gum, which I removed in the spring of 1897. A subsequent return on the periosteum adjacent and the development of three submaxillary glands required a secondary operation, in which I chiselled away the inner bony wall of the jaw and removed the glands. This I have usually found to be perfectly competent to eradicate the disease, without excising the thickness of the jaw. After four years the patient remains well, except for one small gland in the neck, which I deemed best to leave.

Epithelial Cancer of the Palate.—One year ago the Bishop of M., over seventy years of age, was referred to me for an ugly thick epithelioma of the right half of the soft palate, which fortunately had not extended quite to the wall of the pharynx, but crossed a little over to the left of the middle line anteriorly; it came to the junction of the hard and soft palate. By injecting cocaine along the palatine nerve and a little outside the line of tumor, I was able to remove the growth under cocaine anæsthesia. I entirely circumscribed the growth with galvano-cautery knife, and made a much more perfect excision than I had thought possible. The wound healed quickly, and has remained an absolutely perfect scar, restoring the voice to the full use. The tumor was reported to be a typically epitheliomatous cancer, with no invasion in margin of incision.

Resection of Upper Jaw for Sarcoma of Maxilla.—A gentleman from Virginia, sixty-three years of age, presented himself, March, 1896, with a most un-

promising-looking tumor of the upper jaw and roof of the mouth.

It presented a soft tumor of the front of the face, raising the wing of the nose, filling the nostril, bulging in the roof of the mouth, and including the gum, and extending well over on the opposite side of the roof. Examination showed it to be a soft mixed-celled sarcoma. After doing tracheotomy and tying both external carotid arteries, I resected the entire right upper jaw and the roof of the mouth over part of the left, with the left lower turbinated bone and the bony septum, which was also invaded. It seemed at the operation that I had been able to get well beyond any apparent disease, and I was well satisfied that an apparently hopeless case now offered hope of improvement.

I may add, that some enlarged lymphatics near the carotid were removed for security. Five and a half years have gone by, and the patient has shown not a single trace of disease. He maintains perfect health, and by a good plate, worn with ease, gives little evidence of operation, either in speech, eating, or appearance.

Resection of the Jaw for Epithelioma.—In the spring of 1895, six and a half years ago, a lady came from the South with a large protruding, spongy epithelioma of the alveolar and front part of the right upper jaw, pushing the lip forward and encroaching on the roof of the mouth well back to the middle. I resected the right upper jaw and part of the left, getting well beyond the apparent disease. The patient remains in perfect health to-day, and without recurrence.

Sarcoma of Abdominal Wall.—Mrs. P.—A large, projecting dark-purple mass, as large as nearly half a cocoanut, projected from the abdominal wall above left hip, and had been concealed from her physician during its growth of a year or more, while she resorted to Christian Science treatment, as she was an ardent faith curist. The tumor finally ulcerated and became inflamed and painful, and her old physician immediately sent her to me. I excised the mass widely and left the wound to granulate and cicatrize. Two and a half years have passed, and the scar and patient present the appearance of perfect health.

Sarcoma of Abdominal Wall.—Mr. F., a farmer, worked as long as he could endure with a large projecting purple tuberous tumor of the abdominal wall in the epigastrium. It originated in the skin, but had involved the deeper layers and the muscular aponeurosis when I removed it in 1892. The photographs show the tumor with extensive area of removal, and the fine scar resulting from generous Thiersch skin grafts. The patient was alive and well, and working eight years after, with a healthy scar.

I have sufficiently illustrated the life-long immunity which operative work often insures, and believe that one cannot seriously think of the subject of malignant disease, and the results already attained, without recognizing the brightening outlook, and feeling the same exhilarating sentiment of hope which inspires the patient who to-day has been relieved of his burden of disease.

Removal of Large Sarcoma of Kidney; Patient Well Ten Years Later.—A renal sarcoma, weighing seven and a half pounds, was removed by Dr. Abbe from a child whose weight was fifteen pounds after operation. The child recovered, and has grown in perfect health, and remained without sign of disease ten years later. (See report of meeting of Practitioners' Society, November 1, 1901.)

AN EPITOME OF THE SUBJECT OF RHEUMATISM AS CAUSE AND EFFECT IN INFLAMMATION OF THE THROAT.*

By WILLIAM CHEATHAM, M D
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RHEUMATISM has been recognized for years as a cause of throat inflammation, even as far back as 1710; so the subject I present for your consideration to-day is not a new one, yet one, I think, of much interest. No part of the throat seems to escape in this affection known as rheumatism. I think we have yet much to learn of its many manifestations and its etiology.

Acute rheumatism is, no doubt, an acute infectious disease. F. Mayer seems to have found the specific cause; he has obtained from the tonsillar mucus cultures of a type of streptococcus, which if injected into animals produces a local infiltration and necrosis, but no suppuration, and after a lapse of six or ten days, inflammation of the various joints, with a serous or sero-purulent exudate, with pericarditis, pleurisy, endocarditis, etc.

R. Oppenheim and Lippman, in ten cases of acute articular rheumatism, found in six a peculiarly shaped diplococcus. Melkich reports in the blood of twenty-one of twenty-five cases of acute rheumatism that he found the bacillus described by Achalme. I think this germ of rheumatism vents itself more often upon the lymphatics of the throat; the tonsils suffer more frequently, if follicular tonsillitis is rheumatic, than other parts of the throat; whether cause or effect, one may question. Surely, there is a uric-acid diathesis back of most cases of relapsing or recurring tonsillitis; in some cases there is an autoinfection from the intestinal tract.

Gerhardt has properly termed the tonsil "a physiological wound."

Tonsil tissue is found in the fauces, pharynx, nose, base of tongue, larynx, and many other parts of the body; but it is the faucial tonsils to which I particularly refer. The tonsils are said to create young leucocytes and excrete old ones. This is more active in childhood.

Fowler has published twenty cases of acute rheumatism ushered in by acute tonsillitis. Lennox Brown says the rheumatic diathesis is always present in these cases of relapsing acute tonsillitis. Wagner finds the same germ in rheumatic affections, in the tonsil, joints, and other parts of the body, and holds that the angina is the first manifestation in most of the cases. Graedel says the tonsil is the local point of infection, from which the cocci or germs invade the other parts of the body.

In a recent article by St. Clair Thompson on "Rheumatic Fever in Throat Affections" occurs the following: "In his Milroy Lectures, Newsholme expresses his views that it is probable in rheumatic fever the specific germ enters the system at the tonsils, or some other part of the nasopharynx."

The view that tonsillitis is often of rheumatic origin, and is the initial manifestation of acute rheumatism, if not the actual primary lesion, is indorsed by some observations of Bertram Abrahams. His conclusions are as follows: "(1) The more common varieties of rheumatic sore throat fall into two main categories—faucial erythema, and tonsillitis proper. (2) Faucial erythema is more common in adults; rheumatic tonsillitis in children, in whom it usually assumes the follicular type, quinsy being more common in older subjects. (3) Faucial erythema is an initial manifestation of acute rheumatism; tonsillitis may be the actual

*Read before the Louisville Clinical Society.

initial primary lesion. (4) Many cases are now definitely on record in which endocarditis has followed a non-scarlatinal tonsillitis unaccompanied by joint pains. In numerous other instances, the tonsillitis has immediately preceded an attack of arthritis or of chorea. (5) The presence of the same microorganisms in the tonsils, joints, blood, and urine is evidence in favor of the participation of pyogenic cocci in the etiology of rheumatism. The most common organisms were streptococci; more rarely staphylococci, and the Fraenkel-Weichselbaum diplococcus." From these views it is evident that the author regards the tonsils as the most probable port of entry of the rheumatic virus.

In a very full paper, in 1894, on the relation of sore throat and acute rheumatism, Buss came to the conclusion that the throat is in many cases the site of the entrance of the rheumatic infection. The observations of Poynton and Paine carry these conclusions considerably further.

A question here presents itself as to whether the rheumatic symptoms, the heart and joint involvement, might not depend upon the invasion by other germs through the tonsils at the same time, and upon the action of their toxins. Shurley, Kyle, Bosworth, and all the recent authors upon diseases of the throat give rheumatism as one of the primary and common causes of tonsillitis, pharyngitis, and perichondritis of the larynx. They speak of one of the principal points of differentiation, the examination of the urine and blood, but especially of the urine. Frequently, after cauterizing the nose, I have seen to follow acute tonsillitis, fever with rheumatic symptoms, which are controlled by such medication as used in acute rheumatism. I do not believe that the salicylates will abbreviate the local appearances of a well-established case of acute follicular tonsillitis, but they will control the pain and fever. In my own case, I can eat sweets for a few days, get up an indigestion, an acute tonsillitis, and pain in head, limbs, and back; in this case, the invasion is not, I think, from without, but the germ may have been dormant in the tonsil.

There is a form of rheumatic sore throat, pure, in which the pain is far more pronounced than any other local manifestation of the disease; the pharynx is slightly hyperæmic, rather purple in color, and the pain is very great. There are many recurrences, the pain comes suddenly, is peculiar in character, and changes position often.

Kronenberg reports a case in which acute follicular tonsillitis and acute rheumatism followed the removal of hyperplasias from an inferior turbinal. Some time later the other side of the nose was operated upon. One week after this second operation the patient developed rheumatism of the knees, ankles, elbow, and shoulder, pericardial friction, pleurisy, and consolidation of the lung, and death followed.

Packard thinks the tonsils act as barriers to such infections. He says during or after tonsillitis, complications with typical acute articular rheumatism may appear. He considers rheumatism an infectious disease, dependent upon a variety of bacteria, and the phenomena of the disease to be due to toxin absorption. He says it is probable that the toxin causing rheumatism may be produced by an attenuated microorganism, and the frequent entrance of the microorganism by the throat may explain the occurrence of acute articular rheumatism instead of ordinary septicæmia or pyæmia.

St. Clair Thomson comes to the following conclusions: "The foregoing pages indicate that there is a general acceptation of the view that an undoubted association exists between rheumatism and tonsillitis. This is expressed from two points of view; one is that the rheumatic poison enters the system through the tonsil, the inflammation of which is the first local expression of the disease; the other view is that tonsillitis is, in certain cases, one of the rheumatic manifestations of the rheumatic diathesis. These views are supported by numerous observations, of which I do not pretend to have given more than a selection. Many of the clinical records are too fragmentary to advance the subject, and it seems to me that the various theories which have been propounded are somewhat premature, and that it is much safer to await further pathological investigation to show which of our clinical deductions is trustworthy. Further knowledge is required as to the nature of rheumatism itself, and also as to the various causes and forms of tonsillitis associated with it. So far peritonsillar abscess, or quinsy, is one form which is not accepted as commonly of a rheumatic nature. It is not mentioned by Fowler or Mantle, and Hingston Fox includes it as a rheumatic disease. Trousseau does not particularly refer to tonsillitis as a forerunner of rheumatic fever, but to an evanescent form of sore throat. Evidently the subject will bear closer investigation. The present state of our knowledge on the relation of tonsillar affections to rheumatism might be summarized as follows: (1) It is undoubted that a certain number of cases of acute rheumatism are preceded by an angina in a proportion varying from 30 to 80 per cent. (2) Both rheumatism and angina have many etiological points in common—season of year, cold, wet, fatigue, depression, vitiated air, etc. (3) The connection of angina and rheumatism, though undoubted in a number of cases, is not yet clearly established. (4) The tonsil may be the port of entry of the rheumatic virus, although the naked-eye appearance of the throat gives no indication of its being affected. (5) The particular affection of the throat which is associated with rheumatism is not yet established. Apparently it is not peritonsillar abscess (quinsy). (6) Peritonsillar inflammation does not appear to be arrested by the administration of anti-rheumatic remedies. Many cases of parenchymatous and lacunar tonsillitis, on the contrary, are considerably benefited by the administration of salicine or salicylate of sodium. That this action proves the rheumatic nature of the disease cannot yet be accepted. (7) The question requires further research in two directions: One in differentiating the various forms of angina, and settling the one which is associated with rheumatism; the other in further research to discover the true nature of rheumatism."

My experience in my own throat, as stated before, is, first, an exposure to cold or an indigestion from eating sweets, usually an inflamed, painful throat, fever, followed by pain in back, limbs, and joints, with the development of an acute follicular tonsillitis. Only last week a lady came to see me complaining of a painful sore throat; she had fever; no pain in any other part of the body; both tonsils were quite red; I gave her a calomel and sodium-bicarbonate purge. The next day she had a well-developed case of follicular tonsillitis, with high fever and great pain in back and limbs and joints. I gave her a hydrogen-dioxide and bichloride-of-mercury gargle, with phenacetin, salicylate of sodium, and strychnine sulphate to take internally. This controlled the pain, but the local symptoms ran the usual three to five days' course, although the treatment was begun so early in the invasion.

To return, then, to the title of the paper. My belief is that chronic rheumatism causes frequent attacks of inflammation of the tonsils, pharynx, and larynx;

that acute exacerbations in chronic rheumatism and acute rheumatism are frequently ushered in or preceded by an acute tonsillitis; that following these attacks, we may have all the heart, joint, and other lesions that we find in any rheumatic affection.

It is true, as said before, that these lesions may not be rheumatic, but depend upon other toxins. As yet we are not able to distinguish them.

In Kronenberg's case the operations were a month apart. The salicylates controlled the swelling of the joints, the fever, and the pain; but there was a relapse shortly, with the heart and lung complications, and death. I cannot believe that the infection in this case, or in any case following surgery of the nose, and that seen in cases following exposure to cold or indigestion, such as my own case, depend upon the same germ. It is true, the same germ in all the cases may be lying there dormant, and develop only when the proper soil is present, which occurs when the system undergoes some shock, or the unclean secretion from the nose passes over the tonsil. But surgery in other places than the nose is not followed by such an affection, nor usually by such affections of the joints, heart, pleura, etc.

G. B. Hope says: "The theory is not correct, as the salicylates do not control the symptoms; because, as people get old, rheumatic and gouty tonsillitis gets less rare; because his bacteriological investigations do not prove it; because recurring attacks of tonsillitis are rare in cases presenting unmistakable evidence of a rheumatic attack; because cases of acute tonsillitis have developed when the patients were thoroughly saturated with the salicylates."

In answer to these objections, we might say that in the old the tonsils have atrophied. No one says acute tonsillitis is present in all attacks of acute rheumatism. The lesion in the tonsil may be but slight, even so slight as not to be seen.

Poynton and Paine in the *Lancet* of September 22 and 29, 1900, report such cases, and cases in which, when there were slight acute exacerbations in the tonsillitis, there was an acute attack of rheumatism. It is a well-known fact that a patient may be thoroughly saturated with quinine, yet have a malarial chill, and that mercury and potassium do not always cure syphilis, and that syphilis is the most common cause of iritis. When a syphilitic iritis is cured, the syphilis may not be cured, and may even afterward run a very active course, yet it is rare to have a return of the iritis. Rheumatic iritis is, however, different, as relapses in that are quite common. Why may we not see tonsillitis, then, even when the patient is saturated with the salicylates, or no tonsillitis, even with acute or subacute rheumatism present?

Local Ventilation.—The generally received doctrine of placing inlets for natural ventilation about four or five feet high, with openings toward the ceiling, and outlets near the ceiling or at the ceiling, is in the main correct; but where there is excessive floor pollution, as in the daywards of idiot asylums, if mechanical ventilation is employed, and warmed air driven in, then it is certainly best to make large openings on a level with the floor, and so sweep away offensive odors. Even with natural ventilation it is certainly useful in such cases to have openings on a level with the floor, closed at will, so as to allow fresh air to stream freely over the surface.

The great principle in ventilation is to remove polluted air as quickly as practicable, and that is best done by having the exit openings as close as possible to the localities where the air is polluted. Such a position chosen systematically is not possible with natural ventilation; it is only possible with mechanical ventilation.—A. Wynter Blyth in *Public Health.*

RHEUMATIC AFFECTIONS, THEIR PATHOGENESIS AND TREATMENT.*

By MARTIN A. H. THELBERG, M.D.,
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THOUGH we all know the differences in the pathology, clinical course, and symptoms of typical rheumatic fever, subacute and chronic rheumatism, and rheumatoid arthritis, and though we all have learned that under no circumstances must we class the latter under the heading of rheumatic affections, still recent investigations of as able men as Garrod of London, Wasserman, and others seem to justify us in classing not only many cases of rheumatoid arthritis, but also chorea and tonsillitis, under this heading. Clinical experience seems also to prove the close relationship in at least many instances.

Garrod, in his splendid article in the *Lancet* of March 16, 1901, after describing various varieties of rheumatoid arthritis, concludes that the organic changes usually described as characteristic of this disease are "not the products of a single, definite morbid process, but are merely lesions which are apt to occur in joints that have become the seats of chronic disease of various kinds."

Delafield and Prudden, in the sixth edition (1901) of their "Pathological Anatomy and Histology," say, under "Arthritis Deformans": "This name has been applied to a variety of chronic inflammations of joints. It may be idiopathic, or due to rheumatism, or to injuries, or follow an acute arthritis."

We may, however, agree with Garrod, that in the great majority of instances rheumatoid arthritis in any of its varieties appears as a primary disease, presenting from the onset its characteristic features, without the patient previously having suffered from any trouble suggestive of a truly rheumatic origin.

Regarding the relationship of chorea to rheumatism, Wasserman, Westphal, and Malakoff have succeeded in getting a pure culture of a diplococcus of certain morphological and other characteristics obtained from the meninges of a fatal case of chorea. On injecting this culture into a series of eighty rabbits, fever, multiple arthritis, and all symptoms and lesions characteristic of rheumatism were observed. (See *Berliner klinische Wochenschrift*, 1899, No. 29.)

Poynton and Paine again have, with the pure culture of a diplococcus obtained from the rheumatic nodules of the knee of a patient with rheumatic fever, succeeded not only in producing all the symptoms and pathological lesions of acute rheumatism, including arthritis, effusion, and valvulitis in rabbits inoculated with this diplococcus, but they observed also in one instance sudden, choreiform twitchings of the face and limbs of one of the rabbits. Upon necropsy the identical micrococci were demonstrated in the pia mater and endothelial cells of the capillaries, dipping into the motor cortex from the surface. This rabbit also had polyarthritis and valvulitis.

Dana succeeded, several years ago, in demonstrating a diplococcus in the meninges of a fatal case of chorea (*American Journal Medical Sciences*, 1894), as later have Wasserman and others, who coincide in the view that this diplococcus is the specific cause of rheumatism and chorea.

Whether gout stands in as close relationship to rheumatism is not demonstrated, though Mordhorst, in a recent article (*Centralblatt für innere Medicin*, Vol. XIX, p. 409), claims intimate associations between the two, in which he is well supported by the French.

That rheumatic fever itself is a bacterial disease has of late years gained more and more adherents,

*Read before the Society of the Alumni of the City Hospital, New York City, November 13, 1901.

and various microorganisms, especially diplococci, staphylococci, and bacilli, have been found by a horde of observers in the nodules, synovial membranes, fibrinous and serous exudates, blood, urine etc., of persons suffering from acute rheumatism.

The researches of Poynton and Paine (*Lancet*, September 22 and 29, 1900; May 4, 1901, and *British Medical Journal*, September 21, 1901) are the most painstaking and conclusive on this subject. They found a diplococcus of constant and peculiar morphology in sixteen consecutive cases of rheumatic fever, and obtained pure cultures therefrom by anaerobic incubation of the rheumatic nodules, pericardial, and synovial fluid, and valvular vegetations in a medium of milk and bouillon, rendered slightly acid by lactic acid.

The intravenous injection of this culture in rabbits produced stiffness of various joints with swelling, definite systolic murmur, and other rheumatic manifestations. Post-mortem examinations showed arthritis with effusion, mitral and tricuspid valvulitis, etc. From this effusion, or the valvular vegetations, a pure culture of the diplococcus was again obtained, completing the chain. Wasserman, Malakoff, Fitz Meyer, and others have obtained similar results.

Achalme, Thiroloix, and others have again found a peculiar bacillus, which they believe the infective cause of rheumatism, while Sahli, Singer, and others have obtained a staphylococcus from the exudates, etc., of rheumatic patients. Triboulet found a bacillus resembling that of Achalme, but he found also a diplococcus in several instances, and in two cases the Achalme bacillus and this diplococcus were found together. The argument of Triboulet is, therefore, that the diplococcus is the cause of simple rheumatism, while severe and complicated cases are due to this diplococcus and + the Achalme bacillus.

It may be safe to predict that many cases of apparently typical rheumatism will, without doubt, on closer study prove to be pyæmias, or infections with microorganisms, differing from those of true rheumatism, as pus-cocci, gonococci, etc., while again many cases of chorea, tonsillitis, and even of rheumatoid arthritis will prove true rheumatic affections.

Poynton and Paine, in a recent article in the *British Medical Journal*, September 21, 1901, admit, however, that "the diathesis is such an important fact that it is probable that there is some peculiarity in the tissue changes of rheumatic fever which is specific." They add, "In the history of rheumatic fever, heredity takes such a prominent part, and the rheumatic constitution is so clearly recognized that it is hard to escape from the conviction that the disease is not to be explained by the presence and nature of the microorganism only, but that in addition there must be some condition of the human tissue, which is also of importance."

The adherents of the metabolic theories as to the cause of rheumatism have, in the undoubted increase of lactic acid in the blood, seemingly good grounds for their claims of perverted metabolism or faulty assimilation. On account of the increase in lactic acid, the blood in rheumatics is, without doubt, decreased in alkalinity at the same time that the fibrin is greatly increased. (Cabot, "Clinical Examination of the Blood," and Ewing, "Clinical Pathology of the Blood," 1901). The physiologico-chemical theory, that the decrease in alkalinity of the blood is caused by the checked elimination of the sarcolactic acid (which is formed, together with potassium phosphate, during muscular exertion, when simultaneously CO_2 is liberated) by the action of cold on the surface, is again hardly valid, as many cases of rheumatism are seen where neither muscular exertion nor exposure to cold can possibly be ascribed as causative factors.

The nervous theory of J. K. Mitchell and others is, *per se*, equally defective. It seems, however, to me that, in the light of recent researches and scientific deductions, all these theories, *i. e.* bacterial, metabolic, and nervous, will blend most harmoniously into one complete theory, which will have every logical reason in its favor, and at the same time have the unsatisfactory gaps, so to speak, filled.

To this end we will first recall that modern research seems to prove that "immunity" is due to an antitoxic substance in the blood, soluble only in an alkaline medium. As in rheumatism there is an excess of lactic or sarcolactic acid in the blood, whereby its alkalinity is greatly reduced, we have all reason to argue that the immunity to specific bacterial invasion is thereby also considerably diminished, if not nullified. This ought to be especially true of an organism which, as the diplococcus of Poynton and Paine, is found to grow best in a medium made slightly acid by lactic acid. We see a similar instance to this in the infection with the ever-present, though seldom active, pneumococcus of Fraenkel, whenever, from some cause or other, the body resistance or immunity is reduced to its invasion.

If we, therefore, instead of giving exposure to cold (as Prout and others) or muscular hyperoxidation (as Latham) as the cause for the increased percentage of lactic acid and the reduced alkalinity of the blood, consider that these abnormal conditions are the results simply of faulty digestion, assimilation, and elimination, whereby the natural immunity is greatly reduced, and whereby, furthermore, the nerve-centers are made far more susceptible to irritation, we have all the three principal theories on rheumatism combined into one simple and thoroughly scientific theory that certainly has much in its favor.

That digestive disturbances of some sort are the rule in persons suffering from rheumatism, every one will recall from experience. The textbooks on gastro-intestinal disorders have not much to say on the subject, but that is not to be wondered at, as certainly acute rheumatics seldom come under the care of the specialist in that line. It may, however, be of interest to quote some few writers.

W. Ewart (*Lancet*, March 17, 1900) considers rheumatism, in part, a dietetic disease, and that in the wide range of cases the "feeding" plan needs to be represented as well as the "starving" plan. He says also that though meat and beef tea have generally been banished from the dietary, as the supposed source of the excessive lactic acid, still the inability of some patients to manage milk diet makes it a question whether or not this food in their cases might keep up the rheumatic tendency, and become the supply of the increased amount of lactic acid. This view certainly seems reasonable, as milk may cause auto-intoxication, as well as most nutriments.

Ewald says in his "Diseases of the Stomach": "Although I have not met a single case of true gout with coincident gastric disturbances, yet I have seen numerous such examples in chronic articular rheumatism."

Einhorn in "Diseases of the Stomach," p. 470, says: "In a case of arthritis deformans, and in two patients with severe gout, I found achylia gastrica. In several instances, in which only slight symptoms of gout existed, I frequently found hyperchlorhydria."

Murdoch (*Medical News*, August 3, 1901) reports his series of analyses of the stomach contents in six consecutive cases of chronic rheumatism and arthritis deformans, in all of which he found abnormalities, either hyperchlorhydria or achylia. His cases, though all of a chronic nature, were cured, or at least greatly improved, by treatment directed exclu-

sively toward correcting the digestive troubles; wherefore his conclusions are that in these affections, treatment should be employed to suit the existing state of the gastric secretions.

I coincide most enthusiastically in this view, as, after relieving the pain in acute rheumatism, my own efforts in the treatment of this disease have been almost solely applied in the same direction, from which, in every instance, the most satisfactory results have followed. That such should be the case seems to me but natural, when we consider that proper quality and amount of food consumed, proper digestion, and assimilation have much to do with improvement in natural immunity and prevention of auto-intoxication. Every one familiar with the modern treatment of early pulmonary tuberculosis tries his utmost to supply such patients with a greater amount of easily digested food than is necessary for the wear and tear of the body. This is, as we all know, for no other reason than to increase the immunity, as well as the phagocytic action, of the leucocytes. The generally accepted view seems to be that the chief source of the antitoxic substance which gives the blood serum natural immunizing power is the leucocyte. These same leucocytes have, furthermore, phagocytic powers, whereby the organism is, to some extent, protected against bacterial invasion. The great majority of pathologists seem also to coincide with Hofmeister that the leucocytes again are of prime concern in the absorption and assimilation of nitrogenous matter.

If we therefore accept the definition, which seems a probably correct one, that "rheumatism is a general disease of bacterial origin, characterized by especially arthritic and cardiac manifestations," we may also be allowed to add: "Contracted by persons whose blood, on account of perverted metabolism, is of especially low alkalinity and immunizing power." One could even add that in such persons the nervous equilibrium is disturbed by the toxic and irritant products of retrogressive metamorphosis, or disassimilation.

At the semi-annual meeting of the New York State Medical Society, on October 16, 1901, Dr. W. H. Thomson read an excellent paper on "The Pathology and Treatment of Migraine." In this, Dr. Thomson gave as his conviction and working hypothesis that, instead of looking upon migraine as a nervous disease, we will in all instances prevent recurrences by directing our treatment to the correction of the portal circulation and digestion, and by preventing gastro-intestinal auto-intoxication.

In response to Dr. Abraham Jacobi's reminder regarding the heredity of migraine, Dr. Thomson emphasized that the digestive trouble and not the symptom migraine is inherited, in proof of which he claimed that proper prophylaxis directed in that line will, in every instance, positively prevent migraine. Dr. Thomson's views meet so thoroughly with my own very modest experiences that I am furthermore led to propound the query, whether it might not be possible that in rheumatism, as in migraine, the digestive disturbances are inherited, thereby causing the s. c. rheumatic tendency or diathesis.

Regarding the treatment of rheumatism, it may be well to recall that Flint, Gull, Sutton, and others, who long ago closely studied the course and duration of rheumatism under various treatments, found that the disease was not prolonged, and its serious manifestations were not increased, when no treatment whatsoever, except some "placebo," was given. Though since that time the salicylates have gained very great renown for the relief of rheumatic pains, and were at first hailed as specifics in this disease, still they do *not* prevent cardiac and other serious lesions, nor influence the duration of the attack, but are, on the contrary, rather cause for relapses and chronicity, as is so ably and conclusively proven by R. P. Howard.

The treatment has, in all my cases, been directed almost exclusively in the line of digestion and general hygiene, as I have found all my rheumatics to be chronic dyspeptics of some sort or other. It may also be well to point out that these patients in my experience can be divided into two distinct classes. The first are spare, nervous men, or especially women, who often suffer from headaches, lack of appetite, distress after eating, and constipation. They are, as a rule, extremely light eaters, but drink instead a great deal of tea or coffee. Whatever food partaken of is low in nutritive value, and carbohydrates, albumens, and fats are not in proper proportions. The food is bolted and imperfectly masticated. Fresh air, sunlight, and exercise is insufficient; hot baths taken in excess, or not at all, cold baths never.

The second type is the ruddy fat woman, or especially man, with flabby, distended abdomen. Habits sedentary, or lazy. Hearty eaters and drinkers, doing either or both out of all reason, wherefore gastro-intestinal catarrh is of long standing, and general condition below normal, notwithstanding the deceptive appearance. To exemplify the kind of treatment that to me has proven of greatest value, it may be well to cite one of each of the above types.

Mrs. H., housewife, aged twenty-eight years. Both parents alive and well. When the father, who now is sixty-three, was about thirty years old, he was taken with repeated attacks of rheumatism, with fever, perspiration, and polyarthritis, which kept him in bed nearly three years, and incapacitated him for work during about seven years. Recovery was, however, complete, and he has worked hard ever since. His daughter, our patient, has had two children, both now living. No miscarriages. Has had measles, but not scarlatina, diphtheria, nor any previous disease. She has never suffered any especial shock, mental anxiety, sorrow, or injury, and has led a reasonably pleasant and comfortable life. Although always very slender, she claims to have been in constant good health. The appetite has, however, been poor, and she has ever since childhood been especially nervous. The only things she has had cause to complain of have been poor appetite, some "indigestion," headaches, and constipation, until in July, 1900, when, while at the seashore and after partaking of a "shore-dinner," she was suddenly seized with pain in one ankle. She went home and to bed, as the pain and fever increased. A physician was called in, and large doses of salicylates were taken. After the acute symptoms had attacked several joints, she improved and was able to attend to her children and household duties, though some stiffness and pain frequently reappeared. On November 19, 1900, the patient had chills, followed by very high fever and excessive perspiration. Different joints were then attacked, one after the other, and the patient has since that time had most every joint of her body affected, incapacitating her from all work, and even from rising from bed, walking, or attending to her own wants. Several physicians had frequently seen the patient and prescribed large amounts of salicylates, iodides, etc. When first called in the case, on September 14, 1901, I found the patient in very bad condition. She was greatly emaciated, pale, and anæmic in high degree. The muscular atrophy was marked; weight not above ninety-five pounds. The skin was dry, tongue pale and somewhat coated; marked tremor. Slight, soft mitral, regurgitant murmur. Pulse weak. Slightly prolonged expiration at left apex, but sputum examination negative.

Temperature somewhat above normal. Hardly any food was partaken of, especially as distress usually followed. Tea, toast, and oatmeal gruel were almost the sole diet. The almost always present articular pains and stiffness and had frequent exacerbations. Several joints were swollen and tender, but no bony deformities were observed, except second joint of third, fourth, and fifth fingers of the left hand. No pigmentation of the skin, no urate deposits of ears, fingers, or toes, but slight crepitation of left knee, right shoulder, and wrist. Left shoulder has been especially involved, but is now fully normal, except for a couple of persistent nodules.

For treatment, small, repeated doses of calomel were administered and followed by saline. Teaspoonful doses each of sodium bicarbonate and sulphate have been taken every morning up to the present time. One pint of hot water and one-tenth grain strychnine sulphate half an hour before each meal. Cold sponge baths taken every morning (and often, also, at night), followed by brisk rubbing down. Light massage an hour daily. Warm bath once a week, followed by cold sponging and rubbing down. Four meals a day, including almost three quarts of milk, salted, or with some vichy. Three to four eggs a day, beaten or soft boiled; raw oysters or clams, broiled steak or chop at least once a day, with baked potato. One piece of dried toast or zwieback, eaten dry, with each meal. Meat jelly, custard, junket, whey, clam broth, clear soup, or beef tea, with raw egg to be taken alternately at meals. Grapes and orange juice *ad libitum*. A digestant was given at the beginning of meals and a tablet of bismuth betanaphthol an hour after meals. The patient was assisted to a comfortable chair in a well-aired room, where she has gradually remained longer each day in direct sunlight, with directions to exercise different joints and to walk a little at a time. When troubled with pain an anodyne was given, but this has not been necessary more than a few times. After two weeks of this general treatment, freshly made Blaud's pills, with arsenic, were given and are still kept up to the limit.

Under this treatment, the patient has improved wonderfully in every way and surprised me by walking the four blocks to my office without bad effects. This was about three weeks after treatment commenced, and she has since been able to attend somewhat to her home duties, gets in and out of bed, walks about and even takes her own bath, etc. She now suffers hardly any pain, though still rather stiff and tender.

Mr. X., retired sea captain, somewhat over sixty years old, of the hearty-living variety. Claims always to have been well, though interrogation brings forth a statement of the usual symptoms of chronic gastro-intestinal catarrh. Was seized with severe pains in the right knee on the night of September 7 last, accompanied by slight chill, hyperpyrexia, and later perspiration. When seeing the patient in the morning, I found him quite unnerved by the night's suffering. There were considerable redness and swelling of the knee, and the least touch or movement caused extreme suffering. Pulse about 120, temperature 103.2°. A hypodermic of morphine and icebag over the precordia were followed by marked relief. Small, repeated doses of calomel, followed by saline hydragog were given. The joint was carefully sponged off with alcoholic solution of menthol, after which ice was applied also to the knee, which relieved the symptoms considerably.

Without going into further detail, it may be well to say that small, repeated doses of calomel, alkali, and saline cathartics in some form, a few hypodermics of morphine, ice to the affected joint, or joints, and, if necessary, to the precordia, cold sponging, followed, if necessary, by some antipyretic, together with dietetic, hygienic, and hydrotherapeutic measures generally, have proven effective and certainly more so than salicylates. I have not found meat diet contraindicated in rheumatism after the temperature has subsided; on the contrary, when pyrexia, with its coincident decrease in gastric secretion, has disappeared, my conviction is that meat, in some easily digested form, or predigested, or in some of its preparations, as somatose, jelly, beef tea, etc., is of special value. I have during pyrexia even fed many of my patients on beef tea with yoke of egg, somatose solution, or egg-albumen water, instead of on the usual milk diet. The principal thing, in my estimation, is to give especial attention to the digestion and absorption of a rational quantity of food of proper components, with an excess of nitrogenous matter. Attention to the elimination can, however, never be too rigid. All hygienic measures are, furthermore, of prime importance; and fresh air, sunlight, cold spongings, followed by brisk rubbing or massage, are of far more importance than medication

205 West 105th Street.

MUNICIPAL SANATORIA.*

By ALFRED MEYER, M.D.,
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In the preface to the report of the First New York State Conference of Charities and Correction I read: "This conference was organized for the purpose of considering questions of practical importance relating to the public and private charitable and correctional work of this State, in the hope that this and similar annual conferences would exert a powerful influence for good in securing intelligent action upon such questions." Therefore, it is surprising that, with such a large scope, not a single paper was devoted to the discussion of the very largest charitable topic in the world: The care of the consumptive poor. In an audience like this it is scarcely necessary to adduce evidence in support of the statement that this is the largest question of that kind. Everybody interested in charitable work knows it; whether he studies the question by sex, color, or nationality, whether by towns, cities, states, or continents; the figures may be kaleidoscopic in arrangement, but they are terribly uniform in their results, always telling the same pathetic story of one-seventh of the population of the globe doomed to die of consumption. Moreover, in every community vast numbers of these have not even had a fighting chance to get well because of their poverty, nor is there sufficient provision to smooth their way to the grave. And so, everywhere, in foreign lands and in our own, the cry is raised: More must be done for this long-suffering and long-neglected class. But there is another reason besides the nature and enormity of this problem, why it should with propriety find a place upon your programme, and that is because your meetings, attended as they are by philanthropists, charity workers, social scientists, public officers, and physicians, permit of a wide and helpful discussion.

What greater stimulus could we have in the prosecution of our work in behalf of these sufferers than the knowledge that there is something to be done for them, that they are not necessarily doomed to a lingering death. The hopelessness of twenty-five or thirty years ago has given way to the hopefulness, not only of arresting the disease in the individual case, but of preventing the disease in others and, perhaps, of exterminating it altogether. Fortunately, this

*Read before the Second New York State Conference of Charities and Correction, November 21, 1901.

hopefulness is not born of a hysterical enthusiasm, for we all believe with President Roosevelt that, "If there is one thing more than another which we do not wish in our civic and national life, it is hysteria in any form;" but it is a hopefulness pervading the entire medical profession, born of a faithful study of facts and figures from all over the world. In our own country, "The diminution of pulmonary tuberculosis in Massachusetts is remarkable, the death rate having fallen from forty-two in ten thousand inhabitants in 1853 to twenty-one and eight-tenths per thousand in 1895" (Osler), or to just about one half. I shall not trouble you very much with figures, but I must quote a very interesting calculation made by Professor Fraenkel of Berlin in a recent number of a German medical periodical. Starting with the assumption that there are eight hundred thousand consumptives in the German empire, and allowing for the cures affected annually at the sanatoria and the reduction thereby of foci of infection, he believes that if provision were made for the care of eight thousand advanced cases annually, there would be a reduction of eighty thousand cases in five years, so that in 1906 there would only be seven hundred and twenty thousand consumptives. If, then, in another period of five years there were a reduction of another eighty thousand, this would already represent one-ninth of the total number and not merely one-tenth, so that it would appear possible "slowly but surely to exterminate the disease." I am speaking of this at some length, because even in educated circles the old idea of the incurability of pulmonary tuberculosis is not yet uprooted, a man so in touch with the philanthropic life of the day as Bishop Potter having fallen into this error in a recent public address. Taking it for granted that one of the most powerful incentives for the erection of sanatoria to-day is the fact that a man has a better chance of recovery from consumption than he would have had fifty years ago, we must in this connection remember two things: First, the disease can be recognized earlier than formerly, and second, the rational sanatorium treatment ought to be instituted early. The medical profession is coming more and more to look upon these two propositions as axioms. Just as Behring's diphtheria antitoxin cures only when administered early in the course of this disease, so does the early application of sanatorium treatment hold the key to the result in consumption. In other words, poor patients must be removed promptly from the conditions prevailing in their tenement homes, and some one else must provide the means to do it. Now, for many years private charity has been grappling almost unaided with this problem, and when we analyze the disproportion between the means at command and the end to be attained, we cannot help admiring the devotion of those engaged in the contest. Finally, it began to dawn on the minds of many men, physicians, philanthropists, and public officers, that, to wage this fight on lines and with means commensurate with its enormity, we must needs enlist the help of the State. Under our system of government, with its jealous guarding of the powers and prerogatives of the individual State, not much aid was to be expected from the national government. In view of this limitation, it would appear reasonable that the United States should at least provide suitable sanatoria for its own servants, its soldiers and marines, and a beginning has actually been made by the establishment of the General Hospital for the Treatment of Pulmonary Tuberculosis at Fort Bayard, N. M., where 263 patients, mostly enlisted men of the regular army, were admitted from October, 1899, to December, 1900; and one hospital has been established under the control of the Marine Hospital Service.

The eyes of those interested were then turned to the individual State, as the ideal political unit to which to appeal for financial and moral support in developing the sanatorium idea. Although Massachusetts (I always like to take off my hat to her) is the only State which has such an institution in successful operation, her example has borne rich fruit. The agitation for similar institutions has spread from State to State, partly through the influence of societies specially formed for this purpose, and partly that of already existing charitable organizations, the labors of physicians, of boards of health, and of the educational work of the press.

In some States, like Maine and Rhode Island, commissions have been appointed to investigate and report upon the advisability of sanatoria; in others, like New Jersey, Connecticut, Illinois, Michigan, and Wisconsin, bills have actually been introduced for their establishment, and in New Hampshire a bill to that effect has been passed by the Legislature; while in Pennsylvania the State has appropriated fifty thousand dollars to an incorporated society, known as the "Free Hospital for Poor Consumptives," and for the past eight years has appropriated five thousand dollars annually to the Rush Hospital for Consumptives.

The development of this great movement in our own State is, perhaps, familiar to all of you. You know that after much discussion and several defeats in the Legislature, two appropriations of fifty thousand and one hundred and fifty thousand dollars, respectively, were appropriated, and a Board of Trustees was appointed by Governor Roosevelt to proceed with the selection of a site and the erection of suitable buildings. But, alas! after much faithful work by them, a site has not yet been agreed upon, and for the time being the money is lying idle, the good intent of the State is nullified, and a great and good work is blocked.

But even were the State already actively launched upon this life-saving career, it is perfectly clear to every one familiar with the facts that one sanatorium would be entirely inadequate for the demands upon it. In fact, one of the arguments advanced against the entire movement was the danger that the State would be bankrupted by the many millions of dollars required to care for all the incipient consumptive poor within its borders. It was this consideration, and a feeling, especially among rural legislators, that the great population centers would be the main beneficiaries of such institutions, that led to the conclusion that a State sanatorium should merely serve as an example and a stimulus, and that each municipality should decide for itself, as a sort of "local option," the question of additional facilities and outlay. And so, in 1899, the Henry bill was passed, as follows: "Any municipal corporation, having a population according to the last State census of 250,000 or more inhabitants, shall have the power, whenever its board of health shall deem it necessary for the promotion of the health of its inhabitants, to establish, equip, and maintain, outside of its corporate limits, and at such place or places within the State of New York, and not within the corporate limits of any other municipal corporation, as may be determined upon under the provisions of this act, a hospital or hospitals for the regular treatment of the disease known as pulmonary tuberculosis."

In the autumn of 1900, I made a plea before the New York Academy of Medicine for action under this law, showing that in Greater New York alone there were about eight thousand deaths per annum

from consumption, that there were probably twenty-five to thirty thousand cases in various stages of the disease, that in the year 1899 the city had provided about three hundred and sixty-five beds for them in seven public hospitals, and that twenty-six private hospitals accommodated about one thousand cases more, and of these, a very large proportion (about one-third) were advanced cases—namely, 635 deaths out of 1,839 cases in the public hospitals, and 914 deaths out of 3,050 cases in the private hospitals. It was urged that large numbers of these would never have become advanced and fatal cases, had they, while still in the initial stages, been properly cared for in sanatoria.

There appeared to be no opposition to the project of a municipal sanatorium from the physicians, philanthropists, and city officials present at the meeting. It received assurances of support from the Department of Health and of Charities, and later on hearty sympathy from the Comptroller of the City. As a final outcome, a committee of five physicians, of whom I am one, was appointed by the council to co-operate with other bodies to further the erection of a municipal hospital for consumptives, and the following resolutions were adopted, which may well be accepted as a most excellent enunciation of principles for all similar institutions:

First. Resolved, That the Committee appointed by the Academy be instructed to use its influence to have the municipal hospital constructed for cases in the early and presumably curable stage of phthisis.

Second. Resolved, That while the proper designation for such a hospital would be for curable cases, yet in view of the bad effect a refusal to be admitted would produce upon others, the designation be "Hospital for Incipients."

Third. Resolved, That the Committee be instructed to use its influence to have the hospital placed in a locality which would be most productive of good; where there shall be such space that it shall not become an injury and danger to the neighborhood, as would be the case were it placed in a populous locality.

Fourth. Resolved, that the Committee be instructed to use its utmost endeavors to have such examinations for admission made by thoroughly competent physicians possessed of such moral stamina as shall prevent advanced and incurable cases being sent to the hospital for incipient cases.

Fifth. Resolved, that the Committee be instructed to use its influence to have the rules and regulations of this hospital such that it shall not become an unnecessary burden upon the community.

The possibilities, under this last resolution, in the way of economy, are perhaps greater than appear on the surface. I need only refer to the fact that many incipient cases may do a small amount of work, not only without injury to their health, but with actual benefit to it. The work must be regulated in amount and character by the physician in charge, and may be subject to change from day to day. For many, light farm work is the most suitable. This system has been introduced at the Bedford Sanitarium of the Montefiore Home, with which I have the honor to be connected, and the following products were raised, largely by the patients under supervision of a skilled farmer, during the year 1900—the average number of patients per day then being only twenty-five.

About 30 tons of hay, 160 bushels of potatoes, 160 barrels of apples, 70 bushels of onions, 350 bushels of corn, 1,000 heads of cabbage, 25 bushels of beets, 40 bushels of carrots, 100 bushels of turnips, and twenty different kinds of vegetables. Part only of these products being used in the commissary department, the rest was sold.

In the opinion of the writer, the next step in the evolution of this movement, at least in this community, is to have this committee unite with other bodies and organizations having a similar object at heart, and to appear with them before the Board of Estimate and Apportionment with a request for an appropriation of three hundred thousand dollars for this purpose. The time is now ripe for such a step; all that is needed is a union of forces, and with this sum of money an institution could be erected to accommodate three hundred patients. Boston is already ahead of us. Its city government recently appropriated one hundred and fifty thousand dollars for a municipal hospital for consumptives. In Philadelphia, after ten years of fruitless endeavor, the city authorities are now considering the matter of setting aside one of the outlying city farms for the use of a sanatorium, and at the same time of appropriating eighty thousand dollars for the erection of a plant. Cincinnati, as long ago as July, 1897, opened up an institution of this kind in a fifty-three acre park within five miles of the General Hospital. Up to August, 1899, three hundred and thirty patients had been treated there. When will New York rise to the greatness of its opportunity to bring this blessing within the reach of its consumptive poor? But if the attempt fail in New York, there is no doubt that such failure will be largely, though not entirely, attributable to the expense. Under these circumstances, why should not the bill be amended so as to include cities of the second class? The tuberculosis problem is the same in these as in New York and Buffalo, and the financial obstacles may not be so great. This would permit Rochester, Syracuse, Albany, Troy, and Utica to act, and enough public-spirited citizens and officials may be found in one of these cities to push the project to a successful issue. The first city in the State which erects a sanatorium outside of its corporate limits under authority of the legislature will ultimately find so many imitators among her sister cities that her initiative will deserve to rank among the greatest victories in the anti-tuberculosis campaign. Before closing, I wish to put myself upon record (and I trust that it may prove to be the consensus of opinion at this discussion) that no system of municipal care of consumptive poor will be complete which does not also provide for the care of advanced cases within the corporate limits. Not only will such provision diminish the temptation to pronounce these cases incipients, which would mean occupying the place that of right belongs to others, but it would largely eliminate the depressing and injurious effect of frequent deaths in the midst of the incipients. In other words, the two types of cases should be kept strictly separate, or at least as strictly separate as the present status of medical science permits; the incipient and presumably curable cases in a sanatorium outside the corporate limits, and the advanced and presumably incurable cases in an institution within the corporate limits. Here the latter may be permitted to remain with such comforts as medical knowledge and nursing can bring them, with the added joy of the nearness of relatives and friends until death releases them from their misery. In the prosecution of this work may we have, in the language of Huxley, "Just enough fanaticism as a sort of moral coca, to keep up to the mark," and may the disinterested labors and the wide influence of this conference hasten the day when this policy shall meet the approval of the enlightened citizens and public officers of this city, and of the other cities and towns of the Empire State.

801 Madison Avenue.

TREATMENT OF DELIRIUM TREMENS AND ALCOHOLIC TOXÆMIA.

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Delirium following the use of alcohol is rapidly increasing and becoming more prominent every year. The hallucinations of snakes and demons are seldom noted, but in their place are conceptions of enemies with guns, of falling walls in the building occupied by the victim, and constant apprehension of death by violence. The term delirium tremens (or "D. T.'s." a popular abbreviation) is loosely applied to all forms of delirium following the use of spirits.

In the recent textbooks, the classification of the different forms of alcoholism is made according to the particular mental characteristics predominating in each individual case, as acute, chronic, delusional, persecutory, melancholic, or dementia. Literally, any person who uses spirits to excess, at intervals or continuously, may have periods of delirium with delusions and sensory disturbances of short duration.

While the early treatment of these conditions is practically the same, the prognosis and later treatment will differ widely. It is important to determine the type and form of the mental disturbance, to ascertain whether the delirium appeared abruptly, or was preceded by evidences of mental confusion, as the domination of some unusual idea, made manifest by peculiar speech and conduct.

If the delirium comes on abruptly, the exciting causes are acute, and point to the formation of toxins, a condition of auto-intoxication. If the delirium has been preceded by mental changes, and transient alterations of thought and conduct occur, gradually becoming more constant and fixed, there are indications or organic lesions of the brain.

It is necessary to ascertain whether the delirium follows from a long period of continuous drinking, or a periodical use of spirits, or whether the drink period was preceded by some physical or mental disturbance arising from organic disease, traumatism, or mental strain. Whether it followed acute disease, severe exhaustion, or whether there was mental instability as the result of hereditary influence, preceding this state.

Alcohol in these conditions may be both an exciting and a predisposing cause. The symptoms will vary with the causes. If the delirium is due especially to the use of spirits, there will be more hallucinations and motor disturbances, the various changes taking place with different degrees of intensity. If the onset of the delirium follows some form of traumatism in persons who are accustomed to the use of spirits, the delusions will be more prominent and refer to some tangible object, or to the actual relations of life.

Should the delirium follow prolonged excess in the periodic drinker, where the alcohol is abandoned before the delirium comes on, intense hallucinations of short duration, prolonged delusions concentrated upon one subject, will follow.

These latter patients are often sent to insane asylums, where they remain for weeks and months.

The general pathology of these cases is a vasomotor paralysis, particularly of the blood vessels of the brain; the dilator and constrictor nerves in the walls of the arteries are affected, and a subsequent congestion in the veins is the result. The walls of the blood vessels become expanded or constricted over different areas, thus the normal flow of blood is accelerated at first, but finally retarded, the venous congestion in the flushed face being an example of this.

Alcohol also acts directly on the composition of the blood, increasing the number of white blood corpuscles, but diminishing their uniformity and movement, and also their form. At the same time there is a great reduction in the number of the red blood corpuscles, thereby depriving the system of its usual supply of oxygen.

The action of alcohol on the nervous system is to destroy the nutrition of the nerve cells, causing a shrinking of the dendrites and fibrillæ, and also the destruction of the cell itself, resulting in degeneration of nerve fiber. This breaking up of the nutrient blood current favors the formation of toxins, which circulate in the blood and become the source of other poisons.

In addition to this, alcohol may excite and develop some latent predisposition, increasing the irritability of the nervous system, thus favoring delirium and delusions in any form. The toxins formed from the use of alcohol are slowly eliminated, and have the power of either depressing or exciting the nerve centers.

The removal of the alcohol is the first step in the treatment. The cessation of the delirium must not be expected to follow the removal of the spirits; on the contrary, twenty-four or forty-eight hours after the alcohol is withdrawn, the delirium and delusions will usually break out with greater intensity. The impression is created that this is due to what is considered a too sudden stopping of the so-called stimulant. But experience proves this to be wrong, the delirium coming on whether alcohol is slowly or suddenly withdrawn. In some instances the slow withdrawal of the spirits, when accompanied with sharp elimination through the bowels and kidneys, is followed by a subsidence of the mental disturbance.

This is entirely due to the removal of the toxins, and would have occurred sooner had the spirits been taken away at once.

Slowly reducing the amount of alcohol, giving narcotics, forcing the feeding with an idea of overcoming the supposed exhaustion, is extremely dangerous treatment. Recovery is delayed and complications encouraged, and a protracted convalescence always follows, with frequent fatal results from pneumonia and acute inflammations.

Alcohol is always a source for the development of toxins, which in turn produce delirium, recovery being impossible until the formation of theses poisons is prevented.

This part of the treatment must be carried out with vigorous efforts to remove the conditions which favor the growth of the toxins. After the spirits have been removed, one must give small doses of calomel with the salines until free catharsis is induced. Then continue the salines in decreasing doses, every other day, until the delirium subsides. The favorite saline in my practice is a combination of magnesium sulphate and potassium bitartrate, two parts of the latter to one of the former, given in small doses according to the conditions present.

Next in importance are hot-air and hot-water baths, hot packs followed by vigorous rubbing, and the old-fashioned sweat in steam by the use of hot irons placed in water under a blanket, all being useful means of promoting the elimination through the skin. This function must be stimulated daily so long as the delirium continues, also throughout convalescence, only less actively. Profuse sweating is of value, not only for its eliminative action, but because of its sedative effect of sudden drainage of the toxins through the skin, and the diversion of nerve energy.

Frequent sponging with hot salt water is another most effective measure, that in some instances approaches a specific.

The different textbooks mention elaborate prescriptions containing narcotics to produce sleep, and

many authors urge that sleep is the first essential to break up the delirium.

This has been found to be dangerous both in theory and practice. The system is already working under great embarrassment, the vital forces are lowered from the poisonous effect of the alcohol and the profound depression from the toxæmia.

All efforts to produce chemical stupor and narcotism are dangerous as they increase the toxins and diminish the power to overcome them. In persons unaccustomed to the use of spirits, anæsthesia for surgical purposes is dangerous under the most favorable conditions, and the peril is still further increased by the use of narcotics or sedatives, their administration having a tendency to increase the growth of toxins. All preparations containing opium, chloral, bromides, or the coal-tar derivatives are depressing and positively dangerous in the stage of delirium, and should seldom be resorted to.

For the craving for alcohol that follows the withdrawal in some cases, strong solutions of quassia or cinchona, given every hour, will soon break up this impulse and produce an intense disgust for spirits.

Many authors urge that alcoholics should be given, and also both solid and liquid food very freely, believing that the delirium is an evidence of starvation, and that it can be overcome by the administration of concentrated foods, beef tea, hot milk, cereals, and other nutrients. This is also not supported by experience and is literally a hazardous practice.

Assimilation and digestion are enfeebled, the blood is charged with toxins, cell metabolism is deranged, hence food given at this time assists in the growth of new toxins, and developing centers for the production of additional poisons. Beef tea, milk, and all liquid food are actually culture mediums for the formation of new toxins and perpetuation of the old ones.

Should the patient have a strong craving for food, great discretion must be used in the selection of the proper quantity; but total abstinence during the early stage is productive of the best results. When the delirium is subsiding, food may be given with extreme caution, the preference being for solids. The skill of the physician is often taxed when the patient is treated at home, the relatives and friends becoming unreasonable in their demand for more active medication; in such cases, phosphate of sodium granules, each ⅛ of a grain, will meet the indication. Strong, discreet nurses and attendants, who will guard the patient from personal injury and faithfully carry out the hydropathic treatment, are an absolute necessity.

Restraint depends largely on the patient, and in certain cases should be associated with as much liberty as possible; in others, where great exhaustion is present, the patient may be kept in bed, and given massage daily.

The surroundings must be absolutely quiet, and the patient should have no visitors. The delirium in most cases is self-limited, and will naturally stop in a few days; but in those cases in which it continues, the reasons for such should be inquired into and acted upon accordingly.

The condition of the heart during the stage of delirium rarely requires any treatment, but the administration of strychnine is of benefit for some unusual indication. Hot and cold water bags placed over the pericardium are much safer and more effectual as stimulants.

Ice on the nape of the neck is one of the most powerful excitants that can be used. The danger of heart collapse is small, and is in some cases seemingly imminent, but is usually functional and soon disappears.

When the delirium has subsided, different conditions of prostration follow, which are successfully treated by nux vomica and the preparations of arsenic. Strychnine is an excellent drug, but cannot be used in all persons for any length of time. There is in some persons an extreme sensitiveness to its physiological action, and this should be recognized.

Nux vomica is less active and can be used for a longer time. Cinchona in the form of an infusion is a valuable remedy, but should not be continued long, because of the abnormal appetite it is likely to create. Arsenic in small doses, used in conjunction with phosphate of sodium as tonic treatment, gives excellent results. The salines are better than bitter vegetable tonics, and should be given freely.

For the insomnia and various neuralgias that follow the subsidence of the delirium, baths, moderate exercise in the open air, and static electricity are the most valuable measures.

When sedatives are called for, some of the coal-tar derivatives are often useful.

The vegetable narcotics, of which lupulin, valerian, bull nettle, and the passion flower are examples, are often found to be efficacious. Preparations of opium are not safe, although, in some instances, are very effective, but should always be concealed when administered. The acid phosphates are excellent in the convalescent stage, but care should be taken to use only the most simple formulas. Patients should remain in the open air as much as possible, and have "nerve rest" from all forms of excitement.

It is my practice during the stage of delirium to keep the patient in bed as much as possible; but when he insists on being up, to keep him in a state of sharp muscular activity by means of the baths, massage, walking, and other active movements.

When the delirium subsides, we should increase the muscle and nerve rest, but the bathing should be continued with light mental diversion. Static electricity given twice a day is very valuable. In my experience, the radiant electric-light bath at the beginning of the treatment has a most powerful action in promoting elimination and relaxation, which is followed by sleep, at first of short duration, then of increasing longer intervals.

In the convalescent stages, both the static electricity and electric light bath are the most valuable agents that can be used.

In one of the large public hospitals, patients with delirium are kept in the yard in the open air during the warm weather, with the apparent result of shortening the delirium.

It has been my experience that in selected cases the patient can be taken out for a walk with attendants, and after returning can receive a warm bath with excellent results.

Restraint in padded rooms, by straps and other appliances, is frequently the source of great exhaustion, and is fully as dangerous as restraint by chemical agents in the form of sedative and narcotic drugs.

Active exercise promotes excretion, and, with the aid of the baths and saline cathartics, helps to eliminate the toxins and restore the normal metabolism.

The evils to be avoided in all these cases are over-drugging and over-feeding, and the object sought for should be to assist nature to overcome the toxæmia and build up the deranged organism.

The Plague in Russia.—It is said that there has been an alarming spread of the plague in South Russia, according to dispatches from Lemberg, hundreds of fatal cases being reported in Moscow, Odessa, Kieff, Kherson, and other towns.

Spondylitis Deformans as a Form of Arthritis Deformans.—According to A. J. KUDRIASTOFF, spondylitis deformans is simply a form of arthritis deformans. His own observations have convinced him of the fact, and he believes that, though many authors have of late described the disease under different names, still they all must have meant the same affection. Senator says that the difference in the phenomena of the disease depends only on the difference of the affected parts, on the difference in the intensity of the disease with which the articulations of the extremities are affected, and on the presence or absence of the derangement of the nervous system. The author thinks that the limited or entire loss of motion of the vertebral column, more frequently its kyphotic curvature, occasionally the creaking sound felt in the vertebral articulations, the irregularity of the nervous phenomena of the spinal cord (with comparatively slight lesion of the latter), the marked atrophy of the corresponding muscles, the slow but gradually aggravated course of the disease, the limited or total loss of motion of the thorax, frequently the synchronous affection of other articulations, the occasional involvement of the heart; the action, cold, or injury as an exciting cause, the obstinate resistance to all treatment, and, finally, the deformed vertebræ felt on palpation—all these tend to prove that spondylitis deformans is simply a form of a well-known disease—Arthritis deformans.—*Vratch.*

Immunity in Infectious Diseases.—J. J. METCHNIKOFF concludes a long review of this subject as follows: (1) Immunity in infectious diseases is simply a case of ordinary absorption of organized elements; (2) The most general phenomenon in natural and artificial immunity is the process of phagocytosis; (3) The action of the phagocytes is due to their great sensitiveness, and their capability of digesting organized elements; (4) Intracellular digestion is performed with the aid of ferments, the chief among which are the cytoses; (5) These substances remain within the phagocytes, and not exuded into the plasma, they can pass into the fluids of the organism only after phagolysis, *i. e.* destruction of the phagocytes; (6) The digestive function of the cytose is aided by a substance more resisting to the action of the temperature, namely, philocytose (*substance sensibilisotrice or Zwischenkörper*); (7) Philocytose is a product of phagocytosis, and is exuded into the plasma in considerable amount; (8) Not only in natural, but also in some cases of artificial immunity, the organism is capable of resisting infection without the aid of the philocytose exuded into the plasma; (9) Antitoxins are, if not wholly, at least partially, products of the phagocytes; (10) Both natural and artificial immunity is to be looked upon as a cellular function.—*Russki Arkhiv Patologii, etc.*

Laryngeal Tuberculosis and Pregnancy.—A. KUTTNER submits the following propositions: With women in whom the prognosis is helpless, one should treat laryngeal tuberculosis only in the usual manner, and, if necessary, perform tracheotomy. With women in whom the general prognosis is favorable, one should wait so long as the laryngeal tuberculosis is quite slight (little erosion, a circumscribed ulcer). As soon as infiltration takes place, or the disease tends to become diffuse, one should inform the patient of the danger of her condition; and, after her consent is obtained, undertake tracheotomy as soon as possible; and should this not work favorably in a few days bring about artificial abortion. The earlier the pregnancy is interrupted, the more favorable are the chances for the mother, because the strain of labor is less the smaller the fœtus is, and also the loss of blood which occurs in artificial abortion is proportionately small. From the seventh month of pregnancy the chance for the mother becomes worse, because great exhaustion usually follows the strain of delivery. In advanced laryngeal tuberculosis it is advisable to undertake tracheotomy before delivery, or, at least, to hold one's self in readiness for its performance, in order to obviate the risk of sudden suffocation during delivery.—*Journal of Laryngology.*

The Personal Factor in Tuberculosis.—DYCE DUCKWORTH says that there are two pathogenic factors to be regarded in any case of tuberculosis: (1) The host, and (2) The infecting parasite. The younger pathologists are too apt to "reckon without the host." Physicians must consider the personal factor in disease. The modern doctrine that "scrofula is tuberculosis," the author absolutely denies, and maintains that it is possible to be scrofulous throughout life without becoming tuberculous. The essential character of scrofula is a textural vulnerability to irritation of all kinds, and especially to tuberculous invasion. Persons of gouty predisposition are thereby largely immunized against tuberculosis, the offspring of the gouty manifesting none of the peculiar delicacies of the strumous. Tuberculosis, when it occurs in the gouty, makes little progress, as a rule, and tends to obsolescence. Many of the preventive procedures against tuberculosis must relate to the personal factor, and our duty is to fortify the host against invasion, as well as to intercept and destroy the invader. The author protests against the modern idea of "curing" tuberculosis. All that we can do is to place the patient in conditions favorable to an arrest of the process.—*The Medical Press and Circular.*

Lessons to Be Learned from Vegetable Pathology.—JONATHAN HUTCHINSON calls attention to diseases in the roots and in the leaves of trees. If the whole tree is sickly, either there has been some starvation process at work in the supply of nutriment, or some general disease of the roots. The laws of competitive nutrition are often exemplified in vegetables, in congenital hypertrophies, for instance, and in the tendency in trees to produce a large number of seeds. Fungus growths attack roots and stems of trees and plants. Trees often have marked idiosyncrasies, as in the case of two oaks standing near each other, of the same age and species, and in equally good health. One of them keeps its leaves all through the winter. Disease and living parasites can be introduced upon plants, an instance of which is seen in the formation of galls from eggs deposited by a mother aphis at some point where a stem is about to bud. The plant mistakes the irritation produced by the eggs for the irritation produced by its own living seeds, and in the Norwegian spruce, for example, there is the production of something very like a cone.—*The Medical Press and Circular.*

Guaiacol Treatment of Laryngeal Tuberculosis.—J. H. COULTER advises that previous to the application the mucous surface should be cleansed with a warm alkalizing spray, not too vigorously applied. Then either by spray or swab apply a local anæsthetic of holocaine and antipyrin (1 per cent. of the former and 1½ per cent. of the latter). If, then, the guaiacol be immediately applied, or injected with care, the patient will suffer only a transient burning sensation of which few of them complain after the first treatment. He begins with a 20-per-cent. solution of guaiacol as an application, and, by treating the patient every other day, has had little difficulty in rapidly increasing the strength of the application, so that at the end of ten or fourteen days he could use an 80-per-cent., or, in some cases, a full-strength solution.—*Chicago Clinic.*

Bony Cysts of the Maxillary Sinus.—E. LAFARELLE reports two cases of this nature, both of which were cured by operation through the canine fossa. He regards as features peculiar to this condition the following: (1) The patient does not blow the nose and never discharges pus, at least not constantly; (2) Intranasal examination does not reveal any sort of irritation about the infundibulum or about the orifice of communication with the sinus; (3) An injection made through an alveolar opening returns by the same channel, and does not appear in the nostril.—*Revue Hebdomadaire de Laryngologie.*

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THE PATHOGENESIS OF TUMORS.

At the present time, for various reasons, more acute interest is taken in cancer than in any other disease. Its rapid increase in this and other countries, its occurrence among the royal families of Great Britain and Germany, and the awful nature of the malady are sufficient to account for the intense concern expressed everywhere by scientific men, with regard to its etiology, and the means of prevention or cure.

That cancer is really on the increase would appear to be an indubitable fact. Park has demonstrated that such is the case in New York State, and similar evidence comes from almost all the civilized countries of the world.

The Registrar General for Ireland reports that in that country the rate of mortality from cancer is higher than is the actual number of deaths from the disease.

The theory of a parasitic origin of cancer has received most favor with the majority of investigators, and it must be said that the preponderance of expert opinion in support of this view is justified by the result of the researches undertaken up to date.

Nevertheless, nothing has been definitely decided, and there are many earnest students who still hold that the arguments used and the testimony proffered by the upholders of the parasitic theory of malignant tumor require much further confirmation ere conclusions will be accepted as final.

Dr. Charles Powell White, Demonstrator of Pathology, Victoria University, Leeds, antagonizes the aforesaid theory, and in an able paper gives his ideas on the subject.

He believes, with Ribbert, that every cell has an inherent capacity for growth, which is held in restraint by the "tissue tension" of the part when this tissue is diminished, the capacity for growth is set free, and proliferation takes place. In short, Ribbert holds that fibrous tissue plays the chief part in tumor formation. Dr. White terms his explanation of cancer origin, "The doctrine of physiological equilibrium," an expansion of Ribbert's theory.

The argument is somewhat as follows: The axiom is laid down that the various parts of which the body is composed are normally in a state of equilibrium—stable, unstable, and neutral. If the position is stable, any disturbance leads to a position from which there is a tendency to return to the original position; if it is unstable, any disturbance leads to a position in which the tendency is to fall away from that position, while the state of neutral equilibrium does not occur in the living body.

According to Dr. White's views, the essential factor in tumor formation and other progressive processes does not lie in external agents, but the condition of the body which he denominates unstable equilibrium.

Dr. White summarizes in part thus:

Tumors, as a rule, take their origin from normal tissues or cells; occasionally, however, they may start from one of Cohnheim's rudiments. The extrinsic causes of tumor formation, as far as they are known, do not differ essentially from the extrinsic causes of inflammation, etc. In the case of tumors, however, we generally cannot determine the extrinsic causes, and, on the views that I have propounded, this is intelligible, that the parts being in an unstable equilibrium, a very slight cause would suffice to disturb the position.

The essential difference between the progressive and reparative processes lies in the condition of the body. In the one case the parts are in unstable, in the other they are in stable, equilibrium. It is not possible, at the present day, to say in what this difference actually consists.

The gist of Dr. White's argument would seem to be that, when the body is in that condition which he terms unstable equilibrium, either the progressive or reparative processes may cause cancer, and that the origin of the disease depends essentially upon the condition of the body, and not upon external agents.

As remarked before, these views run counter to the parasitic theory held by the majority of those who have made long and deep researches into the matter, and which is, without doubt, the strongest theory of the origin of cancer yet advanced. But at the same time no absolutely definite proof has been brought forward that the disease thus originates. Until this has been done, it is open to any one to propound views; and, moreover, a successful ultimate discovery is likely to be more quickly arrived at by a free ventilation of the subject in medical journals and at medical meetings and by painstaking laboratory investigations from every conceivable standpoint.

INTUSSUSCEPTION.

THE slipping of one portion of intestine into another adjacent portion can scarcely be considered a common disorder in children, but the need for treatment, when it arises, is so urgent that the condition is one concerning which the practitioner cannot be too well informed. In many respects, the attitude of the physician with respect to intussusception has become much like that with respect to appendicitis and other forms of intestinal obstruction, and while, like the latter, it may in its incipiency present features of a medical aspect, the condition is one in which the advice of a surgeon should be had early in order that if operative intervention become necessary, it can be promptly instituted. The essential cause of intussusception is excessive activity on the part of the muscular coat of the intestines, the vermicular action of one portion of the bowel carrying it into another distal portion, in which it becomes grasped

by the contraction of the circular muscular fibers. In an address delivered recently before the North Wales Branch of the British Medical Association, Mr. Edmund Owen (*British Medical Journal*, September 7, 1901, p. 573) described the symptomatology of intussusception as follows: "A healthy infant or young child is suddenly seized with a pain in the abdomen. He rolls, screaming, on the floor or in his cot and is found 'doubled up' and much collapsed. Probably he vomits, and in a straining act of defecation he passes a little mucus or some mucus and blood with scanty liquid fæces. (Were his trouble due to a twist or a band, nothing would pass per anum.) There may be no distention of the bowel, for the case is not one of actual intestinal obstruction; there may even be some diarrhœa. The distress comes on in paroxysms and between whiles the little patient may lie quite placidly. So the surgeon must sit by and watch. If the abdomen remains flat, there may be no difficulty in making out the presence of a 'thickening' or a 'lump' in the region of the ascending colon. The textbooks, with their customary unanimity, speak of the little lump as 'sausage shaped.' This is somewhat unfortunate, for that striking simile has left so deep an impression on the student that when he gets into practice he may hardly dare to make the diagnosis of intussusception in absence of the 'sausage-shaped' tumor; and if he waits for the mass to assume this shape before venturing on his diagnosis, he may be doing irretrievable harm to his patient and spoiling the chance of the ultimate success of a surgical operation." Mr. Owen is an advocate of prompt surgical intervention in the treatment of intussusception, and is of the opinion that it is "nothing less than a calamity that physicians have every now and then managed to chase back an intussuscepted piece of bowel by using an enema." He goes on to say that "it would be an interesting speculation as to the percentage of cases in which the receptive piece of bowel has been ruptured or in which the child has died unrelieved." As Mr. Owen points out, the results of abdominal section for intussusception have hitherto been highly unsatisfactory, but this is largely due to the fact that operation has been undertaken only after the child has been subjected to inflations or injections and other manipulations. Mr. Owen sums up his argument by maintaining that whether strangulation of the intestines is due to an ensheathing piece of bowel or to the neck of a hernial sac, the effects are much the same, and that delay in affording relief is likely to be fatal. Finally, he contends that the best way of affording prompt and certain relief is by the surgeon cutting down to the seat of strangulation and putting it right in a proper surgical way.

Mr. Bernard Pitts (*ibid.*, p. 574), in a paper read before the recent meeting of the British Medical Association, recommended the following plan of treatment for cases of intussusception: (1) Try inflation only when the case is seen within a few hours of the onset and it is not of a very acute character. In the great majority of hospital cases, it is better to open the abdomen at once. (2) Inflation may be tried in certain other cases for the purpose of reducing the main portion of the intussusception and enabling the incision to be made directly over the cæcum. (3) When reduction is found impossible in chronic cases, a resection may generally be done through an incision in the ensheathing bowel. (4) In a few cases and especially if gangrene is present or the condition of the bowel requires its removal, a wide resection should be undertaken as rapidly as possible and the ends brought outside the abdomen. Continuity should be restored at a subsequent operation. (5) In exceptional cases of enteric intussusception, resection and immediate restoration of continuity afford the only chance. Mr. D'Arcy Power (*ibid.*, p. 579) stated that although formerly an advocate of irrigation of the bowel, greater experience has taught him that this method is not to be relied upon. It is now his practice to perform abdominal section at the earliest possible opportunity, reducing the intussusception if possible without bringing the tumor into the wound, though he has no hesitation in making a large incision and bringing the intussusception outside the abdominal cavity, should there be the least difficulty in reduction. Mr. William McA. Eccles (*ibid.*, p. 580) expressed the opinion that providing the surroundings of the patient are satisfactory, the results of the present day show that immediate cœliotomy with a view to reduction of an intussuscepted bowel is clearly indicated. Mr. A. H. Tubby (*ibid.*, p. 580) held that in all but possibly the earliest cases—that is, in those of a few hours' duration—the patient stands a much better chance if abdominal section is performed at once. Mr. Frederick Eve (*ibid.*, p. 582) summed up the arguments against the employment of inflation or injection as follows: (1) Injection or inflation is rarely efficacious. (2) Injection or inflation is not infrequently followed by an illusory or partial reduction. So-called recurrence of the displacement is inevitable, and the consequent delay in performing the operation usually leads to a fatal result. (3) Injection or inflation is haphazard and therefore unscientific. Neither can be expected to influence an intussusception commencing in the small intestine. It has been shown experimentally that as regards young children the ileocecal valve is so competent in more than half the cases that it will not permit sufficient air or water to pass it to reduce an artificial invagination of the ileum. It is thus obvious that the consensus of English opinion is against temporizing measures in the treatment of intussusception of the bowel and in favor of early operation.

BRITISH AND AMERICAN NAVY RATIONS.

So to feed a navy as to keep its men in a good state of health and render them efficient fighting machines, is a more difficult problem successfully to solve than with an army. There has been for some time among the crews of British war vessels much dissatisfaction with the dietary table. A committee, therefore, was appointed to probe the matter, and to suggest improvements. This committee has just ended its investigations, and has handed in its report, which is worthy of a careful study by those connected with, and interested in, the navy of this country.

In the first place, the composition of the committee will probably arouse some surprise, as with one exception its members were all laymen. The inclusion of an expert, who could have passed an authoritative opinion on the value of the food regarded from a scientific nutritive standpoint, would have added weight to the deliberations. Notwithstanding this omission, the conclusions reached by the com-

mittee seem to have given general satisfaction, tinged, it may be said, with judicious criticism.

From a perusal of an abridged copy of the report, it will be gathered that biscuits are peculiarly distasteful to the British man-of-war's man, yet the committee could not see its way to recommending the serving of fresh bread at sea, although it is claimed that the baking of this article of food presents no insuperable difficulties on board a modern battleship. Potatoes, it seems, are in great favor with sailors of the Anglo-Saxon race, and the committee recommended that the supply of the vegetable should be increased.

The point that will probably most forcibly strike an American naval man when reading the revised diet table of the British navy is its lack of variety and the apparent inadequacy of the fresh meat supply. In time of war, dependence will be placed upon salt meat and preserved foods, and as a correspondent to the *Lancet* cogently remarks, "He sees no reason why salt meat should be regarded as a *sine qua non*, nor why slightly corned meat should not be substituted or used in conjunction with the sailor's hard tack."

Again, it will appear somewhat curious to an American that scarcely any of the English war ships are supplied with refrigerating chambers. This circumstance, however, is not touched upon by the committee.

So far as weight is concerned, the new daily ration of the British navy compares well with the old ration, the former weighing four pounds and the latter three and a quarter pounds.

The British seaman's diet as now constituted contains. Proteids, 8.37 ounces a day; carbohydrates, 19.83 ounces a day; fats, 3.63 ounces a day; salts, 1.27 ounces a day. This combination of the ingredients necessary to keep a man in vigor would appear to be in proper proportions, and compares favorably with the food usually eaten by those who are engaged in hard manual labor.

Some three years ago, the United States navy adopted a new diet table, which, for amount, variety, nutritive and sustaining qualities, cannot be equalled by any navy of the world. For each meal in the table, running through a week, says the *Army and Navy Journal*, the precise amounts of albuminoids, carbohydrates, and fats were arranged. The full diet table is as follows, for one day in the week (the number after each article relating to ounces): Breakfast: coffee, 1; bread, 4; butter, 1; milk, 6; sugar, 1; oatmeal, 1; beefsteak, 6; Dinner: rice soup, 8; bread, 4; roast beef or roast or boiled fowl, 8; potatoes, 8; other vegetables, 6; pickles, 1; bread pudding with sauce, 6; or custard frozen, 8; fresh fruit, 6; Supper: tea, ¼; bread, 6; butter, 1; milk, 2; sugar, 1; cold roast mutton or cold roast beef, 4; stewed, dried fruit, or apple sauce, 4.

The staples, coffee, bread, butter, milk, sugar, and fresh and dried fruit, are the same for each meal; but there is a daily variety in meats and other articles, for breakfast, dinner, and supper.

A comparison between the American navy diet table and that of the British will, of course, be immensely to the advantage of the former. It may be borne in mind, however, that the British Government, in dealing with both its soldiers and sailors, eschews luxury for them, and merely endeavors to provide a wholesome diet at a cheap rate. Whether, when the recommendations of the committee are carried out, this object will have been fully attained, remains to be proved.

To the ordinary observer it might appear that the committee would have done well to recommend the serving of fresh bread at sea, the construction of refrigerating chambers on battleships for the preservation of butter, meat, and other articles of diet, and to advise that salt meat should not be wholly relied upon as the staple of diet in time of war.

It is easy to criticise at a distance, and probably the committee, who were all practical men, were thoroughly well acquainted with the idiosyncrasies of the British naval sailor, who, with the usual conservatism of the race, might strongly object to his modicum of salt beef being decreased, and might regard with scorn the Sybaritish fare of his American brother.

REPORT OF THE SURGEON-GENERAL OF THE NAVY.

The ratio of admissions to the sick list per 1,000 of strength was for 1899, 783.03; and for 1900, 824.12; so that, comparatively, there was more sickness in the navy in 1900 than during the previous year.

The total number of admissions for all causes was 18,936; of these 15,829 were for disease, and 3,107 for injury, giving a ratio per 1,000 of strength of 688.90 and 135.22, respectively.

During the year there were 211 deaths; the death rate per 1,000 of force being 8.88. The mortality rate from all causes for 1899 was 7.35 per 1,000.

The admissions to the sick list during the year included 1,699 cases of epidemic catarrh, 983 of malarial diseases, 963 of wounds, 902 of diarrhœal affections, 828 of rheumatic affections, 336 of dengue, 246 of alcoholism, 195 of dysentery, 175 of typhoid fever, 160 of measles, 132 of mumps, 128 of heat stroke, 117 of pulmonary tuberculosis, 100 of organic heart disease, 99 of pneumonia, 40 of nephritis, 37 of rubella, 10 of smallpox, 2 of yellow fever, and 1 of bubonic plague.

Epidemic catarrh, which on almost every station and ship caused more admissions than any other infectious disease, was especially prevalent on the North Atlantic coast. The returns, however, according to the report, do not indicate that the unusual number of cases was due to conditions peculiar to the naval service, but rather that it was incident to a pandemic spread of the disease.

Dysentery while accounting for more admissions than in 1899 was the cause of but 5 deaths; of the 10 cases of smallpox reported 5 proved fatal.

In the report of Dr. John C. Boyd, medical inspector United States Navy, of the flagship *Kearsarge*, are some very interesting and instructive remarks on the navy ration question.

Dr. Boyd adds his testimony to that of many others with regard to the nutritive value and sufficiency in amount and variety of the several food elements which collectively constitute the ration now issued by the Navy Department, and he also advocates that the general messing practised on the *Kearsarge* should be substituted for the individual messing system which is in general use throughout the service.

Dr. Boyd is particularly insistent that well-trained

cooks, should be employed on board the vessels of the United States Navy, and argues that unless this be done, however good the ration may be, it will in many instances be spoiled or its nutritive value impaired by bad cooking. The remedy suggested for this too frequent occurrence is that some well-defined plan should be adopted for instructing a certain number of the enlisted force in the special knowledge pertaining to the duties of ship's cook.

Some of the special reports appended to the report itself contain matter of much value.

Dr. George A. Lung, surgeon U. S. A., gives a short history of the China Relief Expedition, in which his regiment of marines took part. The health of the American troops engaged in this expedition seems to have been fairly good, the most prevalent complaints having been diarrhœa and heat prostration. After reaching Peking many new cases of fever appeared, but to no very troublesome degree; neuralgias were also common, especially sciatica.

Dr. Lung was greatly impressed with the Japanese troops, both as regards their mental and physical qualities.

The report of the Surgeon-General of the Navy is, upon the whole, a satisfactory document, and is a plain evidence of the fact that the men of the United States Navy are better cared for from a medical and sanitary point of view than those of any other navy of the world.

Municipal Infant-Feeding Bottles.

Municipalities in different parts of the world are taking paternal care of those who are so fortunate as to live under their control. The city fathers in many large centers of population supply the inhabitants with gas, water, means of locomotion, and even with dwellings at a cheap rate, and, in addition to these material benefits, provide instruction and amusement for the mind.

Battersea, a large district of London, chiefly populated by the laboring classes, and which was a pioneer in this new movement, has recently decided to make another innovation, and to supply nursing bottles to those persons who apply for them. The infant mortality there has been greatly on the increase within the past few years, due, it was believed, to impure milk and unclean bottles. Having arrived at this conclusion, the municipal council of Battersea at once resolved to take steps to meet the situation, and, according to the New York *Press*, are about to open a station at which the best cow's milk obtainable will be bottled and distributed among the poor of the locality. Nine hermetically sealed nursing bottles of sterilized milk will be supplied daily to each customer at a charge of a little over thirty cents a week, and the station will collect the used bottles every day, and supply clean ones in their place. The nine bottles for each day will be packed in a basket, six for use in the day, and three in the night.

Undoubtedly, there is "method in the madness" of Battersea, and although the scheme savors more of maternalism than of paternalism, yet, if carried out efficiently it will be the means of checking the infant death rate to a very appreciable degree. Contaminated milk is the cause of more deaths among infants than perhaps any other one cause.

It may be said that the plan just adopted in Battersea has been tried in Fécamp, France, with conspicuous success, the death rate among infants being reduced in one year from 157 to 103 per thousand.

Malaria in Buffalo.

Malaria, like the poor, but to a lesser degree, is always with us, as is also the mosquito. Banish the mosquito, and it is asserted, the malaria will vanish. Exterminating war has been declared on the mosquito, wherever it exists, and praiseworthy though futile efforts have been put forth to abolish the troublesome and disease-bearing insect.

It is to be regretted that Americans have been backward in this good work, but the deductions made by Major Reed and associate workers, that mosquitos are directly responsible for yellow fever, will presumably hasten on a crusade against mosquitos throughout all lands, under the control of the United States.

Dr. Irving P. Lyon and Mr. Alfred B. Wright of Buffalo have been pursuing investigations of ascertaining whether Anopheles are present in Buffalo, and also, the frequence of diagnosis of malaria by general practitioners of medicine.

From May 12–October 7, 1900, 374 mosquitos were caught within and near Buffalo, in places to which public report attached a reputation of being malarious. Of these 374 specimens, every mosquito belonged to the genus Culex, and not a single example of Anopheles, the malaria-bearing variety, was found.

With regard to the occurrence of malaria in Buffalo, the experience of a number of physicians in that city, by blood examinations, was unanimous against the autochthonous development of malarial infection in and about Buffalo.

The foregoing investigations only go further to prove, that, where the Anopheles is absent, there is no malaria.

The scientists of Buffalo have, however, set those of other cities of America an excellent example, which, if followed, would go far toward increasing the future knowledge of malaria distribution and of abolishing, at any rate, from this country that disease.

Improvement in the Medical Corps of the Navy.

In the recent report of the Secretary of the Navy, the benefit to the Medical Department of the navy by the greater liberality of Congress toward this department in the matter of rank and pay is thus noted: "The passage by the last Congress of the act giving assistant surgeons in the navy the same rank as assistant surgeons in the army has proved of great benefit to the corps. A very desirable class of young medical men is now seeking admission, and the number of vacancies has been reduced from seventeen at last report to four, and it is probable that these will soon be filled."

The Violet Cure of Cancer.

A story—or rather one that reads more like a fairy tale—has been going the round of the English lay journals to the effect that a lady of title whose name is of no consequence, has been cured of cancer by the application of fomentations of macerated green leaves of the violet plant.

The affection is stated to have exhibited itself in the form of a tumor of the throat, and its malignant nature was made certain by microscopical examination of a small portion removed.

The lady was so grateful for the supposed cure of a disease which invariably terminates fatally that by way of demonstrating her gratitude for her unexpected recovery, she caused to be printed and distributed leaflets describing the treatment.

There can be no doubt that the case was one ot mistaken diagnosis, notwithstanding the assertion that the malignant character of the tumor was proved by the microscope.

The violet leaf has long borne the reputation of

being a valuable therapeutic agent. The early Normans were implicit believers in its efficacy, and used it for a variety of complaints, dyspepsia among the number; but even in the age of superstition and credulity, in which they lived, there is extant no record that the wise men in medical affairs placed faith in any preparation of violet leaves as a cure for cancer. Such ignorance has been reserved for the cultured members of the 20th century society to display.

The Preservation of Forests.

The part of President Roosevelt's message referring to the preservation of forests will especially interest medical men, and those who concern themselves with the health conditions of the country.

In the Medical Record, January 27, 1900, this subject was treated at some length in an editorial, and the opinion was tendered that, if the wholesale destruction of forests, as at the present time carried on, should be continued, serious results to health would follow.

Trees are not only to be desired from a standpoint of beauty, but are also the chief factors in distributing and regulating the rainfall, and in dry seasons by their action in holding back evaporation, preserve the water supply, and thus, in the President's words, "Forest conservation is an essential condition of water conservation. A country denuded of trees is in the natural order of things an unhealthy country.

President Roosevelt recommends that for the salvation of the forests the power which is now diffused among three or four bureaus, should be centralized in the Bureau of Forestry, and with this bureau alone should rest all the work relating to the forest lands of the United States.

For economic as well as for hygienic reasons, the protection of forests will recommend itself to the intelligence of Americans.

Sulphur in the Treatment of Dysentery.

Dr. G. B. Richmond, late of the Imperial Yeomanry Hospital, Pretoria, relates in the *Lancet*, November 23, his experience in the use of sulphur in the treatment of dysentery. He states that he had tried all the recognized remedies for the disease with no success, and had paid special attention to the dictum of the late Sir William Gull, that the only effectual treatment of dysentery was "rest, warmth, and ipecacuanha."

The trial of sulphur as a therapeutic agent was suggested to Dr. Richmond on the analogy of the treatment of anthrax by sulphur advocated by Mr. Arbuthnot Lane.

The dose administered was 20 grains of sublimed sulphur combined with 5 grs. of Dover's powder, four to be given hourly. The sanguine expectations of the author were more than justified by the results, for in every case treated by sulphur a cure was effected, and, further, there seemed to be no tendency to relapses or chronic conditions of alternating diarrhœa and constipation; and furthermore there was no vomiting as with ipecacuanha, and therefore no necessity to starve patients.

The precise mode of action, says Dr. Richmond, of sulphur in the intestines is more or less a matter of conjecture. It is, however, reasonable to suppose that sulphuretted hydrogen and other sulphur acids are formed, and inhibit the growth of the microorganism of dysentery. It is perhaps a justifiable speculation, that the dysentery of South Africa is like the epidemic dysenteries of Japan and of the Philippines, shown by Flexner to be due to a specific bacillus, morphologically approaching the type of the bacillus typhosus.

Taking into consideration the great prevalency of dysentery in the Philippines, experiments with sulphur in the treatment of the disease would, in the first place, show whether its administration bore as good results there as in South Africa, thereby tending to prove the identity of the malady as met with in the two localities; and, secondly, if the treatment were found as effectual as Dr. Richmond asserts, it would be a valuable means of checking the inroads of dysentery among the American troops in the islands of the Far East.

New York Street Cars in Winter.

Recently several persons have written to the New York *Herald* denouncing the faults of the system of street-car locomotion in vogue in this city.

With many of the points urged against the methods of the street-car corporations as regards the conduct of their public conveyances, the Medical Record is in complete accord. In an editorial published on December 9, 1899, the subject was discussed from the standpoint of public health.

A part of this editorial runs thus: "The desiderata in a public conveyance are that it should be suited to the weather; in the winter warm and closed, but well ventilated; in the summer open and airy. It should admit of being easily and quickly closed, and *vice versa;* and should at all times be as free from draughts as possible. The car will not be satisfactory unless it can readily conform to the requirements of a season fickle at all times of the year."

Putting aside the question of overcrowding, a serious and important one, and which could be remedied if the car corporations so willed, Do the street cars of New York fulfill the conditions mentioned above? No one will be found bold enough to assert that they are warm and closed, but well ventilated in the winter. They are, on the contrary, as a general rule, distinctly cold and airy.

Surely, improvements might be effected in this respect, and locomotion by means of cars in New York be converted into a pleasure, rather than, as is now too frequently the case, an ordeal to be dreaded.

Health Officer for Buffalo.

Dr. Ernest Wende has made for himself an enviable record since he was first appointed Health Commissioner of Buffalo.

According to an article in the December number of the Buffalo Medical Journal, he has by his energetic methods almost freed the city from typhoid fever. The milk ordinances, which besides paying for themselves, are sources of revenue, and are serving as models for other cities, were enacted at the instance of the present Commissioner of Health. The establishment of free public baths was due to his foresight. Registration of contagious diseases to the milk route is yet another of his measures.

Dr. Wende's chief fame, however, as a sanitary reformer will rest upon his action in doing away with long-tube nursing bottles, and the consequent saving of the lives of thousands of infants. This plan has been adopted in a large number of American cities as well as in Great Britain and other civilized countries.

The Medical Record has at all times contended that politics should have nothing whatever to do with the health boards of cities. It is monstrous that, owing to political influence, inferior men should be foisted upon a health department, and that by these means its efficiency should be lessened, and that the health of a large community should be endangered.

It is to be hoped that the people of Buffalo will recognize the great services Dr. Wende has rendered them, by exerting moral pressure upon the new Mayor to induce him to reappoint the outgoing Commissioner of Health.

News of the Week.

Smallpox in the Philippines.—Owing to the extensive prevalence of smallpox in several of the Philippine Islands, the health department has requested the Commission to prepare a law enforcing compulsory vaccination everywhere in the archipelago.

Sanitary Regulation of Manila.—A corps of sanitary inspectors has just been established in Manila, composed of one Chief Health Inspector, two Medical Inspectors, twelve Chief Sanitary Inspectors, and thirty-three Sanitary Inspectors. All members of the corps are required to wear uniforms. The rules governing the operation of the corps require the frequent and careful inspection of all buildings in the city. The Chief Health Inspector is also required to keep an accurate list of all saloons, gambling houses, hotels, restaurants, boarding and lodging houses, tenements, theaters, opium dens, houses of prostitution, markets, schools and public places of all kinds.

Whooping Cough in New Guinea.—In his annual report to the Colonial office, the Governor of British New Guinea says that two children who were brought to that colony from Samar, while suffering from whooping cough, started an epidemic of the disease which has raged with great fury during the past year, and has been attended with a remarkable fatality.

Search for the Yellow-Fever Germ has been going on for some time at the Army Medical Museum at Washington, under the direction of Major Walter Reed and Dr. Carroll, but thus far the search has been fruitless. The investigation has included examination of the blood of yellow-fever patients, and also of infected mosquitos, but in neither has it been possible to identify any organism as the specific hæmatozoön of the disease.

An International Sanitary Congress will be held in Havana on February 15, 1902, and following days. This is a sequel to the pan-American Medical Congress held in the same city last February, and was decided upon then on the recommendation of Dr. Wilde of the Argentine Republic and Surgeon-General Wyman of the U. S. Marine-Hospital Service. Twenty-five governments, including the Danish, French, Dutch, and English West Indies, and the Dominion of Canada, have been invited to take part, each sending three delegates—a physician, an engineer, and a commercial representative. The questions to be considered by the Congress are: (1) Sanitary condition of the commercial ports in America; (2) General measures of sanitation applicable to all ports, and special measures applicable to the individual ports; (3) The special modes of propagation of malaria, cholera, yellow fever, typhoid fever, plague, typhus fever, smallpox, filariasis, measles, scarlet fever, diphtheria, leprosy, and tuberculosis; (4) Measures necessary to be taken in each port in order to prevent an outbreak of any of the diseases mentioned, and to prevent their transmission to other countries; (5) Modes of propagation of the following epizootic diseases: glanders and farcy, plague, Peruvian verrugas, contagious pleuropneumonia, anthrax, Texas fever, rabies, aphthous fever, scabies, swine plague, actinomycosis, murrain, pink-eye, cerebrospinal meningitis, tuberculosis, and epidermic lymphangitis; and the means of preventing the occurrence and spread of these affections in animals; (6) In case quarantine is accepted as one of the most efficacious means at present known to us for preventing the introduction of contagious diseases among men and animals, to determine its duration and conditions as regards each of these affections, in order to interfere as little as possible with commercial intercourse; (7) Means of examination of men and animals and of inspection of baggage and goods when infection is suspected; (8) Transmissibility of diseases by means of cargoes and suitable measures of disinfection. The languages allowed in the discussion will be Spanish, Portuguese, French, and English. The president of the committee on organization is Dr. Juan Santos Fernandez, and the secretary is Dr. Tomás V. Coronado, both of Havana.

Tent Life for Consumptives.—A sanatorium has recently been established near Denver, where the open-air treatment is carried out fully, there being no house at all for any of the inmates. Each patient has a roomy tent, which cannot be too tightly closed, plenty of warm day and night clothing, and a small stove in which a fire can be lighted in extreme weather.

Generous Bequest to a Hospital.—By the will of the late Samuel B. Huey, President of the Board of Public Education, the sum of $10,000 is bequeathed to the Presbyterian Hospital of Philadelphia for the foundation and support of a free private room for any trustworthy man or woman whom the trustees may designate.

College of Physicians of Philadelphia.—At a stated meeting held December 4, Dr. F. Savary Pearce read a paper entitled "Association of Hysteria with Insanity." Dr. Arthur Van Harlingen read a paper entitled "Recent Views on the Origin and Nature of Herpes Zoster." Dr. David Riesman read a paper entitled "Albuminous Expectoration After Thoracocentesis," reporting an illustrative case. He attributed the complication to œdema of the lung as a result of irritation.

University of Pennsylvania.—Announcement has been made of the reception of a contribution of $25,000 made by Keasbey and Mattison to the fund for the erection of the new medical laboratories. The sum of $4,000 has been received from Mrs. Thos. K. Conrad, completing the sum of $10,000 necessary to establish a fellowship in the department of physics to be known as the John Fries Frazer Fellowship. Dr. John S. Wentz has made a contribution of $5,000 for the purposes of the new engineering department.

Philadelphia Hospital.—At the fifteenth annual banquet of the Association of Ex-President and Resident Physicians of the Philadelphia Hospital on December 3, toasts were responded to as follows: The Blockely Prodigy, by Dr. M. J. Keeney; The Blockely Man in Country Practice, by Dr. William T. Sharpless; The Blockely Man in the Medical Society of the State, by Dr. Thos. D. Davis, and A Blockely Inspiration, by Dr. J. B. Walker. Remarks were made also by Drs. E. W. Holmes, J. P. Tuttle, and R. C. Norris.

A Memorial Children's Hospital in St. Petersburg.—The corner-stone has been laid in St. Petersburg of a new children's hospital, established to commemorate the coronation of the Czar and his Consort. The hospital, which will be built and maintained by the government, is to be made up of separate partitions, and will have accommodations for four hundred patients.

The California Northern District Medical Association.—At the eleventh annual meeting of this society, held at Sacramento on November 12, the following officers were elected: *President*, Charles R. Harvey of Stockton; *First Vice-President*, John T. Jones of Green Valley; *Second Vice-President*, Moses W. Ward of Woodland; *Third Vice-President*, Edward W. Twitchell of Sacramento; *Secretary*,

Elmer E. Stone of Marysville; *Treasurer*, Oscar Stansbury of Chico.

Complaint of Lepers at Molokai.—Several of the lepers in the isolation colony at Molokai have written to the papers charging the Hawaiian Board of Health with neglect and misdemeanors in connection with their supply of food and water. They ask for a State commission to investigate.

A New Russian Medical Journal.—When the late Professor Manassein died, it was learned with surprise and regret that he had left explicit directions that the publication of *Vratch*, a journal of which he was the founder and editor, shall be discontinued with the closure of the volume current at the time of his death. The journal will, therefore, die with the present year, but its place will be taken by a new one called *Russki Vratch*, or "Russian Physician," the first number of which is dated October 27, 1901. The title page bears the announcement that the journal is founded in memory of V. A. Manassein, and is edited by Professor V. V. Podvyssotski of Odessa, and Dr. S. V. Vladislavlev of St. Petersburg. The journal resembles its predecessor in general appearance and arrangement of contents, but contains a new feature in a list of articles, with brief explanatory notes, appearing in all the principal medical journals of Europe and America.

Water Reservoirs for London.—Rapid progress is being made upon the new reservoirs at Staines, Middlesex, for the supply of London, and it is anticipated that they will be completed in about two years. The reservoirs are approximately four and one-half miles in circumference, and their capacity will be 33,000,000,000 gallons, a sufficient supply to serve the district catered for by the water companies, to whom they belong, for 100 days. The reservoirs will be supplied from the flood water of the Thames.

S. R. Smith Infirmary, Staten Island, N. Y.—Dr. William B. Pritchard of New York was appointed by the Board of Trustees, at their November meeting, Consulting Neurologist to the S. R. Smith Infirmary, Staten Island.

The Medical Society of the State of New York.—The annual meeting of this society will be held at Albany on Tuesday, January 28, 1902, and the two following days. The scientific part of the program is being prepared by the Business Committee, which consists of Dr. Nathan Jacobson, 430 S. Salina Street, Syracuse; Dr. George R. Fowler, Brooklyn, and William C. Krauss, Buffalo. Members and delegates desiring to read papers will please communicate with the Chairman of this Committee. A rebate will be given by the railroads to members and delegates attending this meeting, but it is necessary, to obtain this rebate, that a certificate be obtained from the ticket agent at the starting point, which the agent will give for the asking.

Naval Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the Medical Corps of the Navy for week ended December 7. November 29—P. A. Surgeon H. H. Hass, detached from Norfolk Navy Yard, and to the *Kearsarge* for duty with the marine detachment. November 30—Assistant Surgeon F. M. Furlong, when detached from New York Hospital, ordered home on sick leave for two months. December 4—Assistant Surgeon P. E. McDonnold, detached from the *Constellation*, when discharged from Naval Hospital, New York, and ordered home with one month's sick leave. Assistant Surgeon W. M. Garton, detached from the Naval Academy and ordered to the Naval Hospital, New York. December 5—Assistant Surgeon J. B. Dennis, detached from the Naval Hospital, New York, and ordered to the Naval Academy, upon reporting of relief.

The Arizona Board of Medical Examiners announces that the next meeting of this board will be held at Phœnix, on the first Monday in January, 1902. The law requires applicants to present a diploma from a recognized medical college together with certificates of moral character, and to pass an examination before the board. These examinations are written and require two days. Communications should be addressed to Dr. William Duffield, Acting Secretary, Phœnix, A. T.

Dr. E. L. Trudeau has been elected trustee of Columbia University to fill the place of the late Dr. William H. Draper. Dr. Trudeau is a graduate of the medical department of the University in the class of 1871.

The Missouri State Conference of Charities and Correction.—At the second annual conference, held in Columbia on November 18 and 19, the following officers were elected: *President*, Dr. R. H. Jesse, President of the State University, Columbia; *Vice-President*, Dr. E. C. Runge, St. Louis; *Secretary*, J. M. Hanson, Kansas City; *Treasurer*, L. D. Drake, Boonville.

The "American Journal of Anatomy."—We have received the first number of this new journal, dated November 7, 1901, which has been founded to collect into one place, and present in a worthy manner, the many researches from American investigators, now scattered through many publications at home and abroad. It will be issued in quarterly numbers, each of about one hundred and twenty-five pages, and is published in Baltimore. The editorial board consists of Drs. Lewellys F. Barker of the University of Chicago, Thomas Dwight of Harvard University, Simon H. Gage of Cornell, G. Carl Huber of the University of Michigan, George S. Huntington of Columbia University, Franklin P. Mall of Johns Hopkins University, Charles S. Minot of Harvard University, George A. Piersol of the University of Pennsylvania, and Henry McE. Knower of Johns Hopkins University, the last being secretary of the board. This first number contains articles on "Development of the Limbs, Body-wall, and Back in Man," by Charles Russell Bardeen and Warren Harmon Lewis; "The Intra-lobular Framework of the Human Spleen," by Preston Kyes; "Studies on the Neuroglia," by G. Carl Huber; "The Normal Histology of the Human Hemolymph Glands," by Aldred Scott Warthin; and "On the Morphology of the Pineal Region, Based Upon Its Development in Acanthais," by Charles Sedgwick Minot.

A New Building for the German Hospital.—The new annex for private patients of the German Hospital was opened last week. August Zinsser, Chairman of the Building Committee, presented the building to the President of the Trustees, Theodore Kilian, who made a speech of acceptance. Addresses were delivered by Carl Schurz and by Randolph Guggenheimer. The new annex is a five-story brick building, fronting 80 feet on Seventy-seventh Street and 45 feet on Lexington Avenue. It has accommodations for seventy-five patients.

Smallpox is spreading widely in various parts of the country. In the Oranges in New Jersey, there were thirteen cases a week ago, and twelve cases in Sayresville. In Philadelphia, 304 cases of the disease were reported during November, a greater proportion of these being among the well-to-do than the very poor. The Board of Health is compelling all children attending public or private schools to be vaccinated

and the Director of Public Safety has issued a circular addressed to the householders of the city urging upon them the advisability and necessity of vaccination and of revaccination for all persons who have not been successfully vaccinated within five years. The city has organized at corps of physicians who will call at every residence, and vaccinate free of charge, if so requested, all the inmates. At Harvard University, President Eliot has signed a notice advising all students to be vaccinated, if they have not been successfully vaccinated within seven years. The outbreak of tetanus following vaccination in Camden has subsided, but two similar cases are reported from Bridgeton and Millville, N. J. According to a recently issued statement of the New Jersey State Board of Health, Trenton enjoys the distinction of having had no case of smallpox during the year ending October 31, although there were 225 in the rest of the State. Health officers visited Ottawa University on Monday, and after an investigation ordered the college placed under quarantine. Three cases of smallpox had developed in the institution since Saturday, and all the victims have been isolated on Porter's Island. In Brooklyn five cases of smallpox were recently discovered in an apartment house on Eighth Avenue, and the Health Board is considering the bringing of an action against two physicians who neglected to report the cases. In Orange, N. J., the health authorities have been struggling for a long time to erect an isolation hospital for smallpox cases, but have only just succeeded. A year ago they built a hospital, but the frightened citizens burned and wrecked the building before it could be occupied. One night a week ago they again put up a wooden building at night, and before morning it was occupied by four patients.

Opening of the Building of the Morris Plains Hospital.—The official opening of the new annex building of the Morris Plains New Jersey State Hospital took place on Thursday, November 21. After an address by the Rev. Dr. J. M. Buckley in the chapel of the main building, the guests walked through the tunnel to the annex where a reception was held in the hall, on the top floor. The address of welcome was by Mr. Patrick Farrelly, President of the Board of Managers, who formally presented the new building to the State, and it was accepted by Governor Foster M. Vorhees in an address in which he thanked the business and medical departments and Board of Managers for the very efficient management and the excellent condition of the institution. Rev. Dr. Buckley of the Board of Managers then read a historical sketch of the Morris Plains and Trenton Institutions.

Dr. Henry M. Hurd of Johns Hopkins University then read an interesting paper regarding the insane and hospitals for their care. In the absence of Governor-elect Franklin B. Murphy, U. S. Senator Jas. Smith delivered a short address. The closing address was made by medical director Britton D. Evans. He spoke of the training school for nurses connected with the hospital, and related facts regarding the new and the main buildings, and then gave an address on "The advance made in the care and treatment of the insane." The exercises ended with benediction by the Rev. Father A. M. Eagan of Morris Plains.

The Western Surgical and Gynecological Association.—The eleventh annual meeting of this society will be held in Chicago on December 18 and 19, under the presidency of Dr. A. F. Jonas of Omaha. The sessions will be held in the Great Northern Hotel. A banquet will be given by the Chicago members of the association on the evening of the first day of the meeting.

Sir William MacCormac, whose death in December 4, at Bath, was announced in these columns last week, was born in Belfast, in 1836. He was made a member in 1857, and a Fellow in 1871, of the Royal College of Surgeons of London, and a fellow of the Royal College of Surgeons in Ireland in 1864. He practised first in his native own, being for several years surgeon to the Belfast Royal Hospital. He later went to London, where he made his great reputation. He was for many years lecturer on surgery, and Attending Surgeon at St. Thomas Hospital, and later was consulting surgeon to this and several other London hospitals. He was made a knight in 1881, and a baronet in 1897. He had considerable experience in military surgery, having been surgeon-in-chief of the Anglo-American Ambulance in the Franco-German war, and also seeing service in the Turco-Russian war. At the outbreak of hostilities in South Africa, he was sent to the field as chief civil consulting surgeon. He was an honorary member of a number of foreign medical societies, and was the recipient of decorations from many of the sovereigns in Europe.

Insanity and Divorce.—A study of Prussian vital statistics recently published seems to show a relation of some sort between divorce and insanity and suicide. Out of a million persons, 348 divorced women committed suicide as compared with 61 married women. Three hundred and eighty-six married men committed suicide as compared with 2,834 divorced ones. In the insane asylums in Würtemberg a similar study shows 3,024 persons who had been divorced as compared with 283 married persons, 460 bachelors and maids, and 672 widows and widowers.

Obituary Notes.—Dr. James E. Gibbons of Baltimore died suddenly of cardiac disease on December 2. He was born fifty-eight years ago and was graduated from the Washington University School of Medicine, now merged into the College of Physicians and Surgeons of Baltimore, in 1868. A widow and one son, a practising physician, survive him.

Dr. Charles H. G. Steinsieck of this city died on December 3. He was a graduate of the New York University Medical School in the class of 1882.

Dr. John E. Beers of Danby, N. Y., died of apoplexy on December 4 at the age of sixty-one years. He was a graduate of the Medical Department of the University of Georgetown, D. C., in the class of 1864.

Dr. David McDill, Surgeon in the United States Penitentiary at Fort Leavenworth, Kansas, died of apoplexy on December 4 at the age of forty-one years. He was a graduate of Rush Medical College, Chicago, in the class of 1887.

Dr. Isaac Newton Evans of Hatboro, Penn., died suddenly of cardiac disease, on December 3, at the age of seventy-four years. He was born in Chester County, Penn., and was graduated in arts from Bowdoin College, and in medicine from the University of Pennsylvania. He served three terms in Congress as a member from the Seventh District of Pennsylvania.

Dr. Charles J. Essig, a dental surgeon, died of pneumonia on December 2, at his home in Wallingford, near Philadelphia. He was a graduate of the Jefferson Medical College in 1876. He was editor of the "American Textbook of Prosthetic Dentistry," and was Dean of the Dental Department of the University of Pennsylvania.

Dr. F. Semeleder of Orizaba, Mexico, died there recently. He was an Austrian by birth, and came to Mexico as the personal physician of the ill-fated Maximilian. After the latter's capture and execution, Dr. Semeleder remained in the country and built up an extensive practice.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ANNUAL MEETING OF COLLEGE OF SURGEONS—THE COMING ELECTION—ULCERATION OF ŒSOPHAGUS AND STOMACH FROM SWALLOWING ACID—HOME OFFICE REPORT ON INEBRIATE REFORMATORIES—WOODHEAD ON MORPHINE AND ALCOHOL—ARCHDALL REID ON ALCOHOLISM IN SMALLPOX—VACCINATION—A STUDENT'S HALL—RECENT DEATHS.

LONDON, November 22, 1901.

YESTERDAY afternoon, the annual meeting of Fellows and Members of the Royal College of Surgeons was held. The President (Mr. Howse) took the chair at the semi-solemn comedy, and in noticing the report of the year which ended July 31, drew special attention to the fact that for the first time the names of members who had died during the year had been inserted. Very proud must members be that they are thus thought worthy to rank with Fellows after death.

A motion was carried adhering to the resolution regularly passed for the last seventeen years in favor of members being represented on the council of the college, and asking that body, which has hitherto refused, to suggest an alternative scheme for giving members a share in the management of their college and their own property.

Another resolution was carried regretting the action of the council in contravening the regulations of the general medical council.

A motion was also carried in favor of the representative of the college in the general council, being elected by the fellows and by members of ten years' standing, though why ten years of practice should make a man a better judge of candidates does not appear.

A motion in favor of making these meetings open to the public was lost by eight votes against seven.

A further proposal was moved and seconded, asking the council to support a bill for amending the medical acts. This was dropped on the President promising to bring the subject before the council.

So passed the seventeenth meeting of this series with about as much prospect of effecting a reform as its predecessors. We ought to be thankful to the few reformers who take the trouble to keep these matters alive.

The approach of the election to the general medical council is causing a slight degree of interest—stimulated by speeches of candidates and other electioneering tactics. It seems doubtful, however, whether the prevailing apathy can be aroused enough to increase the poll. So little is hoped for from the council with its solid phalanx of corporation interests. What can three representative members do, especially when they are not agreed, as has often happened? One indeed actually taunted another that he could not find a seconder to one of his reform resolutions. If he could not agree with it, he might have seconded it *pro forma*, as he must have known that many hundreds of electors approved of it.

Another curious development is a sort of joint candidature and mutual testimonializing.

One candidate pleaded for another that his speeches would be listened to by the President—thus insinuating that his opponent's would not. This seems a slur on the president's impartiality. Besides we do not want long speeches. Thirty years' talk has done us no good.

Another way in which time and a certain sort of eloquence have been wasted is the proposal of changes which are quite outside practical reforms. Thus it has been proposed to divide England into three districts—one member to be elected for each—as if professional interests differed according to localities, or representatives should be selected according to their residences. The proposer of this scheme ought to have known that one object of establishing the council was to abolish territorial distinctions—an object which has been accomplished so far as to substitute one pharmacopœia for the three which formerly oppressed us. Why set up new topographical distinctions?

Two candidates are on the council of the British Medical Association, and seem anxious to remit some questions to that body. But we have no proof yet that its reorganization has reformed it, and, of course, it has not the standing of the general medical council.

A Scotch candidate says his "opinions are at one with the English candidates'" on the midwives' question. Perhaps, he means that as a joke, for the English candiates are not at one with themselves on the matter. One of them who formerly condemned registering the "gamps" has been captured by the registrationists.

Ulceration of the œsophagus and stomach from corrosive-acid poisoning was the subject of a paper read by Mr. Keetley at the Medico-Chirurgical Society. He related three cases due to swallowing strong hydrochloric acid, and offered as a conclusion that surgical intervention should be almost immediate, as it would be a mistake to postpone it until the patient would be dying from inanition. He thought the patient should receive neither solids nor liquids by the mouth for several weeks; so he would not allow oral feeding as soon as the patient could swallow without pain, but wait until there was good reason to believe that healing was complete. When the injuries are serious, as they mostly are, he held that the sooner the operation is performed the better. Of course, we can only conjecture whether healing has taken place; in one of his cases, the mouth and lips healed in eighteen days, but active ulceration of the gullet was found at the post-mortem on the eighty-fourth day. As to the operation, he was inclined to a gastrostomy combined with a gastro-enterostomy, and carrying the tube some distance down the efferent loop of the jejunum. To provide for washing out and draining the stomach, he suggested a double tube, the shorter canal opening into the stomach. This could be managed by passing a long narrow gastro-jejunal tube through a wide, short gastric tube. As soon as the patient could swallow without pain, he would give hot water or hot saline solution *ad libitum*, allowing it to escape by the short tube so as to wash out in some degree the stomach.

In the discussion on the paper, surgeons questioned the propriety of withholding food so long, and seemed inclined to support the old plan of allowing it as soon as it could be swallowed without pain. It was also remarked that a fair-sized bougie could often be passed with ease when swallowing gave pain, showing it to be due to spasm.

The Home Office has just issued the second annual report of the certified reformatories established under the Inebriates Acts of 1898-99. There were five such institutions last year—an increase of one. From the commencement of the work until the end of last year 232 inebriates were sentenced and sent to these reformatories. There are in addition to these twenty-two licensed retreats with accommodations for 357 patients, who enter voluntarily, signing to stay for a definite period. Last year 219 such "signed patients" were admitted, 175 discharged, and 131 left on the expiration of the time signed for.

Professor Sims Woodhead, in a recent lecture, gave an emphatic warning against taking alcohol after morphine. He called it "absolute folly—one of the worst things a man can do." It is almost impossible to cure a person who takes both. In delirium tremens it was once customary to give alcohol—now it is at once cut off altogether. It is held by some that in pneumonia there is sometimes a short period when the heart is very irritable, and alcohol may be used to dull it; "it is just possible it may be of some use then, but the doctors who prescribe it in these cases have a definite reason for doing so. It is only a temporary measure, and the damage it does may not be so great as the irritation it checks." Dr. Woodhead added that this is the only case in which alcohol may be given; in accidents he held it to be bad practice to give it to deaden pain, and he "would not dream of giving it when there is danger of blood-poisoning."

Dr. Archdall Reid has just published a 6s. book on "Alcoholism: A Study in Heredity," which is largely made up of some of his interesting, if unconvincing, contributions to journals. To some extent the book may be regarded as a sequel to his previous works on evolution and on immunity. He does not anticipate that his data or his conclusions will go unchallenged; but that does not deter him from stating them with dogmatic assurance. He holds (1) That characters acquired by the parent are not inherited; (2) That evolution results from the *stringent* elimination of the unfit; (3) That when the elimination which has caused the evolution of any character ceases, or nearly ceases, that character undergoes degeneration; (4) That degeneration is due to atavism—to a process of reversion which, step by step, retraces the previous evolution, till if it be continued long enough, that more or less remote ancestor is approximated to in whom the character did not exist.

Following up these assumptions, he says that people only drink alcoholic liquids for three reasons: (*a*) To satisfy thirst; (*b*) To gratify taste; (*c*) To produce an effect on the brain. Only the last is the cause of drunkenness, and so alcohol becomes a selective agency picking out those who are cursed with the "alcoholic diathesis," which assumed state or predisposition he further declares to be "certainly inborn, and therefore as certainly transmissible to offspring." Any one who is so enamored of those beautiful words evolution and immunity as to accept these views without hesitation may perhaps not demur to the corollary offered that all previous attempts at reform have failed because they contend against Nature. Dr. Reid proposes to copy Nature by eliminating the drunkard. How? Simply by forbidding the drunkard to pro-

create children under a penalty of a month's imprisonment!! Can he be serious?

Smallpox still progresses. On Monday, the number of cases under treatment passed the fourth hundred, and yesterday reached 440.

A good deal of dissatisfaction is being expressed with the local government board on account of its restricting the supply of its lymph to public vaccinators. At a time when every one is anxious to be revaccinated, and when immense numbers prefer to be operated on by their own attendants, it is especially desirable that lymph should be easily obtainable, and beyond reproach as to its purity and efficacy. The lymph prepared by the board is produced at the public expense. Why should not the public be allowed to profit by it? There are a number of private establishments which are prepared to meet the demand, but they do not enjoy the full confidence of the people, and some of them have grievously disappointed their customers. Consequently, there is much grumbling about the restriction of the government supply, and instances of the inactivity of some private supplies have been published.

The public vaccinators are better paid than hundreds of doctors in the poor districts who are not only obliged to buy lymph, but are prevented from using that of the government board.

Liverpool is indebted to Sir A. L. Jones, K.C.M.G., the founder of the School of Tropical Medicine, for another institution—a residential hall for students.

Dr. Henry Sutherland died on Tuesday, aged fifty-nine years. He was a graduate in both arts and medicine of Oxford, and for many years lecturer on insanity at the Westminster Hospital. He had been a resident at Wakefield Asylum, and contributed to its report 1877 his Borderland cases. He also wrote in the Dictionary of Psychological Medicine and other journals important articles on his specialty.

Surgeon-General Manley, C.B., V.C., died on the 16th. In the course of his distinguished career he served in the Crimea; in New Zealand, where he won the V.C.; in the Afghan War, 1878, and the first Egyptian Campaign. He was with the British ambulance in the Franco-German War, and was awarded the Iron Cross for "devoted and excellent conduct in seeking out and caring for the wounded."

Sir James Agnew, Ex-Premier of Hobart, whose death on the eighth is announced, was a medical man and practised many years in Hobart. He took his M.R.C.S., Eng., in 1838, and M.D., Glasgow, 1839. Soon afterward he went to Tasmania, where he achieved the highest honors the colony could confer.

Dr. Stopford Taylor died on the 11th inst. in his eightieth year. He was formerly M.O.H. for Liverpool, an office he only resigned about seven years ago.

Mr. A. H. Smee, who died on the 8th inst., was the son of the late Alfred Smee, Surgeon to the Bank of England, and author of "My Garden." The son took the M.R.C.S., Eng., in 1866, and for some time devoted himself to scientific research. Later, he became attached to a life insurance company, and only last month there was published his "Tables and Diagrams Illustrating Comparative Rates of Mortality."

James William Jeans, J.P., of Granthan passed away in his eighty-eighth year on the 12th inst. He took his M.R.C.S. in 1836. Another octogenarian, Dr. Horrocks, died on the 15th, aged eighty-five.

John Palmer Way, formerly Surgeon to the Portsmouth Hospital, died in that town, where he had practised since 1867. He was born in 1838, and died on the 16th inst. of angina pectoris, deeply regretted by his professional brethren.

THE PROBABILITIES OF THE ACTION OF THE X-RAY IN CANCER.

To the Editor of the Medical Record:

This problem recently propounded to the medical profession is of transcendent interest to the sufferer from inoperable cancer, and of an almost equal interest to the worker in the fascinating field of the Röntgen ray. Two factors confront each other—the cancer tissue and process, and the ray of Röntgen, both of them yet to issue from the cloudlands of uncertainty as to their exact nature. True, reams of literature representing untold hours of human effort to solve the two problems exist; true, also, that the already ascertained facts constitute, so far as they go, triumphs of science, and yet the bald fact remains that a final answer as to the nature of each is yet to be granted to us. For this reason, the evidence as to the curative effects of the *x*-ray in cancer must at present be of an experimental and clinical nature. Are there *prima facie* reasons why the *x*-ray should set up tissue changes in any tissue and as a consequence in cancer tissue? There certainly are.

There is, first, the well-known *x*-ray "burn"—a possibly profound necrosis of tissue of every tissue. This effect may be produced at will and to a degree and within limits desired by a skilled operator. To produce it is no matter of accident at all if one takes into account the state of the tissue treated—namely, whether debilitated or sound—the nature of the *x*-ray employed—namely, whether more or less highly penetrating—the distance of the source of the ray from the tissue, etc., etc. But to quote this effect is merely to do so in order to point out the actual power of the *x*-ray for harm and at the same time to point out that in this respect it resembles most other effective remedies in surgery or medicine—like powerful poisons and cutting instruments, for instance—for such may be used in degree and manner to do harm or to do good.

So with the *x*-ray.

Now, the good that the *x*-ray may do is a chapter in the story which is being worked upon by many observers throughout the world.

And its influence for good and for the healing of tissue is a positive fact which I have verified time and time again in practice. From the days when Mr. Edison first proposed the *x*-ray treatment for blindness (atrophy of the optic nerve cases), many have worked upon the problem of applying the *x*-ray in the treatment of diseases. But an atrophy was an unfortunate branch of the subject to begin upon, and naturally little or nothing came of the effort. Far more brilliant and less problematical are the effects derivable from the impact of the *x*-ray upon tissue, if we turn to tissues which are not atrophic and to a ray which is not too destructive—namely, to a ray which is stimulating and to a tissue in which a reaction to normal nutrition may be set up as a strict consequence of the stimulation ("irritation"). A fair parallel to such action of the ray and the tissue is found in ordinary sunburn. The dermis appears to be similarly affected in each case. And could we lead the sun ray to the interior and remotest interstices of the tissue, we might perhaps do with the sun ray what is possible with the *x*-ray. But unfortunately the sun ray is stopped in its course at the surface of bodies. On the contrary, the *x*-ray penetrates bodies. But our parallel teaches that if the *x*-ray excites and stimulates the skin, so too, inevitably and logically, it must produce the same effect upon deeper tissues. That it does this we know. Therefore it seems to me that there can be no doubt that all the probabilities favor the deeper action within the tissue of cancer, lupus, etc., claimed. But granting the deep action of the *x*-ray, and we must grant it, it yet remains to be seen if this especial action is one which restores a cancer tissue to a normal tissue. I do not believe, from the evidence now before me in cases now under observation, that we can afford to ignore the new hope and the new facts lately presented.

William J. Morton, M.D.
10 East Twenty-eighth Street.

LETTER FROM THE FALKLAND ISLANDS.

(From Our Special Correspondent.)

Stanley, Falkland Islands, October 14, 1901.

The health of this colony is all that can be desired, there being an entire absence of epidemic and endemic disease—notwithstanding the most imperfect drainage, if, indeed, drainage it can be called, everything being allowed to look after itself, the safeguard being the strong prevailing winds. This is demonstrative proof that nature is most beneficent in these storm-beaten islands.

During the past year, two American ships, being in distress, put into Stanley Harbor. The *Henry Failing*, commanded by Capt. Mathews, and the *Blanchard*, Capt. Courtney; the former had several men suffering from gangrene, the result of frostbite; they were colored men. I amputated the right hand of one man, named Edwards, a native of the Mantihos, with success. Two days afterward, the left hand, which I tried to save, showed such evident signs of gangrene extending, that I was constrained to perform a similar operation; but I regret to say that under the influence of chloroform the man died, although I had immediate recourse to artificial respiration and other restoratives. This is the first death by chloroform I have had in my practice, extending over a period of thirty-five years. I had several minor operations on the men of both ships, in removing the phalanges, etc. A seaman named Erichsen, of the ship *Blanchard*, sustained a transverse fracture of the right patella, by muscular contraction of the quadriceps extensor muscles in trying to save himself from falling backward, six weeks previous to my seeing him. I

approximated the fragments, using much force to overcome the action of the above-named muscles, then used the emplastrum ferri in strips, over one inch in width, in figure of eight, and a stiff bandage over all. The man proved a refractory patient, and would insist on walking about, but he made a marvelous recovery, the line of union between the upper and lower fragments being as fine as a hair. He was sent by Consul Rowan to the United States.

Four months ago a local shopkeeper met with a similar accident, the upper fragment in this case was four inches apart from the lower. In addition to the treatment pursued in the above-mentioned case, I placed a splint on the outside of the limb and enjoined the recumbent position, with the heel well elevated. This patient has for many years been a martyr to podagra; he is now attending his business and has considerable mobility of the joint. Of course, I have not looked for osseous union, but the ligamentous union has been satisfactory. On the 25th of March, a police constable, while stepping over a drain, in some unaccountable manner sustained a compound-comminuted fracture of the right leg; the tibia was splintered for three inches above the internal malleus, both tibia and fibula protruding through the separate openings. My first idea was amputation, my second to try conservative surgery. I reduced both bones, removing splinters and spiculæ, using the usual disinfectants, and applying three splints; one on the outer side from the knee, extending beyond the foot; another on the inner side, and the third from the popliteal space to the heel, with fracture pads and medicated wool. Every second day I dressed the wounds. On the fourth day, symptoms of gangrene supervened, which caused me anxiety, more especially as a greenish slough was at the bottom of the openings. Fortunately, these alarming symptoms passed away. The man made a rapid recovery, and now attends his duty as police officer; of course, there is slight shortening of the leg, which is obviated by a high heel, and a certain amount of stiffness in the gastrocneme muscle, which is gradually wearing off.

In November, 1899, a man named C—— contracted a virulent form of syphilis from his wife, a woman of well-known loose character. It was a phagoclinic ulceration, the penis was swollen to an enormous size, and covered with confluent chancres; the foreskin and integument had sloughed off, leaving the corona glandis exposed, the corpora cavernosa and spongiosum penis were covered with sores. I adopted topical measures at once, but a considerable portion of the penis dropped off; the bichloride of mercury and bulk were freely given. Two months after the man went to work. September 12, 1901, I was again called to see this man; he was suffering from condylomatis and orchitis of the left testicle, which was swollen as large as a small goose egg. The patient was recovering when his evil star was again in the ascendant, as from the same *source* he is now prostrate with gonorrhœa. The lady in question reminds one of the celebrated opera dancer at Lisbon (mentioned by Cooper), as her poison, like that of the serpent, hurts not herself.

DR. FRALICK'S DISCOVERIES.

To the Editor of the Medical Record:

Sir: The Medical Board of the Metropolitan Hospital, Department of Charities, Blackwell's Island, disavows any connection with the alleged discoveries of Dr. Wilfred Fralick in regard to the treatment of Tuberculosis and other diseases, and is in no way responsible for the publicity of the same. By order of the Medical Board.

Arthur T. Hills, M.D., Secretary.

His Recompense.—A popular physician was much pleased with a certain aerated water, and by his assiduous recommendation procured for it a celebrity it justly deserved. The doctor acted solely in the interests of humanity generally, and expected no return.

To his surprise there came one morning an effusive letter from the company, stating that his recommendations had done them so much good that they "had ventured to send him a hundred —" Here the page came to an end.

"This will never do," said the doctor.

"It is very kind, but I couldn't think of accepting anything."

Here he turned the page, and found the sentence ran: "Of our circulars for distribution."

Progress of Medical Science.

The Boston Medical and Surgical Journal, December 5, 1901.

Prostatic Calculus Removed Through Perineal Section.—Charles G. Levison reports a case of this rare affection, which was not recognized until an examination was made by the rectum, which revealed an enlarged prostate with indurated lobes. The right lobe was the size of a pigeon's egg. A so-called middle lobe could be palpated; this had a smooth surface, and produced the impression as if a stone lay imbedded in the prostatic substance. The author describes the operation by means of which the stone was removed. It weighed about six grains, and should be classed as an essential calculus.

The Scope of Vaginal Section in the Treatment of Pus in the Pelvis.—Edward Reynolds reports eighty-two abdominal sections without mortality, and eighteen vaginal sections with one death due to accidental causes. He considers that there are four advantages from the vaginal route, viz., diminished risk of peritoneal infection, the possibility of maintaining excellent drainage, the rare sequence of hernia, and the almost total absence of post-operative shock. Convalescence is usually short. It seems quite possible that vaginal sections, in selected cases, may leave the patient with pelvic organs capable of normal functions; and, if this be true, it should have precedence over the radical operation, which is, after all, always available, after the failure of the vaginal operation to secure an absolute result.

The Similarity of the Early Symptoms of Simple Abdominal Contusion and One Accompanied by Severe Intestinal Injury; the Need of Explorative Cœliotomy as an Early Routine Measure.—John J. Bottomley says that at present we have no certain means of distinguishing between these two forms of injury. Pain, vomiting, shock, muscular spasm, distension, tenderness, external signs, and dulness are of little diagnostic value, as they may be alike in both cases. Neither does the pulse nor temperature give sure indications. An exploratory incision is the only certain means of ascertaining the conditions. This, to be of most avail, must be done within three to five hours after the injury. Exploratory laparotomy, combining, as it does, opportunity for a certain diagnosis and the best possible treatment, if severe injury be present, should be a very early routine measure in all but the most trivial cases of contusion of the abdomen.

Journal of the American Medical Association, Dec. 7, 1901.

Fear as an Element of Nervous Diseases and Its Treatment.—J. Punton says that morbid fear may sometimes proceed from within and be of purely psychic origin, in which case the external evidence is greatly modified and subdued, but the internal emotion is attended with marked mental dread or fear, amounting to almost despair. In such cases the attention and imagination enormously augment its intensity and at times torture the patient to such a degree that he loses control of himself and becomes almost mentally alienated during the paroxysms. Moreover, the emotion of fear under certain conditions proves stimulating, so that the frightened subject under its action seems to take on new strength and perform feats that would otherwise have been impossible without the unusual stimulus attending it. On the other hand, fear more often entirely overcomes the inhibitory power and renders the will powerless, so that all the vital functions are temporarily checked or held in abeyance. The emotion of fear may, therefore, be stimulating, inhibitory, or paralyzing to the vital functions according as the stimulus is strong or weak, and the reaction active or indifferent. Measures that are directed toward the relief of the physical conditions associated with morbid fear pertain largely to the removal of the cause. If the general health is depressed or found suffering from any toxic condition, such as lithæmia, auto-infection, and similar states, the use of the salicylates, alkalies, and saline cathartics, with proper diet, is often attended with marked relief. In the practical therapeutic realm of neurology and psychiatry, no symptom at times offers more obstinate resistance to all kinds of treatment than morbid fear; but in the majority of cases, if the principles referred to are intelligently, persistently, and scientifically applied, much can be done toward its permanent alleviation.

Temporary Clearing of a Cataractous Lens.—H. Woods reports a case of this nature, his patient being a woman of seventy-two years, who had been near-sighted all her life and was wearing —9 D. for near, with occasional use of —16 D. for distance. The latter gave about 4/200 in each eye. The patient was a literary worker and had all her life subjected her eyes to constant strain. When examined, the fundus of each eye showed large but old and limited choroidal atrophies, mostly in the neighborhood of the papilla; the foveal region was good. The left lens

showed an axial nuclear opacity, rather a central deep cloud than spoke-like striations. In the lower and external periphery of both right and left lenses there were opaque streaks. Over two years passed before the second examination. A central deep cloud in the right lens was the only change observable. A year later, distant vision was the same as three years previous. The left eye had lost near vision from 1 to 6 Jaeger. The central haze noticed in the right lens a year before, and the opacities of the left lens seen at the first examination, were unchanged. So was the fundus in each eye. The patient was seen again about eighteen months later, when full homatropine dilatation revealed a thin rim of red reflex at the equator. The rest of the lens had lost its transparency. Its color was reddish-yellow or amber, much darker than is ordinarily observed. No sector reflex was obtainable by oblique illumination, nor iridic shadow. Six months later the patient stated that for some time she had been seeing better with the left eye, and counted fingers at four feet. Ophthalmoscopic examination showed the fundus clearly. The axial opacity seen in the beginning and the inferior external striations on the equator were unchanged, but between the central cloud and equator the lens substance was transparent. Under homatropine a careful examination was made of the fundus. A small extravasation was found a little to the foveal side of the papilla, and below the horizontal meridian. This was subretinal. The vitreous showed a number of small muscæ. The latter and the extravasation were new. It seemed reasonably clear that an acute choroiditis had ensued; that the reddish-yellow lens opacity was secondary to it, and that this opacity had cleared with recovery of the choroiditis. The right eye had not changed.

The Rôle of the Endothelium in Inflammation.—E. R. Le Count says that the ability of endothelium to form connective tissue, or the active participation in cicatrization of the endothelium of certain regions, are questions that have formed the basis of many researches and many polemics. Without doubt, the older belief that this capacity was inherent in all varieties of endothelium owed its general acceptance, in a measure, to the accounts published fifteen to twenty-five years ago dealing with the organization of thrombi. That the endothelium of blood vessels should possess such a property perhaps met with the more ready welcome, since it was so thoroughly in accord with the prevailing ideas as to the genesis of the cells. With the entrance of controversies as to the origin of the endothelium of certain situations among the embryologists, it is but natural that the endothelial or epithelial nature of certain of the cells in question should be reflected by pathologic problems. So far, the endeavor has been to separate the endothelium of serous membranes from other forms, and it is with these cells that contrary opinions have been agitated. The prolonged interest in these questions is largely to be attributed to ignorance of the exact methods by which fibers are formed normally; with the definite proof of the secretion theory or of their direct production by fibrillation of cells, or of the conditions under which either of these processes occur, will come a seasonable time for investigations to determine how this or that group of cells may share in the development of pathologic fibrous tissue. It is generally accepted that endothelial cells may assume certain embryonal properties in inflammation and assist in the formation of granulation tissue, but there the trail is lost; differences between embryonal cells of diverse geneses as they occur in this tissue are not sufficiently marked that the subsequent behavior of separate forms is readily traced. Although there is no consensus of opinion as to the rôle endothelium plays in the growth of cicatrices, yet some recent works point strongly to the necessity of divorcing the lining of the pleuro-peritoneal cavity from other forms of endothelium, at least so far as some of its qualities are concerned. Certain observers who concluded from experiments that the endothelium of serous membranes was directly concerned in the production of organized adhesions have recently moderated their statements as to such an eventuality. When masses of fibrin in fibrinous exudates are replaced by connective tissue, the organization always proceeds from the point of their anchorage, and this is true in spite of the fact that such masses may have been completely covered over by newly produced endothelial cells from the edges. Thus gradually and from various sources, as before stated, an agreement has been reached that the lining of the serous cavities—pleura, peritoneum, pericardium, and tunica vaginalis—is clearly allied to epithelium.

Etiology of Pericarditis.—R. A. Preble presents the following conclusions: (1) Cases of clinically primary acute pericarditis occur, but are rare. (2) Diseases to which pericarditis appears as a complication are in order of their frequency; pneumonia, 34 per cent.; rheumatism, 28.36 per cent.; chronic diffuse nephritis, 11.2 per cent.; tuberculosis, 10 per cent.; sepsis, 4.7 per cent.; aneurysm, 2.6 per cent.; typhoid, 1.7 per cent. (3) The more extensive a pneumonia the greater the danger of this complication. (4) The danger is somewhat greater with left than with right-sided pneumonia. (5) When only one lobe is involved, the danger is least with a right upper-lobed pneumonia, and greatest with a right middle or left upper-lobed pneumonia. (6) With a unilobar pneumonia the chances of a pericarditis are 1 in 40; with a bilobar or trilobar, 1 in 10; with a quadrilobar, 1 in 5, and with a pneumonia of the entire left lung, 1 in 8. (7) The mortality of pneumonia with pericarditis is 92.4 per cent. (8) Rheumatic pericarditis is complicated by endocarditis in 60 per cent. of the cases, *i. e.* three to four times the normal rate of cases of endocarditis. (9) The danger of pericarditis complicating rheumatism is the greater the younger the individual, and is somewhat greater with males than with females. (10) So far as acute pericarditis is concerned, the site and extent of the endocarditis is apparently of no importance. (11) Pericarditis appears as a complication of all forms of nephritis, but particularly the chronic diffuse nephritis with contraction. (12) It is an extremely ominous thing, for 22, *i. e.* 84.6 per cent., of the cases died. (13) It is still uncertain whether the pericarditis is toxic or infectious. (14) Tuberculosis excites only one tenth of the cases, and when one considers the extreme frequency of tuberculosis, pericarditis must be regarded as a rare complication. (15) Pericarditis may be a part of a generalized acute tuberculosis, but is more often the result of a chronic tuberculosis of the lungs or mediastinal glands. (16) Septicæmia and pyæmia contribute a very considerable number of cases of pericarditis. The primary focus may be remote or close to the pericardium. (17) Aneurysm of the aorta causes 2.6 per cent. of all the cases, a very high figure when one recalls the comparative infrequency of aneurysm. (18) Typhoid fever, which is rarely complicated by inflammation of the serous membranes other than the peritoneum, contributed 4 cases, which is 1.7 per cent. (19) The cases of obliteration of the pericardium are due to the following causes arranged in order of importance: Endocarditis, tuberculosis, chronic nephritis, aneurysm. (20) More than one-half of the cases in which the cause was clear, were due to endocarditis, or rather to some cause common to both the endocarditis and the pericarditis, and more than one-half of these cases showed a combined aortic and mitral endocarditis. (21) Relatively six times as many cases of obliteration of the pericardium occur with aortic and mitral endocarditis than with either lesion singly. (22) Tuberculosis causes but few cases of obliterative pericarditis. (23) Pericarditis, accompanying nephritis, is not always fatal, but may apparently end in the formation of adhesions.

New York Medical Journal, December 7, 1901.

On a New Principle in Nephropexy.—Carl Beck describes a method of operating which consists in the suspension of the kidney, after it is button-holed on the fibers of the nearest muscle. He gives the following account of a recent case: In a woman of twenty-four years the right movable kidney, after being exposed by a lumbar incision, was perforated near its lower pole by a trocar of a moderately large size, a procedure which caused but little hemorrhage. The margin of the spinalis dorsi muscle was incised then, and a bunch of fibers, just large enough to pass the renal buttonhole, mobilized. By a Péan forceps this band-like muscular flap was drawn through the renal hole made by the trocar. Then the end of the flap was fastened somewhat below its former muscular bed by iodoform silk sutures. Thus the kidney was held *in situ* only by living tissue. There was no reaction, and the operation seemed to be a success.

Ulceromembranous Angina Associated with the Fusiform Bacillus (Vincent).—J. Sobel and C. Herrman have made a careful study of the cases coming under their notice. They briefly review the literature of the subject, finding scarcely any reference to the disease by American writers. The term "chancroidal," perhaps better than any other, describes the condition. The patches on the tonsils seem to have a worm-eaten floor, the edge being on a level with or slightly above the surface. Except for a necrotic base, it looks like a punched-out ulcer. Depth varies from one-eighth to one-half an inch. All their cases had fever. With two exceptions the submaxillary glands were enlarged. Diagnosis calls for the differentiation from diphtheria, confluent lacunar tonsillitis, and other tonsillar inflammations. From diphtheria, it is distinguished by the facts that it is an ulcerative, not a membranous, process; does not tend to spread beyond the tonsil; presents no asthenia, and very few constitutional symptoms. From confluent tonsillitis, it is distinguished by the absence or mildness of constitutiona

symptoms, by the fact that is is a deep and not a superficial lesion, and by the fact that only tonsil may be involved. The bacillus characteristic of the affection is that described by Vincent and known by his name. The germ appears under two forms, those of fusiform bacilli and spirilla. The bacillus is about twice as long as the Klebs-Loeffler, some being bent to form a crescent, some arranged end to end in a wavy fashion, and at other times at an acute angle. Some are paired, while others are scattered in a field without any particular arrangement. They are always longer and thicker than the diphtheria bacilli. The spirilla are long and corkscrew-like, with wide curves. The following points make the specific character of the germ highly probable: (1) Uniform presence in very large numbers, or at times in pure culture. (2) Gradual disappearance during healing, and rapid disappearance as the ulceration heals completely. (3) Presence of so few other germs; and (4) The fact that the malady may be transferred from one patient to another.

Medical News, December 7, 1901.

Some Unusual Localization of Tuberculosis.—Frederick A. Baldwin reports several unusual cases: Tuberculosis of the hypophysis; tuberculosis of the intercostal tissue near the sternum, with secondary tuberculosis of the axillary lymph glands; primary tuberculosis of the Fallopian tube, with a large tuberculous abscess in the ovary; tuberculosis of the thyroid gland; tuberculosis of the uvula; adenomatous polyp of the cervix uteri showing tuberculosis.

A Case of Suture of a Stab-Wound of the Heart.—George Tully Vaughan reports a case and concludes from a study of the literature that: (1) The time has arrived when a wound of the heart should be operated on with as little hesitation as a wound of the brain, with the expectation under corresponding conditions of getting equally good results. The mortality must inevitably be high—not from the operation, but from the injury, especially if all cases, including desperate ones, be undertaken. Selection of cases in which the patient has survived five or more hours after receiving the wound would give a good percentage of recoveries, but such a selection is not to be recommended. (2) In all cases of wounds in the region of the heart, with symptoms threatening life, an exploratory operation should be undertaken by making an osteoplastic flap, by dividing the fourth and fifth costal cartilages at their attachments to the sternum and the ribs, about one inch external to their attachment to the cartilage, somewhat according to the method of Roberts. This flap, turned up as a door on a hinge, gives a good view of the pericardium, and the opening can easily be enlarged upward if more room is required. (3) While early and speedy operation is often essential to success, yet the importance of asepsis cannot be too strongly emphasized on account of the great danger of pericarditis and empyema. If there has been much hemorrhage a quantity of physiological salt solution, approximately equal in amount to the blood lost, should be injected into a vein, while the surgeon is operating on the heart, if it has not been done sooner.

Philadelphia Medical Journal, December 7, 1901.

Hypodermoclysis in Pediatric Practice.—W. C. Holloperter sums up the chief fields of usefulness of this treatment as follows: Hemorrhage in the new-born, from the genital or umbilical cord; in purpura; in cases of general wasting from intestinal disorders; and especially the toxæmias, associated with the acute eruptive fevers, and diphtheria. In syphilis and in tuberculosis it aids very materially the other therapeutic measures. The writer's technique is as follows: In afebrile cases, such as are found in general atrophy or wasting following the infectious diseases, the solution should have a temperature of at least 115° or 120°, and be delivered to the tissues at 106°. This temperature must be sustained throughout the operation. The injection may be made in very young children through a large hypodermic syringe, or, if a suitable apparatus is obtainable, by gravity. In young children, a convenient way of administering it is with the old-fashioned large antitoxin syringe, which holds one to two ounces. The point preferable for injection is near the great trochanter. It is often necessary to benumb the skin either by ice or by sulphuric ether.

Amyotrophic Lateral Sclerosis, with Report of a Case.—Thomas Luther Coley reports this case. His patient was a man aged forty-one years. When about twelve years of age, he had a fall, and, although he recovered from it, he always afterward had a sensation of stiffness in the erector spinæ muscles when greatly fatigued. In the blizzard of 1888, he suffered greatly from exposure to cold. His legs first became involved. There was no alteration of sensation save cramp-like seizures in the calves, worse at night, and some sense of formication at times. The tactile, thermal, and pain senses were normal. Until December, 1899, the case presented a typical example of the symptom-complex called spinal spastic paraplegia. At this time the upper extremities became gradually involved. Atrophy developed, and contractures of the hand appeared. The head became affected. About the first of March, bulbar symptoms appeared. The patient died suddenly in July, 1901. In the treatment of this affection, electrotherapy and massage seem to give some degree of comfort for a time. General tonic treatment is followed by indifferent results. The greatest benefit is derived from the use of salt-water baths early in the malady, and of the thermal cabinet later in the disease. The spasticity in the author's case was remarkably lessened for a few hours after these baths, but no permanent relief was afforded.

American Medicine, December 7, 1901.

Massage of the Stomach.—Mark I. Knapp concludes that from a subjective point of view, massage (at least after the methods of effleurage and tapotement used by the writer) was of benefit in the six cases which he reports. The patients felt so well that it was with difficulty that they were kept under treatment during the later period. This feeling of improvement, however, was mostly psychic, as shown not only by the actual chemical and physical determination of the gastric contents after each massage, but from the condition a few weeks after the cure. The writer adds that whatever good there is in massage, the stomach is not adapted for it.

Vaccine Production and Vaccination.—George G. Groff thinks a competent commission should be appointed to promulgate the proper methods of vaccine production, and the best methods of applying vaccine to human beings. This commission should investigate and report upon the following questions: (1) From what tissue or pathological product in the vaccinated animal should the virus be taken, and at what time after vaccination? (2) What is a typical vaccine vesicle, stating accurately the appearance on different days, and what is a typical vaccine scar? (3) How can we arrive at a positive diagnosis of the mild form of smallpox in which there are no deaths? The writer then gives a brief review of the variety of opinions held on these points. He adds that the epidemics which he has watched for thirteen years were always the result of the failure of physicians to diagnose the disease until it had spread throughout the community.

The Treatment of the Various Hemorrhages and of Shock.—Herbert L. Taylor speaks of the treatment of various forms of hemorrhage. In epistaxis, if the hemorrhage is severe, use tincture of veratrum viride or tincture of aconite in three to five drop doses, followed in fifteen to twenty minutes by a smaller dose if required. If bleeding does not cease, styptic measures may be used locally. Hemorrhage from a cut arm, finger, etc., should, if possible, be arrested by compression or ligature. Metrorrhagia, independent of menstruation, if produced by a polypus, or some one of the various causes of uterine disease, should be treated by oil of erigeron if there is oozing, and ergot if there is active bleeding, or extract of hamamelis and potassium bromide. Aconite should be given early in an attack of hæmoptysis. Hemorrhage from the bowel is treated according to its point of origin. If in the small intestine, remedies must be given by mouth; if in the large, by rectum. Hæmaturia is treated according to its source. In shock, the treatment consists of $\frac{1}{50}$ grain atropine sulphate hypodermically, and external application of heat.

The Lancet, November 30, 1901.

Treatment of Whooping Cough.—E. Magennis reports two cases. The nares were irrigated with warm carbolic lotion (1 to 40 with a little glycerine added) through a small syringe with a soft-rubber nozzle. Six ounces of the solution were used in each nostril three times a day. The author thinks that the irrigation, by keeping the naso-pharynx disinfected, diminished the frequency of the paroxysms and cough, and greatly lessened the duration of the disease. He admits the possibility of some of the fluid getting into the Eustachian tube.

About Alkaptonuria.—A. E. Garrod believes that there is a very special liability of alkaptonuria to appear in the children of first cousins, and gives data relative to certain families as bearing on this point. He believes that the facts he adduces lend support to the view that alkaptonuria is what may be described as a "freak" of metabolism, a chemical abnormality more or less analogous to structural malformations. They can hardly be reconciled with the theory that it results from a special form of infection of the alimentary canal. There is here no question of the intensification of family tendencies by intermarriage, for in no instance were the parents

themselves alkaptonuric, and, as has been already mentioned, there is, up to now, no recorded instance of alkaptonuria in two generations of a family.

A Case of Lead Poisoning Causing Insanity.—The patient of W. S. Stalker was a plumber, thirty years old. He was taken acutely ill, and a diagnosis was first made of influenza, later of typhoid fever. After a while, delusions of persecution with hallucinations of sight and hearing came on, and later acute mania. There was marked paralysis of his extensor muscles of the forearms, and wrist-drop was very pronounced. He was unable to stand, and, when held in the upright position, his legs gave way under him, and he tended to drop in a sitting posture. There was very evident tremor, and this was most noticeable when he attempted any movement. There was no very marked increase in the knee-jerks, and ankle clonus was absent. Anæmia was very pronounced, and the face was wrinkled. On the gums there was an exceedingly well-defined blue line. On the use of bromide and iodide of potash, recovery supervened, though during treatment the patient had severe epileptiform seizures.

A Case of Myxasthenia with Remarks on Kindred Affections.—W. Overend reports the case, the patient being a woman of forty-two. She seemed to be suffering from an atrophy of the mucous or goblet-celled epithelium, a condition known as "myxasthenia." In this state there seems to be a desiccation in scattered areas throughout the mouth, and, in fact, through the entire alimentary canal. As a result, the normal supply of mucus is not forthcoming, and consequently there is irritation of nerve endings at various points to which the pains of the malady seem referable. Abnormal dryness of mucous membranes may occasionally be an accompaniment of the gouty and diabetic diatheses. The entire pathology of gout is not exhausted in the idea of uric acid, nor is that of diabetes altogether embodied in that of sugar, since we know that these two substances are merely the outward manifestations of a profound disturbance of metabolic activity, the elucidation of which is still reserved. The presence of mucin in abundance within the synovial fluid, where uric-acid deposits most frequently occur; the existence of a carbohydrate moiety in the mucin molecule, and the diminution of saliva and desiccated tongue of diabetic patients are suggestive facts which may lead to the discovery of interesting relationships.

Symptoms and Treatment of Movable Kidney.—Henry Morris presents the following conclusions: (1) When movable kidney is associated with enteroptosis, no operation should be performed on the kidney unless it is evident that the more serious symptoms are due to the mobile kidney alone, and not until after the trial of a well-fitting abdominal support and the careful dietetic and medicinal treatment of the gastric and intestinal disorders. Should these means fail, and the kidney evidently be most at fault, nephropexy, followed by the wearing of an abdominal belt, should be tried. (2) When a movable kidney is complicated by a movable liver, or when both kidneys move, the same rule should be followed as in general enteroptosis; in the case of both kidneys moving (when both organs have been giving trouble), they should be fixed one after the other at an interval of a week, so that convalescence from both operations may be taking place simultaneously. Morris has in several instances thus operated upon both organs with the most satisfactory results. (3) When the movable kidney occurs in a hysterical or neurasthenic patient, all palliative means should be tried before resorting to an operation, and the patient's friends should be informed of the uncertainty of the result from operation. The statistics show that a cure may be hoped for by nephropexy in about half of these cases. (4) For uncomplicated movable or floating kidney, in which the principal symptoms are pain and gastro-intestinal troubles, the operation may be confidently advised and carried out without any previous trial of belts or of rest. (5) When renal crises are a feature of the case, nephropexy ought to be strongly urged, because of the impossibility of keeping the kidney in its proper place by a belt, and because of the constant risk of hydronephrosis and recurring pain, even if the renal crises can be kept under control. (6) When a movable kidney gives rise to no inconvenience, an operation ought not to be thought of, and a belt need not be worn.

British Medical Journal, November 30, 1901.

A Breeding Place of Mosquitos.—A. Dunley Owen calls attention to the plantain as a place for hatching mosquitos. Each year the old leaves are cut down, leaving cup-shaped hollows which are filled with a watery fluid. Here may be found myriads of mosquitos, together with eggs and larvæ.

Case of Puerperal Fever Treated by Antistreptococcus Serum.—H. Hughes reports a case of puerperal fever in which antiseptic douches were given, but as the patient was growing worse, on the tenth day, 10 c.c. of antistreptococcus serum with digitalin 1-100 gr. and atropine 1-100 gr. were injected. Further injections of the serum were given and the patient recovered. The serum reduced the temperature, but had apparently no effect on the pulse.

A Clinical Lecture on Acute Yellow Atrophy of the Liver.—T. R. Bradshaw describes the case of a woman of twenty-four years, who up to the time of the present illness had always enjoyed excellent health. She died six days after consulting her physician for the first time. At this time she said she had caught cold, that she had nausea, and had been vomiting occasionally for two or three days. Two days later she became slightly delirious. Two days after this jaundice was distinct. Still two days later the patient became cyanosed and had stopped breathing. The heart was acting strongly, and artificial respiration was started and kept up for about four hours. On physical examination of the organs there was found to be absolutely no liver dulness in the usual position in front. There was no distention of the abdomen. The splenic dulness was unusually distinct. The tongue was coated with brown fur. The right optic disc was normal. The urine contained a moderate amount of bile. The diagnosis made was that of acute yellow atrophy of the liver. Necropsy revealed a liver weighing twenty-five and three-quarter ounces. The capsule was loose and wrinkled and numerous yellow spots showed through it. On section, the organ was mostly of a bright cherry red, with patches of yellow here and there. The writer concludes by saying that although the majority of cases of simple jaundice are among the mildest of the diseases which come under our notice, we should never look on them as trivial, as sometimes this apparently unimportant affection develops into a most formidable one.

A Case of Syphilitic Disease.—William Gowers reports the case of a woman aged twenty-five years, who was admitted to hospital, having suffered from severe headache for three months. For two months she had also suffered from vomiting. She gradually became strange in manner, and later showed some loss of power in the right side, and this trouble increased. She had also had a fit of some kind. When she was examined there was considerable right hemiplegia, together with foot-clonus on the right side. Sensation was impaired in the right limb, but not abolished. The optic discs were normal. Inunctions of mercurial ointment were begun, and were followed by improvement for a few days, but this soon ceased. At the end of the week the administration of fifteen grains of potassium iodide three times a day was added to the mercury. The weakness increased, and the mercury was stopped. At the end of three weeks after admission complete paralysis of the left side came on quite suddenly. The stupor deepened to coma, and three days later the patient died. The symptoms suggested a rapid cerebral growth, but examination revealed that, although the disease was syphilitic, it was not in the nature of a growth. There was extensive disease of the arteries. The disease was most intense at the beginning of each middle cerebral artery. Another interesting point was that there was an abnormal arrangement of the cerebral vessels which had allowed a collateral circulation to prevent the symptoms which must otherwise have been present. There was also extensive change in certain parts of the cerebral substance. The severe persistent headache, afterward with vomiting, was the result of the morbid process in the vessels, extensive and unchecked. The steady progress of the symptoms was due to the slow changes in the cerebral nutrition. The collateral supply of blood saved the patient from the severity of sudden symptoms. The writer adds a warning against giving in such cases the very large doses of iodide which are sometimes employed.

Münchener medicinische Wochenschrift, November 12, 1901.

Neuritis and Polyneuritis.—R. Stintzing reviews the history of the classification and pathology of these diseases. Originally the pathological condition was considered as essentially atrophic in character. Latterly inflammatory factors have been found to exist in many cases. He gives the following nomenclature of these diseases as the most advanced in the light of our present knowledge: (1) Neuritis of inflammatory origin. Among such are the neuritides of leprosy and beriberi, and certain primary forms of unknown origin. (2) Neuritides of degenerative origin. These are divided into those of toxic origin (alcohol, arsenic, and mercury), those of infectious origin (typhoid fever, variola, puerperal fever, tuberculosis, and

syphilis), those of constitutional origin (diabetes, carcinoma, and marasmus), and those of systemic origin (following lead poisoning). (3) Neuritides of both inflammatory and degenerative origin. To these belong post-diphtheritic neuritis and some of the primary forms of unknown origin, such as Landry's paralysis.

Treatment of Seasickness.—O. Rosenbach says that the method recommended by many of practising periodically deep or diaphragmatic respirations is of doubtful utility. It is very doubtful whether the employment of such respirations under the conditions in which seasickness occurs can bring about a sufficient degree of apnœa to relieve the reflex irritation present. This has been claimed as the result of animal experimentation, but the conditions under which such experiments have been conducted are not comparable to those under which seasickness occurs. The mere consciousness of constant changes of equilibrium is responsible for only a limited number of the cases of seasickness. The chief cause is the slight but constant motion of the tissue elements. The large number of measures which have been employed successfully in the treatment of this condition act not in a physical but in a psychic manner. The mere exercise of will-power is rarely able to overcome seasickness. A steady concentration of the mind upon certain objects is, however, of great benefit. Unfortunately, these means are not always successful. Recovery from seasickness, the cause still operative, takes place because the organism becomes accustomed to the abnormal movement of the tissue elements.

Osteomalacia with Tumor Formation.—Gustave Feldmann reports this case. The patient, a male seventeen years of age, gave a good individual and family history. He was a bookbinder by trade and operated a press, principally with the right foot. A deformity of the right lower limb gradually made its appearance. For this osteotomy was performed. A poor recovery was made and the affected limb was permanently weakened. General debility gradually supervened, and the patient became confined to bed. Five years after the operation, in getting out of bed, he fell and sustained a fracture of both thighs. The treatment of these was unsatisfactory, incomplete union being obtained. The year following, he passed fourteen pea-sized stones from the bladder accompanied by much "sand" and bloody urine. At about this time there occurred a fracture of the right lower limb. Subsequently a tumor appeared on the right lower jaw at the place from which a tooth had been extracted two years previously. This increased, at first slowly, then rapidly, in size. Finally the following year he complained of violent pains in the left shoulder, arm, and elbow. A tumor appeared in this location which gradually increased in size for a year and then gradually subsided. In addition to the above both knee and ankle joints have become ankylosed. The diagnosis is osteomalacia, sarcoma, and arthritis deformans.

Munchener medicinische Wochenschrift, November 19, 1901.

Pulse-Rate During the Puerperium.—Otto Aichel discusses the significance of the pulse-rate during the puerperal period. It is generally conceded that, under normal conditions, the pulse-rate during the puerperium is lower than that found during the pregnant period. Observations along this line have not, however, given uniform results, but have shown that in apparently healthy puerperal women the continuous pulse-rate may vary all the way from 40 to 100 beats per minute. In order to appreciate fully the significance of the pulse-rate during this period, three facts must be established, viz., the pulse-rate in the recumbent position (1) During pregnancy; (2) During labor; and (3) During the puerperium. The normal pulse-rate in a given case having thus been established, comparisons of great value can be made between such and similar observations during the puerperium. In many women, the normal pulse-rate during pregnancy is from 80 to 100 per minute. A continuance of this during the puerperal period is therefore of no pathological significance. The persistent increase of the puerperal over the normal pregnant pulse-rate is always an evil omen. Abnormal temperatures during the puerperium, either increased or decreased, should not cause apprehension, so long as the pulse-rate is not notably increased over that which was observed during the pregnancy. The statistics hitherto gathered with respect to the normal puerperal pulse-rate are of little value, because the principles outlined above have not been followed. Much valuable information has been lost because of the failure to make the comparisons noted. It is evident that each case is a law unto itself, and that observations to be of value from pathological, prognostic, or therapeutic standpoints must be made with this thought in view.

The Present Status of so-called Fatty Heart.—Carl Hirsch calls attention to the complex symptomatology which accompanies this condition and to the fact that the predominating symptoms vary greatly in different cases. The symptoms are, of course, dependent upon the reduced ability of the heart to perform its work, but the clinical picture in individual cases is governed by the etiological and anatomical factors present in each case. Recent researches have shown that in the production of the condition which we call fatty heart, other factors than the mere presence of fatty degeneration or infiltration of the heart muscle are at work. Such fatty changes do not stand in direct relation to the symptom-complex and form only a link in the chain of pathological lesions which are responsible for the clinical picture. The other links are arterial sclerosis, kidney lesions, etc. It is therefore erroneous to speak of fatty heart as a disease *sui generis*. If fatty non-muscular individuals present symptoms of deteriorated heart power, it is very possible that this may be due merely to an abnormal relation between the size of the body and the muscular validity of the heart. In all such cases, however, the presence or absence of arterial sclerosis and anatomical heart alterations must be carefully ascertained. In cardiac insufficiency occurring in fatty, muscular persons, arterial sclerosis, kidney lesions, and chronic myocarditis must often be considered as the chief factors in the case. The occurrence of hypertrophy in a fatty heart is not due to the mere presence of fat, but is produced by the accompanying lesions, such as arterial sclerosis. In individual cases the complete diagnosis depends upon the correct apprehension of the various pathological conditions present. Only in this manner can each case be intelligently understood. Treatment should be directed to the existing conditions, such as anæmia, nephritis, arterial sclerosis, or simple lack of cardiac muscular tone.

Uterine Lactation-Atrophy.—Under this appellation W. Thorn describes the uterine atrophy which occurs in nursing women. Such atrophy may be physiological or pathological. Physiological uterine atrophy is always present during the lactation period. Its origin is due to two causes: (1) Excessive or abnormal uterine contractions, and (2) Loss of nutrition occasioned by the milk flow. The period of greatest atrophy corresponds to the period of most excessive lactation. In this physiological uterine atrophy the body of the uterus is chiefly involved. The cervix and the neighboring parts suffer only to a slight extent. The reduced liability to impregnation during lactation is not due to the cessation of ovulation, for this process continues during the entire nursing period, but is dependent upon physiological uterine atrophy and stands in direct relation to it. Under normal conditions the uterus possesses ample powers of regeneration and in due time is restored to its original nutritional condition. The return of menstruation is generally a sure sign that complete regeneration has taken place. Pathological uterine atrophy is merely an amplification of the physiological process above described. It is principally occasioned by a prolonged period of lactation in debilitated women suffering from constitutional disease or possessing a cachectic condition. Local uterine conditions of malnutrition may also play an important part in this form of atrophy. Here the atrophy may be progressive and continuous, affecting not only the body of the uterus, but the cervix, vagina, and neighboring parts. Partial regeneration may occur, but rarely does the organ return to its normal condition. The treatment of pathological uterine atrophy is chiefly prophylactic. In no case should the lactation period exceed one year in healthy women. In anæmic or debilitated women eight months should be the limit. When the atrophy persists after the cessation of lactation, constitutional measures (arsenic, iron, etc.) should be chiefly relied upon. Local treatment is rarely indicated, and, when employed, is seldom beneficial.

Berliner klinische Wochenschrift, November 18, 1901.

Early Diagnosis of Tuberculous Cystitis.—P. Asch reports two cases of tuberculous cystitis which were diagnosed in the first stage of the disease by means of cystoscopy and bacteriological examination of the urine. Both cases showed the ordinary objective symptoms of cystitis. In the first case, the urine was so clear that a diagnosis of neurasthenic cystitis had been previously made. Cystoscopic examination showed a typical tuberculous ulcer near the opening of the left ureter. The remainder of the mucous membrane of the bladder was normal. In the second case, isolated blood extravasations, surrounded by congested mucous membrane, were present. The prostate gland was enlarged. In both cases repeated microscopical examination showed the presence of tubercle bacilli in the urine. In neither case was pulmonary tuberculosis present, and the general nutrition was good. The use of the cystoscope in the initial stage of tuberculous cystitis is unattended by risk and does not unfa-

vorably influence the course of the disease. This, however, is not always the case when the disease is advanced.

Anæmia Splenica with Ascites (Banti's Disease).—H. Senator says that in reality this disease is made up of a number of pathological conditions which have been understood for a long time. Banti showed the relation which the various processes bear to each other and pointed out that, when so related, they constitute the continuous steps in a single pathological process. Banti divides the disease clinically into three stages, an anæmic, a transitional, and an ascitic. The first stage has long been known as splenic tumor with anæmia. Later it has been described under the names of pseudoleukæmia and anæmia splenica. The second and third stages of the disease have been usually considered as cirrhosis of the liver with anæmia splenica or the hemorrhagic diathesis. The lesions in the spleen are of a fibro-adenoid character. Nucleated red blood cells are absent. The lymph glands are not enlarged. The disease has been usually regarded as of infectious origin, although no specific microorganism has been discovered. It has been thought by some that autointoxication from the intestinal tract is responsible for the disease. Banti thought that the ascites was invariably dependent upon cirrhosis of the liver, but Senator's researches have shown that this is not the case, for cirrhosis of the liver is not a necessary accompaniment of the disease. Ascites may arise from mechanical causes due to the presence of the enlarged spleen in the abdominal cavity. The blood changes consist essentially in a reduction of red blood cells, hæmoglobin, and leucocytes. Poikilocytosis is present, and the alkalinity of the blood is increased. The tendency to spontaneous hemorrhage is very marked. This was not sufficiently emphasized by Banti, but has been noted by other observers. The diagnosis depends upon the chronic spleen enlargement and the blood condition, together with the fact that these conditions precede the liver changes. Malaria may be excluded by the blood examination, but it should be remembered that in some instances this disease has appeared as a sequel of chronic malarial poisoning. The first stage of the disease cannot be differentiated from ordinary anæmia splenica. The prognosis is uncertain. Splenectomy has been recommended as a radical method of treatment. It has been employed with success in some cases. The medicinal treatment consists in the internal or subcutaneous use of arsenic, iodine, and iron. Proper hygienic and dietetic measures should, of course, be instituted.

Deutsche medicinische Wochenschrift, November 21, 1901.

Treatment of Intubation Ulcers.—Johann Bokay reports the successful treatment of five cases after the method of O'Dwyer. This consists in the employment of tubes provided with a narrow neck and coated with a layer of gelatine and alum. In all cases in which intubation has lasted over one hundred hours, ulceration is liable to occur and the employment of these tubes is then to be recommended. The gelatinized tube is left in the larynx for five days, at the end of which time it is removed and replaced by a similar tube. This process is repeated three times, at the end of which the ulcer will usually be found to be completely healed.

The Value of Tetanus Antitoxin.—B. Möllers reports four cases of tetanus treated with antitoxin. All proceeded to a fatal termination, although one showed temporary improvement following the inoculation. In regard to the use of antitoxin in tetanus, Behring has always emphasized the fact that the initial inoculation should not occur later than thirty hours after the onset of the tetanic symptoms, and, furthermore, that a sufficient amount of the serum should be used. A large part of the statistical information regarding the orrhotherapy of tetanus is of no value on account of non-compliance with these principles. In all of Möller's cases, however, large amounts of the serum were inoculated within thirty hours following the onset of symptoms, yet all terminated fatally. It is true that they were all severe cases, as evinced by the profound infection; but it is in this class of cases that orrhotherapy must show its worth if it has any. Many of the mild cases recover under former methods of treatment. Animal experimentation has shown that preventive or coincident serum inoculation is usually effectual, but in the practical treatment of the disease too much time has generally elapsed between the infection and the serum inoculation to permit the latter being of avail. In such cases the amount of toxins already produced has damaged the nervous centers beyond repair. The prophylactic use of the serum is very efficient and is to be strongly urged.

The Parasitic Nature of Carcinoma.—Hugo Ribbert considers the arguments advanced by the supporters of the parasitic theory, and shows where these are faulty and not convincing. The supposed parasites of carcinoma are believed to exist, and to be capable of multiplication only within the epithelial cell, where they produce an irritation which completely changes the biological properties of such cells. No irritation, parasitic or otherwise, is able, so far as we know, to alter the inherent biological characteristics of cells, but only to increase or to decrease their normal functions. This theory also presupposes the existence of a symbiosis, so to speak, between the parasite and the epithelial cell. In other words, these organisms cannot live outside of the particular variety of epithelial cells which they attack. As in different forms of carcinoma a variety of epithelial cells is affected in order to accept the parasitic theory, it is necessary to suppose that there are a number of specific parasites. Given the existence of a parasite within a cell upon which it draws nutrition for multiplication and metabolic processes, it is certain that this condition of things must bring about a decreased vitality of the cell. In carcinoma, however, the vitality of the cell is greatly increased, and it is among the most proliferative that we know. The occurrence of metastatic tumors does not necessarily imply that they are of parasitic origin. The carcinoma cells are capable of transmission through the blood-vessels from one region of the body to another, and wherever they find lodgment they may proliferate and thus give rise to new tumors. Czerny regards the fact that carcinoma is usually a superficial growth as evidence of its parasitic origin. This does not necessary follow, as in such a location a vast number of other factors may be at work. The supporters of the parasitic theory have recently laid great stress upon the fact that animal experimentation has shown that carcinoma is a transferable disease and may be transmitted from animal to animal by inoculation. It is entirely in accord with the facts, however, to regard the tumors so produced as metastatic growths entirely similar in their origin to those which occur within the body which contains the original tumor. The fact that carcinoma is apparently on the increase is not, necessarily, proof of its infectious origin. A large part of the statistics is not based upon a pathological, but merely a clinical, diagnosis.

French Journals.

The Use of Baths of Oil of Cade in the Treatment of Psoriasis.—F. Balzer and Al. Schimpffe speak of their success in treating psoriasis with the oil of cade. They advocate the following preparation: Oil of cade, 50 gm.; fluid extract of quillaja, 10 gm.; yolk of one egg; distilled water, up to 250 gm. The bath ought to last from one-half to one hour. The patient uses gentle friction on the spots affected. The writers add that they have been particularly pleased with the effects of this treatment in chronic cases.—*Bulletin Général de Thérapeutique*, November 23, 1901.

Voluminous Adenocarcinoma of the Ovaries with Ascites.—M. A. Delobel reports this case. He states that the tumor might be called a microcystic epithelioma. These cysts appear to the naked eye only as brilliant points. On section there can be seen microscopically a large number of round cavities of unequal volume and covered with cylindrical epithelium. At certain points there is the aspect of a very diffuse carcinoma. It is reasonable to surmise that this curious neoplasm has had its origin at the point of the primordial follicles, although certain authorities deny the possibility of the origin of tumors from the epithelium of the Graafian follicles. The writer notes the presence of masses of polymorphous epithelial cells in the dilated vascular cavities.—*Journal des Sciences Médicales de Lille*, November 23, 1901.

Diazo Reaction in Plague.—Parodi gives his observations in this field. He has studied ten cases of plague with respect to the diazo reaction, and eight times the result obtained has been positive. The diagnosis of all of these cases had been made microscopically. In these eight cases, the diazo reaction showed itself very early in the disease. In the two cases of plague in which it did not show, the type was so benign that the general condition of the patient seemed undisturbed and there was not the least fever. The eight cases were more or less severe with high fever and intense general symptoms. The writer adds that it is well known that plague can exist without buboes, in this form resembling typhoid fever.—*Le Bulletin Médical*, November 16, 1901.

Treatment of Facial Neuralgia by the Galvanic Currents.—Vernay concludes that the electrical treatment of trigeminal neuralgia is a curative treatment on which one may count not only in recent and slight cases, but also in serious and chronic cases, if one makes the application with an intensity and duration sufficient for the case. The current chosen should be the constant gal-

vanic, called the continuous current. The intensity should be at least forty milliampères, and may be much higher, according to the case. The duration of application should vary from thirty to sixty minutes. The treatments should continue daily for from ten to thirty days, according to the case. The facial electrode should be well padded and applied to the whole region of the nerve. The treatment is absolutely harmless if the current is graduated gently and progressively at the beginning and at the end of the application. The active pole will preferably be the positive pole, although if this proves unsuccessful the other may be used, especially if trophic trouble exist.—*Lyon Médical* November 24, 1901.

Inflammations and Tumors of the Breast.—Phocas reports two cases. The first patient was a woman aged forty years. For some months she had been suffering with her left breast. On examination it was discovered to be bosselated and irregular, with numerous and superficial nodules. The ganglia were scarcely enlarged. Pain in the breast had been sharp in character. The diagnosis of mastitis was made and operation was not advised. Later, however, a partial operation was performed, and the microscopical examination did not disclose anything malignant. But at the end of four months the patient returned with a recurrence, and this operation showed the tumor to be carcinoma. The patient died at the end of a few months. The writer believed this to be a case of cancerous mastitis, in which the inflammatory lesions masked the epithelial. In such tumors when medical treatment does not alleviate the symptoms, operation should be performed, and this should be radical. The second patient was a woman of forty-eight years. She was afflicted with a tumor of the right breast. Microscopical and bacteriological examination demonstrated that the tumor was a perfectly typical encephaloid carcinoma, the center of which showed necrotic or purulent degeneration. This degeneration could be attributed only to an affection of the neoplasm by the staphylococcus albus. The infection took place by way of the milk ducts in the normal glandular acini, as well as in the carcinomatous.—*Le Nord Médical*, November 15, 1901.

New Apparatus and Method for Writing for the Blind.—Laborde in presenting this new method speaks of the disadvantages of the old system of Braille. There are various disadvantages connected with this method. In the first place, the blind student is obliged to learn two alphabets, two notations of figures, and two musical notations, one for writing and one for reading. This is a long, difficult, and fatiguing process for both student and master especially for the latter. The blind student is obliged to learn to write from right to left, and to read from left to right, two cerebral processes which are antagonistic the one to the other. In order to read over anything he has written, the blind student is obliged to lift up the leaf of paper from between the plaques of zinc and copper and to turn it over, and when he begins to write again, he must exactly readjust the paper, placing it where it was in the first place. In order to make any correction, he has to go through all this process. And, finally, he cannot calculate, for in order to do that it is necessary to read and write on the same side of the paper. This new method which has been conceived by Dussaud has many advantages. By means of it the blind student writes the letters as he reads them. He has only one alphabet to learn; one notation of figures; one musical notation. There is an economy of half the time and fatigue in his education. He writes and reads from left to right. He can read over again what he has written. He can correct it, and finally he can calculate on paper. So the problem is solved which has for so long been attended with such difficulties, and characters in relief can be made by a pointer on the same side of the paper as that on which it is pressed. Cheaper paper can be employed than with the old apparatus, and the construction of this apparatus is remarkable for its simplicity and ingeniousness.—*Bulletin de l'Académie de Médecine*, November 19, 1901.

Bulletin of the Johns Hopkins Hospital, October, 1901.

Chorea with Embolism of the Central Artery of the Retina.—Henry Thomas presents the case of a young girl aged sixteen years, apparently in perfect health, except for slight choreic movements, which involved the right arm and leg, and very slightly the face. The patient said that she had been unable to see with the left eye since the trouble began, but unfortunately she could give no definite account as to exactly when this blindness occurred. About a year ago, unsteadiness in the movements of her right hand attracted attention. A certain awkwardness of speech developed and the movements involved the leg on the right side. The heart was slightly dilated, with a rough blowing systolic murmur, heard at the apex. The patient said that her blindness came on suddenly, and when she discovered the defect it was as complete as at any subsequent period. Ophthalmoscopical examination confined the diagnosis of embolism of the central artery of the retina. The eye complications of chorea are not very numerous, the author says.

Carcinoma of the Male Breast.—Louis M. Warfield, in reviewing his series of cases of carcinoma of the male breast, states that the majority occurred between the ages of forty and seventy. The greatest number occurring in any one decade was thirteen in the seventh decade. As to the length of time the tumor was noticed, the longest time was thirty-five years. The shortest time was two weeks. Either breast may be affected indifferently. In a few cases, there is a history of trauma. Pain does not seem to be a prominent symptom. Ulceration is present in a certain proportion of cases. Retraction of the nipple is noted in various cases. Discharge from the nipple was noted in one case. Out of twenty-nine of the thirty-seven cases reviewed, the axillary glands were enlarged and palpable in twenty. The microscopical appearances of the tumors in both sexes are quite similar. Thus far no peculiarities of structure in the male cancers have been made out. All the varieties found in women are found in men.

A Case of Primary Adenocarcinoma of the Fallopian Tube.—Elizabeth Hurdon reports this case and gives the following reasons for the tumor being primarily tubal: (1) The uterus is normal; (2) The tube is large as compared with the ovary, ovarian carcinomata grow rapidly and attain considerable size before extension occurs; (3) There is a definite relation between the papillary masses and the tubal folds, while the ovary merely shows invasion of parts adjacent to the tube, and contains no papillary excrescences, excepting those projecting from the end of the tube; (4) The mucosa of the tube is the site of the neoplasm, the invasion of the musculature being due to extension outward from the mucosa. In carcinoma of the tube, secondary to that of the ovary, the growth usually extends from the peritoneal coat inward, and the canal may be normal or constricted, not dilated. The writer states that carcinoma of the tube has not been diagnosed previous to operation, a diagnosis of ovarian cyst or of hydro- or pyosalpinx having usually been made.

The Journal of Tropical Medicine, November 15, 1901.

Causation of Enteric Fever in India.—Andrew Duncan considers it a matter of marvel that more men are not infected with typhoid fever than is at present the case in India, considering that (1) There is a continual supply, year by year, of a large body of men most predisposed to the disease, a fresh stock of the infection agency thus being added yearly to the country. (2) This large body of men most predisposed to the disease, though living nominally in highly sanitary barracks, are yet daily exposed to the infection of typhoid fever contained in the liquids they imbibe in the bazaars and in the dust of the station, and spread broadcast through the agency of flies. (3) The country soil is, moreover, becoming yearly more and more impregnated with the typhoid bacillus. The remedies suggested by the author are burning the stools of the sick, disinfecting the urine, and, most important of all, compulsory inoculation. He gives the statistics in cases of inoculation, which, he thinks, prove it to be of value as a preventive measure.

Tropical Food Adjuncts; Prevention of Disease; Spices.—J. M. MacKnight finds that in tropical countries between latitude twenty-three degrees south and twenty-three degrees north of the Equator, the inhabitants use spices daily with their food as we use pepper. A certain beneficial effect is caused to the digestion, viz., stimulant and carminative. But there is a secondary effect, which is perhaps even more beneficial, seen in the fact that the volatile oil passes out from the body, mostly unchanged, through various channels, but chiefly through the lungs and skin. So that in the tropics Nature has provided antiseptics which, in passing out by the lungs and skin, kill the hurtful microbes which might be breathed in, and also prevent, to a great extent, the attacks of mosquitos. It is a well-known fact that insects, including mosquitos, dislike volatile oils, and will probably not attack an individual using spices as a food adjunct. It is interesting to note that spices grow when there is a high rain fall combined with much heat—conditions under which malarial influences prevail. The author quotes various authorities in regard to the antiseptic, antipyretic, and other actions of aromatics.

Society Reports.

THE PRACTITIONER'S SOCIETY.

166th Regular Meeting, Held on Friday, November 1, 1901.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

A Further Report on "Beatson's Operation," with Presentation of Cases.—Dr. ROBERT ABBE showed three cases of recurrent carcinoma of the breast treated by oöphorectomy. Two of these he had already shown at the May meeting of the society. He also reported four additional cases of the same kind. The detailed history of each is as follows:

CASE I.—A single woman, forty-two years old; menstruating. She was operated on eighteen months ago by Dr. Henry C. Coe for a malignant mammary carcinoma. Ten months later she presented herself with a recurrence and another malignant growth in the opposite breast about the size of a hen's egg. The recurrence around the scar consisted of about a hundred small nodules, covering an area 4 x 7 inches. The central part formed a mass in a solid cake, which was attached to the ribs and invaded the pleura, with evident recurrence within the pleura. There was a pleural effusion rising to the level of the fourth rib. The infraclavicular glands on the operated side were involved, and on the opposite side a large chain of glands extended from the breast to the axilla. No operation was done upon the recurrent disease, but on March 4 of the present year both ovaries were removed. There was a quick convalescence, and in one week slight changes were noticed in the nodules, near the old mammary scar. In two weeks most of the nodules were becoming pale and flattened, the flattening resembling umbilication; in some a ring of hard tissue remained. In four weeks almost all the nodules had disappeared, and the tumor in the opposite breast was becoming smaller. At eight weeks, when the patient was shown at the Practitioners' Society, every vestige of cancer that could be felt had gone, and the invaded tissue showed atrophy. The fluid and dulness, however, remained. The disappearance of the cancer-recurrence was in every instance in the order in which the nodules had consecutively appeared. The last to disappear were the axillary glands on the side not operated upon. The patient was next seen in midsummer, four and one-half months after oöphorectomy. She seemed in perfect health, and no trace of recurrence could be felt. The fluid level in the chest seemed an inch lower, but an examination was not convincing. The patient was not seen again until three months later, October, 1901, when it was found that she had aphonia and a little hacking cough from pleural extension; she did not look as well and had lost weight. Palpation of the atrophied spots, representing the original nodules of recurrence, showed a little thickening of some, but at least two-thirds of the recurrent nodules had permanently gone. The opposite breast, from which the tumor entirely disappeared, showed enlargement and a diffused fibroid thickening, without pain or nodules. The patient had taken thyroid after operation, but had taken none during the two preceding months. She was advised to renew this. Since then there has been no material change in her condition. The dulness in the chest at present has not changed in six months.

CASE II.—Woman, nearly seventy years old, with a typical mammary cancer which was removed two years ago. There was a recurrence of six nodules in the skin, about the size of the end of one's finger, with a round, malignant ulcer involving the lower part of the scar. It was about an inch and one-half in diameter and bedded upon the pleura. Oöphorectomy was done on April 15, 1901. Retrograde changes were noticed in the ulcer, which rapidly healed in eight weeks. The recurrence nodules diminished and came to a standstill. At the present time, six months after operation, a renewal growth of the nodules is apparent, and the ulcer, which has remained healed, is now showing a slight tendency to thicken. The general condition of the patient is excellent, and on the whole retarded growth and excellent general health may be credited to the oöphorectomy.

CASE III.—Woman, aged seventy years, very spare, with hopeless, inoperable disease of the left mamma. There was a tumor, two and one-half inches in diameter, which was heaped up about the nipple in hard, purplish nodules, almost ready to ulcerate. From the edges of the mass to the highest point in the axilla was a compact chain of large and small glands, which continued above and beneath the pectoral muscles. In a large group below the clavicle a series of small lymphatics could be discovered. Surgical interference had been refused her, and Dr. Abbe offered oophorectomy as an experiment. Two atrophied ovaries were removed on May 16, 1901, and at present, six months later, the tumor is positively smaller and flatter, and some of the purple masses above the nipple have wasted. The axillary and other gland masses are estimated half the bulk that they were before the operation. The general appearance of the patient is excellent; she eats and sleeps well.

CASE IV.—The patient was a woman whose breast had been removed by Dr. Abbe for carcinoma in September, 1899. Eighteen months later, she presented herself with four nodules of recurrence about the scar, and a small infraclavicular group of lymphatics. Last May (1901), her ovaries, which were normal, were removed. Two months later, the patient reported that she was in better health than in the previous two years. The nodules appeared to be a trifle smaller. The patient has gained ten pounds in weight during the summer. Two nodules have since disappeared; the others remain seemingly unchanged.

CASE V.—The patient was a woman of fifty, who was operated on in December, 1900, for a most malignant type of mammary cancer. In March of the following year she had an extensive recurrence at the root of the neck; this involved the lymphatics and extended down to the pleura. In May, there was a recurrence in the costosternal end of the scar, three inches by four in length, and others extending to the posterior triangle of the neck, and along the border of the shoulder blade. This case seemed to be in every way most unpromising, both on account of the rapid recurrences, the dusky appearance of the tumor, and its infiltrating attachments. The patient was offered oöphorectomy experimentally. It was done, and for a month there seemed to be a slight shrinkage in the size of the tumor; but its activity was then renewed, and she left the hospital no better. Five months after the oöphorectomy, she died from the natural progress of the disease. No harm or gain can be attributed to the oöphorectomy in this case, which, from its profoundly malignant aspect, would have been fairly excluded from even experimentation, except that in a new field of work one may legitimately offer the choice to the patient.

CASE VI.—The patient was a woman of forty, who was operated on fifteen months ago for mammary cancer. There was a recurrence, one year later, above the collar-bone; for six months the patient had been losing flesh rapidly, and for two months she had hectic fever, her daily afternoon temperature being 101° F. This prolonged hectic was not accounted for by anything observed in her physical condition, unless possibly a general carcinosis. Dr. LeFevre had long watched the patient and excluded pulmonary tuberculosis by many examinations. There was no sputum. Pelvic examination showed ovarian enlargement. The presence of the recurrent cancer mass at the root of the neck, with ovarian enlargement, warranted experimental oöphorectomy, which was done on May 22, 1901. The right ovary was found to be four times its normal size, and three-fourths of its bulk was in a cancerous condition. The left ovary, which was normal, presented a cancerous nodule the size of a bean.

One month later, the mass at the root of the neck was diminished in size, but subsequently it increased, and several other nodules appeared. Her hectic condition continued without any pulmonary evidences. She died without showing any gain from the oöphorectomy. The disease had evidently been widely disseminated before operation.

Case VII.—This patient presented herself the latter part of June of the present year with a tumor of the left breast. It was a hard, carcinomatous mass, more than three and one-half inches in diameter, and associated with marked axillary glandular enlargement. This, with a complex pelvic tumor, was giving her much distress. The pelvic tumor was first removed in order to watch the effect upon the breast. The uterus presented a large, fibroid tumor. The left ovary was enlarged to the size of a small cocoanut and solid to the touch. The right ovary was also large and hard. A pathological examination revealed carcinoma of both ovaries. The patient presented extreme pallor before the operation. She left the hospital improved in general health, and spent the summer in the country, where she gained in every way. Four months later she returned, and asked to have the mammary tumor removed. A marked reduction in the size of the tumor and the glandular masses was apparent to all who examined her. Careful measurements of the tumor, made four months after the oöphorectomy, showed a reduction of at least one-third in all diameters, as well as in thickness. The axillary masses were correspondingly reduced. In view of the marked wasting of the morbid tissues and the good health of the patient, she was advised to wait and remain under observation.

Dr. Abbe said that the seven cases reported above were presented for criticism. From a close observation of them, he felt justified in saying that there are some surprising results shown in five of the seven cases, proving that a marked ovarian influence extends to the mammary tumors and the adjacent lymphatic deposits of morbid cells. In these five cases there was unquestioned arrest and retrograde change in the morbid growth. In the first case, a startling disappearance of all the morbid tumors took place within eight weeks after the ovaries were removed. This same result has been obtained by other operators (Beatson, Boyd, and Herman), in occasional cases, in some of which the disappearance has continued for many months, and in one case three and one-half years.

Dr. Abbe said that in two cases where he removed the ovaries and not the breast tumors, because of the extensive involvement of the latter, there has been a slow but progressive retrograde change in both the cancer tumors and the glands. In all five cases the observation that the general health is brought to a higher standard is borne out. The cases so far operated upon have been of a particularly bad type, and if selection were to be made, there is evidence that, when the recurrent invasion has extended beyond the lymphatics adjacent to the breast, there is little hope of reaching the disease by ovarian influence. If, in the future, one were to select cases which would present more hope, one would choose those having no internal metastatic pleural involvement.

The interest in the recent observations of the effect of the removal of the ovaries for mammary tumors has been so fairly and candidly studied by the few operators who have followed Dr. Beatson's lead, that rarely has a new idea in surgery been placed before our notice with less flare of trumpets. In recent correspondence with Dr. Beatson, he wrote Dr. Abbe as follows: "I am satisfied of its usefulness, and sometimes almost marvelous effects looking to the disease dealt with, and its usual course. The cases are of value in my eyes, as to the cause of the disease, and hence their importance apart from any therapeutic effects." One sees in this the fascination the idea has for him in proving the striking control of mammary morbid growths by ovarian influence. That this control exists in fact is now attested by every operator who has experimented in this field. Candid criticism of the cases reported shows that many are favorably affected in slight degree, and some wonderfully so. In most, this gain is transient, varying from a few months to many months, as far as the evidence of disease goes; but in all there is a uniform gain in general health. To witness the startling phenomenon of cancerous tumors and recurrent nodules slowly or rapidly melting away, like syphilitic lesions under the administration of iodide of potash, is so contrary to the accustomed observation of surgeons that men of ripe experience have already spoken of it as "like romance." Yet, over the whole hangs a veil of some disappointment that the gain is so little in some and so transient in others.

Dr. Beatson advises the use of thyroid extract in conjunction with the surgical procedure, and believes he has seen additional benefit from the use of it in affecting the metabolism of tissues and giving tone to the body cells. The most speedy and notable changes in mammary cancer are seen when ovaries are removed from patients still menstruating. One such case lately reported by Dr. Beatson will bear quoting, inasmuch as few have been operated on where the whole tumor was left for observation. The case referred to is the following:

The patient was a woman forty-four years old. The right breast stood out from the chest with a fixed, immobile look. It had a tense and glazed appearance, while the skin all over it was of a dusky red-bluish color, and seemed as if it was on the point of ulcerating. Enlarged glands could be felt in the right axilla above the clavicle and up the mastoid muscle. In the left breast there was also a suspicious mass, and an enlarged gland in the axilla. Changes in vascularity and size soon followed removal of the ovaries. Six months after, a very interesting and remarkable state of matters existed (to quote Dr. Beatson). The large and tense mamma that was previously covered with dusky skin and seemed on the verge of ulceration had practically disappeared, and its place was taken by a small, dense, flattened cicatricial mass. Close around it were still a few pea-like, hard nodules, but the skin generally on the adjoining thoracic wall was free from disease, and what seemed most remarkable was the entire disappearance of the glandular enlargement previously noted.

Dr. Abbe said it was his belief that such results may reasonably be expected in similar cases, but as yet few have been tried. At the present writing, one may affirm that ovarian influence over mammary tumors has been proven, but adequate explanation has not yet been given, unless Beatson's tentative theories are accepted.

Extensive Cancer of the Lip.—In connection with the general subject of operative relief for malignant disease, he further remarked that he had been fortunate in following three cases of most malignant cancer of the lower lip, which he operated on in 1884 and 1885, and which remained well after fifteen years.

In one case, two-thirds of the lip had been destroyed to the line of the gum by caustics applied both for the original epithelioma and for two subsequent recurrences.

A recurrence again took place and he sought surgical aid. A marked epitheliomatous mass was spread along a part of the scar, and the constant drooling from absence of lip was a distressing sight. I excised the growth, did three plastic operations, and restored the mouth. After fifteen years, he remains well and free from recurrence. The second and third cases involved the entire breadth of the lower lip in solid cancer mass. I removed more than the entire breadth of the lip, and the mucous membrane to the line of the gum—doing plastic operations to build up new ones which were entirely successful. After fifteen years, these men have had no recurrence of the disease.

In a large number of cases, where I have removed less

extensive disease of the lip. I have been able to see the patients from time to time in years after, and can say truly that, while some have recurred, the great majority have secured immunity from disease by operation.

I have a growing conviction, therefore, that in this form of epithelial cancer, more than in almost any other situation, we can attain radical cure.

He then exhibited a female, ten years old, who had been operated upon by him nine years ago for sarcoma of the kidney. The case in certain respects is unique, and he had shown her at various times since the operation. When she was first brought to him her weight was fifteen pounds, and the tumor, upon its removal, was found to weigh seven and one-half pounds. The growth was attached to the upper part of the kidney, and when it was dragged out of the abdomen there was found hanging from it a pendulous mass which proved to be the flattened, pale kidney. The kidney was divided between its middle and upper thirds, and as the lower portion of the organ appeared to be absolutely healthy, it was put back into the abdominal cavity, after suturing, together with the renal vessels. No line of demarkation could be found between the kidney tissue and the tumor. Since the operation the child had never had a sick day, and she was apparently enjoying excellent health at present.

Dr. William M. Polk asked Dr. Abbe what was the best result thus far obtained by the Beatson operation?

Dr. Abbe replied that one case had gone three and one-half years without any signs of a recurrence. Most of the cases, however, were recent.

Dr. Polk said this subject was still in an experimental stage. The fact has long been known that removal of the ovaries will produce an atrophy of the mammary glands. This atrophy is more marked in some cases than in others, and it is proportionate to the age at which the ovaries are removed. Oöphorectomy in a woman of thirty will cause a more marked atrophy of the mammary glands than in one of forty. The influence of the ovaries upon the nervous system and the system as a whole is also well known.

Dr. Polk said that soon after he heard of Beatson's operation he looked over his records, and found one case, a woman of forty-four, in whom carcinoma of the breast developed subsequent to the removal of her ovaries. We also frequently see carcinoma of the breast develop in women of sixty and over, long after the activity of the ovaries has ceased. While we have every reason to believe that any growth connected with the breast, or with the genital system, will atrophy after removal of the ovaries, we have, so far, no grounds for the belief that the atrophy will be permanent. A case has been reported in which thyroid extract seemingly produced a very markedly beneficial effect upon a carcinomatous uterus, but in all these cases the permanent result is still a matter of speculation. At the same time, anything that offers any measure of relief to these patients should be availed of, and the subject is certainly worthy of further experimentation.

A Case of Osteomyelitis of the Femur and Tibia.—Dr. V. P. Gibney showed a boy, seven years of age, upon whom he had done a number of operations for an extensive osteomyelitis involving the right femur and the tibia on the opposite side. When the patient first came under the speaker's observation, about four years ago, the disease was found to involve the entire shaft of the femur, from the condyles to the trochanter, and about two-thirds of the shaft of the tibia. The ends of the bones were not affected. The destruction of bone was very extensive, and on account of the desperate condition of the patient, the two limbs were operated on simultaneously, Dr. W. R. Townsend taking one side, and Dr. Gibney the other. A free incision was made over each bone, and the diseased tissue removed as thoroughly as possible. The limbs were then put up in plaster-of-Paris, drainage being secured through a fenestrum cut in the dressing. Following the operation, the boy made an uninterrupted convalescence, and there was a rapid reproduction of bone in the portions of the shafts that had been removed. At the present time, the bones are quite firm. There is practically a difference of about half an inch in the length of the two limbs, while relatively there is none. Last spring, a slight necrosis recurred in the affected femur; this was curetted and drained.

Dr. Gibney said this boy now has two good limbs, in spite of the extensive destruction of bone tissue. The case illustrates to what extent we may hope for the reproduction of bone from the periosteum.

Dr. George F. Shrady said the case shown by Dr. Gibney called to mind one of his own. It was one of acute necrosis of the humerus, necessitating a resection of the entire shaft of the bone; the periosteum was saved and drainage secured by forced extension of the limb. Complete reproduction of bone followed the operation, and there was only one-eighth of an inch of difference in the length of the two arms. In the course of the operation, the musculo-spiral nerve was accidentally severed and had to be sutured. The patient subsequently recovered good use of the arm and was able to follow the occupation of a shoemaker. The case was another illustration of the remarkable power the periosteum has for the reproduction of bone.

Optimism vs. Pessimism in the Surgery of Malignant Disease.—Dr. Robert Abbe presented, in connection with his paper, a girl ten years old, upon whom he had operated for sarcoma of the kidney nine years before.

Dr. Charles Stedman Bull said that, in his opinion, the favorable view expressed by Dr. Abbe regarding malignant disease of the upper jaw could not be extended to those cases in which the orbit is involved. The speaker said he had never been able to give a favorable prognosis in a case of malignant disease of the orbit, on account of the various deep cavities connecting with it, and the amount of bony tissue involved. About three years ago he tabulated 120 of these cases, seventy of which he was able to trace, and in that number there were only three in which the disease did not recur. The subject came up for discussion at a recent meeting of the American Ophthalmological Association, and Dr. Bull said he was surprised to learn how many of the men who took part in it held very pessimistic views in regard to malignant disease in that region of the face. Whether the disease begins in the orbit, or in one of the sinuses communicating with the orbit, it is almost impossible to eradicate it entirely, and an operation is usually not only followed by recurrence, but it shortens the period of quiescence, hastens the subsequent development of the growth, and by just so much shortens the life of the patient.

Dr. Gibney said he had recently had the misfortune to see quite a large number of cases of malignant disease involving the bones, particularly the femur and humerus. These are often mistaken for cases of joint disease. In spite of very radical treatment in these cases, amputation at the hip or shoulder followed by the use of toxins; there is, in so large a majority of these patients, such a prompt recurrence that one's pessimism is apt to get the better of one's optimism.

Dr. Shrady said the point raised by Dr. Abbe that in the removal of a cancerous breast a wide margin of skin should be excised, could not be too strongly emphasized. Lately, the speaker said, he has been in the habit of doing a double flap operation, in order to cover the large exposeed areas that are necessarily left after thorough extirpation of the breast. By this method, he had found that he could delay a recurrence for a much longer period than by any other method. He was induced to resort to this plan on account of the fact that almost all recurrences were in the skin in the neighborhood of the scar. In his

experience they occurred there at least three times as frequently as in the axilla.

Dr. Shrady said that the extreme malignancy of sarcoma of the jaw is well recognized by all surgeons, and he could recall only one case of recovery after extirpation. The patient was a woman, forty-five years old, upon whom he operated nine years ago, and up to the present time there had been no signs of a recurrence. The entire left side of the jaw was removed.

Dr. Shrady said that Dr. Gibney's reference to sarcoma of the thigh called to mind a case of spindle-celled periosteal sarcoma of the inner condyle of the femur which came under his care nineteen years ago. He did a high amputation, and the man has remained free from recurrence to the present time.

Dr. Beverley Robinson said he could recall a few cases of carcinoma of the breast seen in private practice, where the patient's condition was not especially benefited by operation. It is possible that operative interference in those cases was postponed too long, and the question arises whether it is desirable to operate as a last resort in these extreme cases. This same question applies to malignant disease of various internal organs, such as the stomach and intestines—whether an operation adds materially to either the life or happiness of these patients.

Dr. Joseph D. Bryant said he belonged to that class of surgeons who regard malignant disease with a great deal of optimism. In order to diminish the mortality of this disease below the present rate, we must inculcate into the minds of all persons the importance of early operative interference. Any lesion characteristic of a tumor, or any otherwise unusual manifestation, should at once be brought to the attention of the physician or surgeon with the view of an early diagnosis. The important point is that prompt relief should be sought following early diagnosis.

The fact that in one person a malignant tumor may be permanently eradicated, while in another a similar growth removed with just as much thoroughness will promptly recur, probably depends largely on the human soil in which the disease is planted. We can all recall cases of extended malignant disease which was permanently eradicated by simple operative measures, and, no doubt, in such cases the patient himself contributed quite as much to the result as did the surgeon. The condition of the patient by reason of age or tissue in vulnerability was such that recurrence was not favored. This fact should encourage us to attack many of these tumors, even when the outlook is discouraging. While the life of the patient may not be prolonged by the operation, his sufferings will be alleviated.

Dr. Clement Cleveland said that in his branch of surgery, which was wholly confined to gynecological work, his experience with malignant disease had led him to be very hopeful. If a case of carcinoma of the uterus is dealt with early in the course of the disease, the hope of long freedom from recurrence is almost assured. The reason why so many cases of cancer in the pelvis recur is that they are not seen early enough. Either the general practitioner does not report the case soon enough, or else the woman, because of her natural modesty or fear, fails to reveal her symptoms. Dr. Cleveland said he had seen many cases of cancer of the uterus which were operated on, and were followed by a prompt recurrence. On the other hand, he could recall cases where the patients remained free from recurrence for many years. He spoke of one case, a woman who was operated on for carcinoma of the cervix ten years ago; she is now seventy-two years old, and is apparently perfectly well. Even if we are not able to effect a permanent cure in these cases, the amelioration of symptoms is often very striking. It not only relieves the pain and other symptoms, but also distress of mind.

Dr. William M. Polk said his experience in connection with this subject was largely confined to malignant disease of the uterus and its appendages, and to a few cases of breast cancer. In the main, the speaker said, he agreed with Dr. Abbe. The question of soil, as suggested by Dr. Bryant, is also very important. We all know that a woman of sixty who has beginning cancer is much less likely to have a recurrence after a primary operation than a woman of forty. The functional condition of the affected organ adds enormously to the danger of recurrence. The point that appeals to every surgeon is the kind of life these poor sufferers have to lead with a cancer of the breast or uterus. To many of them it is a living death to go around with a sloughing mass, or a vaginal discharge, which makes her objectionable to herself and to other people. Thus, keen mental agony is added to her actual physical suffering. Whether we are able to promise these patients a cure or not, we are certainly justified in advising them to undergo the risks of an operation which will at least make them more comfortable. As an illustration, Dr. Polk mentioned the case of a woman who suffered from carcinoma of both breasts. After the operation she was free from pain, and when the disease finally recurred in the mediastinum, death resulted from complicating cardiac and pulmonary symptoms, without the slightest evidence of the disease which was so offensive to herself and her friends. Merely on palliative grounds, therefore, an operation for malignant disease in certain regions of the body is entirely justifiable.

As regards cancer of the body of the uterus, Dr. Polk said, if such a case can be gotten hold of within two or three months after its onset, the chances of permanent relief are just as good as in epithelioma of the lip. In cancer of the cervix, however, the case is different. In that region the lymph vessels are so much more abundant that a rapid transmission of the disease takes place. The only hope for a cure in such cases lies in a very radical operation, opening the abdomen, ligating the internal iliac on both sides to prevent hemorrhage, and then clearing out the floor of the pelvis, taking out the uterus together with the diseased cervix, and, if need be, the upper third of the vagina. If we wish to cure a case of cancer about the cervix in a woman who is still menstruating, that is the only procedure which affords the least hope of permanent relief. Of course, such a radical operation means fatal termination in some cases—perhaps 1 or 2 per cent. die as the result of shock.

Dr. Abbe, in closing the discussion, said that in the treatment of cancer the surgeon must appreciate the fact that he is dealing with a terrible disease, which is bound extensively to ravage the parts unless it is thoroughly removed; and to do this requires the utmost coolness, judgment, and skill. Of late years, the theory has gained ground that cancer, at the outset, is essentially a local disease, and that thorough removal is possible.

Obesity.—For the relief of this condition, C. M. McLean advises salines to keep the bowels relaxed and strychnine for toning up the heart and nervous system. The heart may perhaps require digitalis. Except to meet special symptoms, it is probably unwise to give drugs in obesity, though potassium iodide will, undoubtedly, reduce the flesh in many cases. The treatment by Vichy and Kissingen salts may succeed in some cases. This treatment in a number of cases has produced greatly increased arterial tension and marked irritability of the nervous system. Personally, the author has little faith in the Kissingen-Vichy treatment. Oertel's treatment, though good in some cases, will not do in others. The carbohydrates must be greatly reduced in all cases. Sweets should be absolutely forbidden. Not more than thirty ounces of fluid should be taken in a day. In plethoric cases, the amount of food should be greatly reduced. It is easier to keep away from the table than sit down with others and only eat a few things.—*Maritime Medical News.*

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, November 29, 1901.

A. BROTHERS, M.D., CHAIRMAN.

Etiology of Puerperal Fever.—Dr. A. ERNEST GALLANT discussed this topic. He said that bacteria occurring in the vagina are ordinarily saprophytic. The most common means of implanting bacteria in the vagina at confinement was the frequent examination of the patient per vaginam, though lack of cleanliness about the patient and bedclothes, and failure to remove the hair from about the external genitals before performing obstetric operations, were also common causes. According to some authorities, the antepartum bath distinctly favors the introduction of bacteria because the latter are washed off the surface of the body into the water, and the water is carried into the vagina. The bacteria, on gaining entrance to the system, produce toxins, and it is probable that the toxæmia arising in this way is accountable for the phenomena of puerperal fever. The streptococcus pyogenes was nearly always the active agent in producing puerperal endometritis. With the exception of the gonococcus, bacteria cannot vegetate for any length of time in the secretions of the genital tract. The opinion was gaining ground that fever and leucocytosis are salutary processes, and if this is so, the fallacy of attempting to reduce the fever is evident.

Treatment of Puerperal Fever.—Dr. ROBERT A. MURRAY took up this part of the subject. He said that there are distinguished clinically two forms of puerperal fever, viz., (1) The saprophytic form with necrotic changes in the uterus and vagina and with vulvar lesions, and (2) The lymphatic form, affecting the system early, and associated with comparatively small local lesions. With the first symptoms of puerperal fever, the physician should inspect the parturient canal by the aid of a speculum, and should apply to necrotic patches strong solutions of nitrate of silver or of carbolic acid. Of course, any retained secundines should be removed. Where the lochia are at first foul-smelling and the placental site is rough, there is a mixed infection, and the first step should be to empty the uterus, employing the sharp curette for this purpose, and then the parts should be cleansed by irritation with a solution of 1 to 5,000 bichloride of mercury. Ergot should be given internally to keep the uterus well contracted, and strychnine and alcohol should be given to combat the toxæmia. In some of the more profound toxæmic conditions the lochia might not be foul, but merely scanty, and associated with indurations in the broad ligament. If peritonitis were present, there would soon be vomiting of dark, ill-smelling matter. Where the infection had already extended beyond the uterus, curettage would usually give rise to a chill and would increase the fever. The indications here were to support the strength and increase the activity of the emunctories, in order to favor elimination of the toxins. Liquid food should be given in small quantities at short intervals, along with alcohol to the point of producing its physiological effect. If the alcohol were not given in this way, it was useless. The tincture of veratrum viride and the tincture of digitalis might be given to strengthen the heart; the bowels should be kept open by means of salines, given by the mouth or by hypodermoclysis, and rectal irrigation should be resorted to. Abscesses should be opened, and phlebitis should be treated by the local application of belladonna ointment and ichthyol, and absolute rest enjoined. He believed that many cases would be saved if hysterectomy were done, and hence in bad cases of puerperal fever he advised consultation with an operating gynecologist. Antistreptococcus serum had not yielded favorable results, and the most disappointing fact in connection with that treatment was that one form of antistreptococcus serum would prove useful in certain varieties only of septicæmia, while it might be distinctly harmful in other varieties.

Surgical Treatment of Acute Puerperal Sepsis.—Dr. HIRAM N. VINEBERG was the author of this paper. He said that he had long been of the opinion that acute puerperal sepsis should be treated on the same surgical principles which govern the treatment of sepsis in other portions of the body. It was an antiquated notion that general puerperal sepsis is necessarily fatal, and that operation should not be undertaken. One frequently met with cases of puerperal sepsis which do not progress favorably under curettage and irrigation, and where it seemed proper to do an exploratory laparotomy. By such a procedure one could often detect the source of infection and remove it. If the exact source of the infection could not be discovered on careful inspection, and yet the uterus was enlarged to about twice its normal size, the surgeon would be justified in removing the uterus. The presence of placental remains in the uterus was not always indicated by a patulous os and fetid lochia. He was disposed to think that at the present time too much attention was given to the bacteria, and too little to the lesions present in puerperal sepsis. A case of puerperal septic peritonitis should be treated surgically just as one would treat a case of septic peritonitis from other causes, but irrigation and drainage did not seem to him sufficient; the uterus, the fountain-head of the sepsis, should be extirpated. All were agreed that when pus is present it should be evacuated.

Non-Septic Puerperal Fever.—Dr. J. CLIFTON EDGAR opened the general discussion. He called attention to the fact that all fever occurring in the puerperium does not mean sepsis, and does not mean that curettage must be done. He was not accustomed to consider that a puerperal woman has fever unless the temperature rises above 100.5° F. He divided puerperal fever into septic and non-septic fever. The former cases often arise from constipation, reflex irritation, intercurrent disease, and neurotic conditions. He had completed a study of fever in the puerperium in 2,200 cases. A rise of temperature to 100.5° F., or over, occurred in 405 cases, or 18.4 per cent. In 204 of these cases the fever had lasted only a few hours, and in only seventy-two had it continued for more than three days. Of the non-septic cases of fever, the elevation of temperature had apparently been due to constipation in 259 cases, or 63.95 per cent.; to reflex irritation in 142 cases, or 10 per cent.; to complicating disease in twenty cases, or 4 per cent.; to neurotic conditions in one case, or .24 per cent. He looked upon fifty-five cases of fever, or 12.58 per cent., as of septic origin, while in twenty-five, or 6.91 per cent., no cause could be assigned. A common source of reflex irritation was the pain resulting from the distention of the breasts with milk in primiparæ.

Treatment.—The most important preventive measure was the avoidance of frequent examinations and the exercise of great care in sterilizing the hands. He took the position that there is no special or curative treatment for all varieties of puerperal infection, and that it must vary with each variety and be carefully adapted to the individual case, often after bacteriological investigation. The curette had played an important part in the treatment of puerperal endometritis, but the opinion was gaining ground that the curette, while very useful in abortions, was apt to do more harm than good after full-term deliveries. Good results might be obtained without curettage, even in cases in which the sepsis was demonstrated to be due to streptococci. In cases of puerperal septic endometritis, the remains of the placenta should be removed and intrauterine irrigations given in the more severe cases. If intrauterine treatment were not beneficial in a short time, it should be discontinued. Great care should be taken not to injure the maternal soft parts by the manipulations. In the acute lymphatic form of

sepsis the progress of the disease was so rapid that little could be done in the way of treatment. He had tried the Credé ointment in a number of cases, but had been unable to satisfy himself that it had influenced the disease at all.

Dr. H. J. Boldt said that he had been disappointed that Dr. Vineberg was yet unable to lay down any more definite indications for operation in cases of puerperal sepsis. Recently, Dr. Boldt said, he had been having all of his cases examined bacteriologically, but without having any new light thrown upon this subject. He had operated many times in puerperal sepsis, yet he had always had a lurking suspicion that those who had recovered might have done so without having been subjected to the operation. In a case in which there had been chills and bacteria in the blood, if the evidence of sepsis were confined to the uterus, he certainly would not hesitate to do hysterectomy.

Conservative Treatment Advocated.—Dr. H. J. Garrigues advocated the discarding of the term puerperal fever. It was well enough, he said, to use this term at the time when it was considered that puerperal fever was a specific disease, but now the term was applied to any fever occurring in the puerperium. In his opinion, it was not possible to base treatment of puerperal infection on the findings of the bacteriologist, and he believed that this infection is essentially a medical, and not a surgical, disease. He laid great stress upon cauterization with zinc chloride as soon as ulcers are present in the birth canal, and presented an appearance even resembling diphtheria. He still thought the best treatment for peritonitis is the opium plan, though admitting that in beginning peritonitis it might occasionally be an advantage to make an incision into the posterior cul-de-sac of the vagina and establish drainage in that way. Occasionally, also, in cases of general peritonitis, it might be justifiable to evacuate the serum and pus. So far he had not seen a single case recover which he had treated with the Credé ointment. Of late, a solution had been recommended instead of the ointment. It was to be injected into a vein. He had used the solution in this way on a case only yesterday, and while it had had an excellent effect on the temperature, the patient had died to-day. He was disposed to think that some good might result from the use of nuclein, for it does not do the patient harm, and there was some reason to believe it might do some good. Hypodermoclysis with normal salt solution was useful in these cases. Alcohol was exceedingly useful, but it must be given in large quantities—from twelve to twenty-four ounces in the twenty-four hours. The patient must be made to take plenty of food, both liquid and solid. He was absolutely opposed to the use of the curette, although he had used it many times in the past. If there was reason to believe that something had been left in the uterus, this organ should be dilated so as to admit two fingers, and by counter-pressure with the other hand the cavity might be explored and retained portions removed. If pus were present in the pelvis, drainage should be established through the vagina. He did not think hysterectomy indicated in cases of puerperal sepsis. In his opinion, bichloride of mercury was very dangerous when used as an injection into the vagina or uterus.

Vaginal Examinations Not to Be Feared. Dr. S. Marx thought it would be safer to assume that all fever complicating the puerperal state is due to puerperal sepsis until proved to be otherwise. It should not be forgotten that some very severe forms of puerperal sepsis are associated with little or no rise of temperature; the pulse is a better indication of the puerperal patient's condition than the body temperature. He was more inclined to make vaginal examinations during labor than were other practitioners, because while abdominal palpation seems very clear to some minds, it is far from being so to others. He would not advocate unnecessarily frequent examinations, but he was opposed to the management of labor according to the up-to-date view of the mere laying on of hands. Where there was a distinctly acid vaginal discharge, he felt that the parts were well protected against bacterial invasion, and hence he carefully avoided the use of douches or other interference; but when there was a free yellowish alkaline discharge, he prepared the vagina for labor with as much care as for a major operation. He agreed with Dr. Garrigues as to the usefulness of applications of chloride of zinc to local lesions in the early stage of puerperal sepsis.

Success with Antistreptococcus Serum.—The first twenty-five cases in which he had used Marmorek's antistreptococcus serum had all terminated fatally, and he had been informed that this serum deteriorates rapidly, and that then it is probable that it actually aggravates the patient's condition. More recently he had been using serum supplied by various American manufacturers, and had secured several apparently brilliant results. He now believed there was a distinct field for the administration of the antistreptococcus serum. He had made use of 10 c.c. of the serum every three hours. He had had one undoubtedly successful case with the Credé ointment, but since then he had used it several times with no result.

Serum and Ointment Treatment.—Dr. S. S. Jones said that in very many cases there would be no fetid lochia, and no very marked patulousness of the os in the first few days of puerperal sepsis. A slight rise of temperature twelve hours after labor might almost be considered normal, but such a temperature after the first twenty-four hours should be carefully investigated. The vagina should be carefully inspected, and if nothing were found, digital exploration of the uterus would often enable one to detect and promptly treat the source of the sepsis. He did not think one was justified under any circumstances in introducing the hand into the vagina and the fingers into the uterus without having first carefully determined by inspection the condition of the vagina. It was probable that some of the early antistreptococcus serum and the early Credé ointment was inert, which would explain some of the failures; but we also knew that there are different varieties of puerperal sepsis, and this would account for the fact that some observers had reported successes and others failures. He was hopeful that in the near future we would have at our disposal the particular variety of serum which would effectually combat the variety of puerperal sepsis found in the given case. Reasoning from our experience with diphtheria antitoxin, it was also fair to assume that many failures with the serum and ointment were attributable to their having been used too late. He did not see how it was possible to compare the surgical treatment of puerperal sepsis with the surgical treatment of other forms of sepsis, because the conditions were so dissimilar.

The Desert Climate for Consumptives.—R. M. Phelps summarizes the main features of this form of climatic treatment as living on unirrigated ground, living in a tent, and living outside the limits of any city. He is a most enthusiastic advocate of tenting, to which should be added directions as to adjusted exercises, or better, rest and exercise, and admonition to guard against the changes from sun to shade, from night to day, from calm to rain. These changes are common to all dry climates, and most serious in the two or three winter months. Some complaints arise from patients who are taking the "desert" treatment. They complain of dampness, of no effect from the climate, of catching cold, and of homesickness. The remedies for the latter are enumerated as an occupation to fill up the time, the presence of one's family, home life, and means enough to avoid financial worry. The majority cannot command all these elements.—*Northwestern Lancet.*

Clinical Department.

POST-OPERATIVE HEMORRHAGE TWELVE HOURS AFTER VAGINAL HYSTERECTOMY; LAPAROTOMY UNDER COCAINE ANÆSTHESIA; HEMORRHAGE FROM MESOCÆCUM AND MESOAPPENDIX.

By JULIUS ROSENSTIRN.
SAN FRANCISCO, CAL.,
SURGEON TO MT. ZION HOSPITAL.

MRS. L., aged forty-four years, born in Germany, married, presented herself on December 29 in the Mount Zion Hospital clinic. The family history was negative; menstruation appeared at fifteen and was normal as to time and quantity. She has been married six years, has never been pregnant, and has always been well until two years ago, when she commenced to suffer from a pain in the lumbar region, in the right side of the abdomen, and in the middle line below the umbilicus. Menstruation became irregular and most profuse, also very much prolonged, lasting at times throughout the month. Treatment in various clinics proved unsuccessful. The patient, who was of middle height and dark complexion, looked very anæmic. The temperature and pulse were normal, lungs and heart healthy. Percussion and palpation of the abdomen revealed nothing, excepting that above the symphysis a hard mass was felt on deep pressure. The external sexual organs appeared normal, and a vaginal inspection showed normal conditions, except a small polypus, the size of a strawberry, protruding from the os uteri. Bimanual examination under chloroform showed the womb enlarged to the size of a large fist, hard, with a big nodule on the anterior wall somewhat movable, and a mass in the right parametrium, evidently the right ovary, the size of a small orange; the left side was free; the womb was not freely movable. Very little pain was caused by careful examination. On account of menstruation the operation was deferred until January 11, 1900. A posterior vaginal incision was made into the pouch of Douglas. The peritoneum was opened, and about sixty grams of slightly sanguinolent liquid escaped. Digital exploration through the pouch of Douglas showed conditions about as outlined before. The mass in the right parametrium was the firmly adherent right ovary and tube reaching very far laterally. The vaginal circular incision then being completed, the womb was pulled down, bisected up to the internal os, and small cuneiform pieces were excised to diminish its size; and finally the large womb, studded with fibroids, the whole the size of a small cocoanut, was brought out. At this stage a large quantity, about 400 to 500 c.c. of dark, bloody, viscid liquid gushed out through the wound, apparently from the right side. The right cystic ovary and the tube were then freed from adhesions, a rather difficult task, and brought to view. A good many of the little cysts were torn in the attempt, but finally everything was detached and pulled into the vagina. The ovary was the size of a mandarin orange. The tube was enlarged to the size of a man's finger and filled with a dark viscid fluid. The usual two clamps were applied to the right broad ligament, and the ligament cut wombward to them. The appendages of the left side were inspected. They showed no grave pathological change and were left intact, except for a few pea-sized cysts which were cut open. The uterus was then separated in the same manner on the left side, the peritoneum was tightly whipped over the vaginal wall with medium-sized catgut, and a small tampon was left in the opening.

At 10 A.M., after the woman was placed in bed, the temperature was 96.2°, pulse 62, strong and regular. At 9.30 P.M., after some severe spells of vomiting and retching, a rather sudden and abundant onset of oozing was observed, the pulse rose to 124 and grew weak and fluttering, while the temperature fell to 96.4°, and the breathing grew more rapid. About 10 P.M., a telephone message reached me, acquainting me with the patient's condition. I arrived at the hospital at 10.30, and after a hurried examination had the patient removed to the operating room. The pulse was by this time 160, very feeble and disappeared on the slightest pressure; the respiration was quick and superficial, the skin of an extreme pallor and covered with cold perspiration. A quick but thorough examination on the operating table, aided by the light of the electric reflector, showed that there was no hemorrhage from the cut surface, the clamps as well as the vaginoperitoneal sutures acted perfectly. After removal of the tampon the blood could be seen to issue from the right side of the abdominal cavity, but a more exact location could not be made. It was determined to open the abdomen under cocaine anæsthesia.

During this brief period of examination, a saline infusion of 1,250 c.c. had been given with no appreciable effect. With the kind assistance of my associate at the hospital, Dr. Levison, and Dr. Dinkelspiel, the interne, an incision from 2 cm. above the symphysis to the umbilicus was made, and a rapid search followed for the bleeding points. Fortunately, when the belly was opened, the intestines in the right iliac fossa appeared covered with blood; those in other parts seemed comparatively free. I consequently directed my efforts toward that region and was soon rewarded by finding the source of bleeding in torn adhesions on the lateral side of the mesocæcum and mesoappendix. In separating and removing the enlarged and adherent right ovary, I had torn these adhesions.

There had been no appreciable oozing until the violent attacks of vomiting started the hemorrhage, which had to be stopped at once. The pulse was imperceptible. I could not lose time with ligating the bleeding points, but tamponed tightly, after Mikulicz, and closed the abdomen by through and through silkworm sutures, with the exception of a small opening in the center for the ends of the Mikulicz tampon. Although, during this time, nearly 2,000 c.c. of saline infusion had been given, the pulse could be felt only at intervals, but not really counted. The oozing had stopped, the patient was placed in bed, strychnine $\frac{1}{60}$ gr. and digitalin $\frac{1}{50}$ gr. hypodermically were ordered every four hours. A nutritive enema of milk and whiskey was given in strong coffee with cream, taken by the mouth. Rectal feeding was continued until January 17, vomiting having been persistent. After it was discontinued, and nourishment by the mouth increased, bowels began to move freely; in fact, too freely; in ten hours patient had ten bowel movements.

On January 23 and 24 the bowel movements became normal, the vaginal wound was perfectly healed and united, covered with healthy granulations, the stitches were taken out from the abdomen, and wound healed by primary intention.

On January 25, the patient commenced to lose urine from the vagina. An examination showed a fistulous opening the size of the head of a match, posteriorly in left side of vaginal roof. The urine spurted out at intervals of about a minute, during which the fistula was dry. Colored liquids injected into the bladder did not run out through the fistula. Cystoscopic examination showed no urine coming from the left ureteral opening. Attempts at catheterization of the left ureter did not succeed. No

symptoms of retention of urine having been observed previously, I concluded that only a partial lesion of the ureteral wall had occurred, which, in time, would be apt to heal by granulation. I elevated the foot of the bed and had the patient lie on her stomach as much as possible. Already on January 30 the quantity of urine lost through vagina had considerably decreased, although a recurrence of diarrhœa sadly interfered with the permanency of the ventral posture. On February 5 hardly any urine was lost involuntarily; she lost no urine on February 6, and the fistula has remained closed since that time.

This cause of a post-operative hemorrhage, after vaginal hysterectomy, has not been mentioned in the literature of this operation, so far as I can discover. One can hardly believe that similar occurrences, of a lesser gravity perhaps, should not have been observed by many operators. The proximity of the right appendages to the cæcum and vermiform process must often permit extension of the inflammatory process from one to the other. The right ovary is suspended between the ligamentum suspensorium ovarii on the outer and the ligamentum proprium ovarii on the inner side.* The latter extends from the ovary to the uterus, the former from the ovary to the cæcum and processus vermiformis. It is amply provided with lymphatics and blood-vessels, communicating with and extending to those of the mesoappendix and mesocæcum. Here lies the bridge for travel of inflammatory and infectious processes from one to the other, involving finally both in such close embrace that it becomes impossible at times to determine before the operation which of the organs has been the primary seat of affection. In the case just reported vascular adhesions had formed between the peritoneal covering of the right ovary and tube, the anterior surface of the suspensory ligament and the outer surface of the mesocæcum and mesoappendix, the growth in the adherent ovary having crowded the cæcum backward and inward. These adhesions were torn during the freeing and removal of the right appendages on their mesocæcal side.

For some unexplained reason, no appreciable bleeding occurred during and after the operation until nearly twelve hours after its completion. The hemorrhage occurring subsequently to prolonged, very severe retching and vomiting, possibly the consequent removal of an occluding thrombus may have started it. It cannot be denied that an operation by the abdominal route would have saved all this trouble, and in all cases of vaginal hysterectomy, when the appendages are firmly adherent and require a certain degree of force to be liberated, I shall certainly not hesitate to add a cœliotomy and free all adhesions under full control of the eye, when provision can be made against accidents.

*Hammerschlag. *Zeitschrift f. Geburtsh u Gynak*, Bd. 37.

PRESBYOPIA OF CIVILIZATION.

By NORBURNE B. JENKINS, M.D.,
CHICAGO.

In some parts of civilization the habits and customs of life weaken, injure, and prematurely age the eyes. The focusing muscle may never develop, or may prematurely lose its strength. The crystalline lens may not be normal of elasticity. The optic nerve and its retina may not have keen power of receiving impressions. In Boston, New York, and Chicago glasses are needed for failing eyesight earlier than in the mountains, plains, and farming country of the South and Middle West.

After correcting with distant vision tests the total imperfections of the size and shape of the eyeballs, in Boston most people about forty years of age need magnifying added for reading; in New York, most after forty-two need such, and in Chicago at about forty-five, while in the mountains, plains, and farming country of the South and Middle West such help is not needed until about the fiftieth year.

Indoor life, air starvation, insufficient fresh meat, long hours in close schools, lack of play, vegetarianism, unsanitary houses and clothes, non-use of the eyes for long distances, lack of green fields and forests, short, dangerous distances of the schoolroom, powerful artificial lights, unnatural surroundings of overprotected and finicky city life—all tend to ruin the eyes and unfit the population for military duty.

INFUSORIAL DIARRHŒA

By M. HARTWIG, M.D.,
BUFALO, N. Y

The other day I reported to the Buffalo Academy of Medicine a case of chronic diarrhœa in a woman sixty years of age, where blood and pus as well as mucus were absent; but there was an enormous quantity of very lively infusoria. They were oval, or, rather, egg-shaped, of about the size of white blood corpuscles, and had one or two flagella on the narrower end. The patient was cured by large injections of one-half to one tablespoonful of tannin in one and a half quarts of water, after the diarrhœa had lasted three weeks, and resisted bismuth subgall. gr. v., with duotal gr. v. and opium gr. $\frac{1}{10}$, every four hours, and, of course, careful diet. Whether the infusoria had been the cause of the diarrhœa is impossible to decide, but their great number (five to eight in one field, immersion one-twelfth) speak for such an explanation. The organism did not take the Loeffler alkaline methylene stain. It seems not to have been observed as yet. Hommeter thought it might have been the parametrium or Balantidium coli, but this has no flagella, but cilia all over the surface, and shows considerable contents, while the infusorium in this case looked almost like glass. As far as I could see, it resembled the Trichomonas vaginalis. We could call it ovomonas flagellatum coli.

AN EPHEMERAL ATTACK OF HENOCH'S PURPURA.

By CHARLES H. RICHARDSON, M.D.,
NEW YORK.

The following case, on account of the rapidity of its course, seems to be worthy of report. The patient, a rather delicate girl of eleven years, was seized with vomiting of blood, tenderness of the abdomen, pain in the fingers and wrists, general malaise, and a temperature of 102°. During the night she had three or four stools consisting mainly of blood. On the following morning, when I again saw her, the pain in the wrists had increased, and there was also pain in the ankle joints. The legs now exhibited numerous purpuric spots, and the prostration was quite severe. During the day, no further gastric or intestinal hemorrhage occurred, the temperature subsided, the pain in the joints diminished and disappeared. On the following morning, only the pigmented spots remained. There was no history of previous attacks, and as the patient returned to her home in the West, I have been unable to learn of subsequent ones.

41 Lexington Avenue.

Therapeutic Hints.

Ethereal Soap Solution.—

℞ Acidi oleici ..... ℥ss.
Spir. vini rect..... ℥ss.
Liq. ammon. fort. ..... q. s.
Ether. methylat.. ..... ℥ij.

Mix the first two and add enough ammonia to neutralize. Petroleum spirits of benzene can be substituted for the methylated ether.

—Herbert Stinner.

Suppurative Otitis Media.—

℞ Formaldehyde ..... gtt. v.
Alcohol (95%) ..... ℥ij.
Water ..... ℥j.

M. S. Instil with an ear-dropper sufficient to fill the middle ear and external canal. In acute cases two or three drops to an ounce of water is strong enough.

—Ward.

Simple Chronic Bronchitis in Children.—

℞ Sodii sulphat. ..... 10 gm.
Antomonii tartrat. ..... 0.05 cg.
Syr. simplicis ..... 10 gm.
Aq. destil ..... 120 gm.

M. S. To be taken in four or five doses.

—Comby.

Lemonade Powder.—

For use in infectious diseases with fever:

℞ Sodii bicarbonat..... 65 gm.
Pulv. acidi tartarici..... 60 gm.
Sacch. alb ..... 125 gm.
Olei limonis ..... gtt. xij.

Catarrhal Conjunctivitis.—

℞ Ammon. chloridi ..... 0.07 cg.
Zinci sulphat. ..... 0.15 cg.
Camphoræ .....
Croci .....āā 0.01 cg.
Aq. destil..... 15 gm.

M. S. To instil into eye.

—Terrier.

Gastric Fermentation.—Massage and "Zimmer Gymnastik" after the method of Schreber lead to material improvement. The nervous symptoms, often in the ascendancy, can be relieved by giving the patient agreeable occupation. Make the heart light by keeping the brain active. For well-selected cases, where fermentation is excessive, belching of gas annoying, constipation depressing, with pressure symptoms, the following formula is suggested:

℞ Strychniæ sulphatis ..... 0.06 gm.
Ext. belladonnæ fld. ..... 0.6 gm.
Aquæ lauri ceras ..... 50.0 gm.
Tinct. gelsemii ..... 12.0 gm.
Aquæ puræ .....ad. 128.0 gm.

S. Teaspoonful before each meal.

—Elsner, *International Medical Magazine*, July.

Mercurial Stomatitis.—

Cauterize the plaques with:

℞ Argenti nitratis ..... 1 gm.
Tinct. eucalypti ..... 5 gm.
Aquæ ..... 25 gm.

—Vaucaire.

Enuresis.—Give a saturated solution of boric acid in combination with salol.

—P. F. Barbour.

Hydrotherapeutic Don'ts.—Don't bathe with cold water to reduce temperature, but to refresh the fever-stricken patient.

Don't permit cyanosis or chattering of teeth: stop.

Don't stop bathing because patient complains of chilliness, unless the teeth chatter.

Don't raise bath temperature on the latter account; shorten bath and increase friction.

Don't neglect friction during every cold procedure: it prevents chilling.

Don't disregard the well-ascertained fact that the Brand bath (of 65° to 70° F. every three hours when awake, with active friction) is the ideal bath for typhoid fever only.

Don't use the Brand bath in a bathroom.

Don't give up cold bathing because the ideal bath is not obtainable; other procedures are useful.

Don't use the ice coil to the abdomen; it has no refreshing effect and renders the skin beneath it cyanotic.

Don't lose sight of the fact that the chief aim of all cold procedures is reaction.—Dr. L. Baruch, *Therapeutic Gazette*, September 15, 1901.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 7, 1901:

	Cases.	Deaths.
Measles	547	13
Diphtheria and croup	320	48
Scarlet fever	106	12
Smallpox	17	2
Chickenpox	47	..
Tuberculosis	260	144
Typhoid fever	60	21
Cerebrospinal meningitis	..	4

Cocaine Eating Among the Natives of Bengal.—The habit of cocaine eating seems to have spread extensively among the natives of Bengal. It is sold in small paper packets, containing half a grain or one grain, which are obtained for half an anna, or one anna respectively. It is impossible to say how much is consumed by any one individual, but several grains a day have been confessed to. The sense of feeling well is followed by depression, but the habit appears to be peculiarly seductive, and once commenced is with the greatest difficulty abandoned. A blackening of the teeth is said to be caused by cocaine eating, and the blackening is thought to be characteristic. It is said to be most marked in the lower teeth, and on the inner or posterior surface, and to be quite different from dirt or the staining of tobacco. The general symptoms are those of cachexia with a sallow look, sunken eyes, and emaciation.—*Lancet.*

Kidney Disorders Usually Included Among the Forms of Bright's Disease.—(I.) Acute nephritis or acute Bright's disease (sub-variety, the nephritis of pregnancy). Under chronic Bright's disease the following forms are usually recognized:

(II.) Chronic parenchymatous nephritis (sub-variety, chronic parenchymatous hemorrhagic nephritis).

(III.) Chronic interstitial nephritis: (*a*) Contracted white kidney (secondary cirrhotic kidney); (*b*) primary cirrhotic kidney; (*c*) Arterio-sclerotic kidney. Some authors include amyloid kidney among the forms of Bright's disease, but this is unusual; the pathological lesions are, of course, of a different nature from those of Bright's disease.

The primary cirrhotic kidney and the arterio-sclerotic kidney are usually included among the forms of Bright's disease, though some authors would exclude them.—Dr. R. T. Williamson.

Plague Statistics.—Bombay.—Thus, the plague in Bombay made 46,000 victims in three years and a quarter, and it increased the general death rate by nearly 50 per cent.

CASES OF AND DEATHS FROM PLAGUE IN CITY OF BOMBAY.

YEAR.	PLAGUE CASES REPORTED.	PLAGUE DEATHS CERTIFIED.	CASE-MORTALITY. PER CENT
1896	2,530	1,801	71.1
1897	11,963	10,232	85.7
1898	19,863	18,160	91.2
1899	19,484	15,830	81.3
Totals	53,840	46,023	85.4

The Use of Drugs in Phthisis.—To admit that there is no drug endowed with specific virtue in phthisis is not to admit that drugs are never useful. For the most part, the open air will reduce fever, will prevent sweats—whether due to fever or debility—will pomote appetite, and will calm and fortify the circulation. But it is not to be forgotten that during liberal feeding, gentle laxatives, and especially an occasional mild mercurial alterative, prove valuable; that a drop of an arsenical solution may settle an irritable stomach, a few drops of strychnine may brace

up a slack one, and so on; but I have no faith in courses of drugs, whether antidotal, tonic, or topical, save, of course, in laryngeal cases, which, as the part can be got at, are to be treated locally from the first.—Dr. Clifford Allbutt.

Thermal Death Point of Tubercle Bacillus.—Dr. R. T. Hewlett has made some experiments on the thermal death point of the tubercle bacillus. His conclusions are that (1) A non-virulent laboratory culture, a temperature of 6° C. acting for ten minutes, is sufficient to destroy the infective properties of tubercle sputum in five out of six instances. (2) Tuberculous milk, heated to 62° C. for thirty minutes, lost its infective power. (3) Tuberculous milk heated to 68° C. for twenty minutes in the Allenbury pasteurizer lost its infective power. (4) In all probability, pasteurization, in which the milk is retained at a temperature above 65° C. for not less than twenty minutes, is efficient, especially if no film is formed.

Habits of Mosquitos.—Observations made by the members of the malaria expedition of the Liverpool School of Tropical Medicine to Nigeria revealed the following facts with regard to the habits of mosquitos, which largely confirmed the results of previous researches:

Anopheles were found in shallow surface puddles, in collections of water, in native dug-out canoes, in claypits and wells, in ditches at the side of roads, in marshy ground in the neighborhood of springs, and in the hollows left by the subsidence of rivers in the dry season. The investigations in Nigeria also confirmed the view that Anopheles will not breed at any distance from human habitation.

The First Thermometer.—The first sealed thermometer was made sometime prior to 1654 by Ferdinand the Second, Grand Duke of Tuscany; he filled the bulb and part of the tube with alcohol, and then sealed the tube by melting the glass tip. There appears to be considerable doubt as to who first employed mercury as the termometric liquid; the Academia del Cimento used such an instrument in 1657, and they were known in Paris in 1659. Fahrenheit, however, appears to have been the first to construct, in 1714, mercury thermometers having trustworthy scales. The use of the boiling point of water was suggested by Carlo Renaldini in 1694.—*The Engineer.*

Tetanus from Injecting Gelatine.—The London Correspondent to the *Therapeutic Gazette* says: "A large London hospital has recently been unfortunate in suffering two deaths from "tetanus" after subcutaneous injections of gelatine for the cure of aneurysms. The evidence given in the coroner's court told one nothing of grounds upon which death was attributed to tetanus. It is hardly probable that any article contaminated by the bacillus can have been used in the preparation or administration of the solution. Moreover, similar symptoms have been recorded in other cases. A writer in the *British Medical Journal* suggests that the symptoms were due to formation of capillary thrombi in the nervous system leading to fatal convulsions.

Unhealthful Clothing.—Among all the murderous forms of dress, underclothing takes the lead, and of this cotton and linen garments are the chief offenders. The cotton shirt especially is a vicious thing. When it has become damp from perspiration, it is virtually air-tight, and a draught striking it converts it into a cold storage lining, which could not be better designed for pneumonia. A garment of genuine wool takes up the perspiration, and the warmth of the body under it evaporates the moisture.—*Chicago Tribune.*

Effect of Rainy Season on Malaria.—It is well known that mosquitos cannot live in water, and therefore it is not surprising to find that the number of cases of malarial fever vary considerably according to the season of the year, and that the greatest number of cases occur at the onset of the rainy season, when mosquitos are particularly abundant.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended December 7, 1901:

		CASES.	DEATHS
SMALLPOX—UNITED STATES.			
Alabama, Gilmer Co	Nov. 26	10	
Illinois, Springfield	Nov. 1st to 30th	50	
Indiana, Evansville	Nov. 23d to 30th	2	
Kentucky, Lexington	Nov. 23d to 30th	4	
Louisiana, New Orleans	Nov. 23d 23 30th	2	1
Maryland, Baltimore	Nov. 23d to 30th	1	
Massachusetts, Boston	Nov. 23d to 30th	103	8
Cambridge	Nov. 23d to 30th	1	1
Lowell	Nov. 23d to 30th	1	
Malden	Nov. 23d to 30th	1	
Medford	Nov. 23d to 30th	1	
New Bedford	Nov. 26th to Dec. 2d	2	
Newton	Nov. 23d to 30th		1
Minnesota, Minneapolis	Nov. 22d to 29th	4	
Winona	Nov. 23d to 30th		
Nebraska, Omaha	Nov. 23d to 30th	4	
South Omaha	Nov. 23d to 30th	16	
New Jersey, Camden	Nov. 23d to 30th	5	
Jersey City	Nov. 24th to Dec. 1st	11	
Newark	Nov. 23d to 30th	26	4
New York, Buffalo	Nov. 9th to 26th	36	
New York	Nov. 23d to 30th	16	2
Ohio, Cincinnati	Nov. 22d to 29th	6	
Dayton	Nov. 23d to 30th	1	
Youngstown	Nov. 16th to 30th	3	
Pennsylvania, Allegheny City	Nov. 23d to 30th	3	
Lebanon	Nov. 23d to Dec. 1st	1	
Norristown	Nov. 23d to 30th	5	
Philadelphia	Nov. 23d to 30th	113	14
Tennessee, Memphis	Nov. 23d to 30th	2	
Nashville	Nov. 23d to 30th	2	
Utah, Salt Lake City	Nov. 30th	1	
Vermont, Burlington	Nov. 23d to 30th	7	
Washington, Tacoma	Nov. 16th to 23d	3	
Wisconsin, Greenbay	Nov. 26th to Dec. 2d	9	
SMALLPOX—FOREIGN.			
Austria, Prague	Nov. 2d to 16th	8	
Belgium, Antwerp	Nov. 2d to 16th	6	2
Brussels	Nov. 9th to 16th		1
Canada, Halifax	Nov. 23d to 30th	9	
Quebec	Nov. 23d to 30th	27	
St. John	Nov. 23d to 30th		2
Winnipeg	Nov. 23d	5	
Colombia, Cartagena	Nov. 12th to 19th	3	
Panama	Nov. 18th to 25th	100	
France, Paris	Nov. 9th to 16th		
Gibraltar	Nov. 9th to 11th	1	
Great Britain, London	Nov. 9th to 16th	368	1
India, Calcutta	Oct. 26th to Nov. 2d		1
Italy, Naples	Nov. 2d to 9th	29	2
Mexico, Alvarado	Nov. 24th	1	
Russia, Moscow	Nov. 2d to 9th	9	4
Odessa	Nov. 9th to 16th	2	
Spain, Barcelona	Oct. 19th to Nov. 2d		2
Valencia	Nov. 5th to 19th		22
Straits Settlements, Singapore	Oct. 12th to 19th	1	1
YELLOW FEVER.			
Brazil, Para	Oct. 1st to 31st	177	5
CHOLERA.			
India, Bombay	Oct. 30th to Nov. 5th	2	
Calcutta	Oct. 26th to Nov. 2d		[illegible]
Madras	Oct. 26th to Nov. 2d		32
Java, Batavia	Oct. 19th to 26th	19	15
Straits Settlements, Singapore	Oct. 5th to 26th	15	15
PLAGUE—FOREIGN AND INSULAR.			
India, Bombay	Oct. 30th to Nov. 5th	173	173
Calcutta	Oct. 26th to Nov. 2d		24
Karachi	Oct. 26th to Nov. 2d	66	38
Hawaiian Islands, Honolulu	Nov. 13th		1
Kauai Island	Nov. 5th to 7th		2

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

DIAGNOSTIK DER HARNKRANKHEITEN. By Prof. C. POSNER. 8vo, 182 pages. Illustrated. August Hirschwald, Berlin, Germany.

THE STANDARD MEDICAL MANUAL. By ALFRED S. BURDICK. 8vo, 921 pages. G. P. Engelhard & Co., Chicago, Ill.

MEMOIRS AND LETTERS OF SIR JAMES PAGET. By STEPHEN PAGET. 8vo, with portraits and other illustrations, 438 pages. Longmans, Green & Co., New York. Price, $5.00.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. By R. H. HARTE, M.D. 8vo, 514 pages. Illustrated. Vol. IX. W. J. Dornan, Philadelphia, Pa.

A PRACTICAL GUIDE TO THE ADMINISTRATION OF ANÆSTHETICS. By R. J. PROBYN-WILLIAMS, M.D. 8vo, 211 pages. Illustrated. Longmans, Green & Co., New York. Price, $1.60.

PHOTOTHERAPY. By Prof. NIELS R. FINSEN. 8vo. 79 pages. Illustrated. Edward Arnold, London, England. $1.75

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THE CURE OF CHRONIC BRIGHT'S DISEASE BY OPERATION.

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THE proposition to treat chronic Bright's disease by operation was first made by the author in a paper entitled "Chronic Nephritis Affecting a Movable Kidney as an Indication for Nephropexy," published in the *Medical News* of April 22, 1899. The proposition was based upon the favorable results obtained in four out of six cases in which the writer had performed nephropexy for the purpose of anchoring a movable kidney in the presence of well-marked chronic Bright's disease. In five of these six cases nephropexy was undertaken without any idea of favorably influencing the chronic nephritis known to exist; the indication for operation being given solely by the existence, in an aggravated degree, of the usual symptoms due to mobility of the kidney or kidneys. The effects of nephropexy upon the coexisting chronic Bright's disease, whatever they might prove to be, were simply hazarded in view of the necessity of relieving the patient of a number of intolerable symptoms.

My first case was operated upon as long ago as November 29, 1892; my fifth, upon April 1, 1897. The complete and permanent disappearance of albumin and casts from the urine, and the restoration to perfect and enduring health of three of the five patients, led me to advise bilateral nephropexy in my sixth patient, a sufferer from chronic Bright's disease complicated with movable kidneys, mainly with the object of favorably influencing the chronic nephritis.

This operation, performed on January 10, 1898, constitutes the first operation ever undertaken upon the kidneys with the deliberate purpose of curing chronic Bright's disease, and in so far marks a period in the history of the affection. As a result of the operation the patient was radically cured of her chronic Bright's disease, and remains so to this day.

Encouraged by the permanence of the cures of chronic nephritis in these earlier cases, I have, during recent years, performed nephropexy by preference upon patients suffering from chronic Bright's disease. This may account for the fact that among the 191 patients upon whom I have performed nephropexy, there were no less than sixteen sufferers from chronic nephritis. The results, as will be detailed further on, proved gratifying beyond all expectation. As none of the patients after operation received any further treatment for their chronic Bright's disease, the conclusion became inevitable that the cures and improvement obtained with practical uniformity must be ascribed to the operation itself.

Gradually the idea dawned upon me that surgical procedures which led to a cure of chronic nephritis in kidneys that were movable, would be even more likely to prove curative when applied to kidneys not suffering from displacement. For a while the conception, that the cure of the chronic Bright's disease was due to the correction of the displacement of the kidney by nephropexy, stood in the way of the development of the idea. It was not until three secondary operations upon kidneys which had been anchored some time previously, demonstrated to me what I now believe to be the essential conditions underlying the cure of chronic Bright's disease by operation, that I saw my way clearly in the matter.

The result of this study and interpretation of my accumulating experience was embodied in the formal proposition, advanced in the MEDICAL RECORD of May 4, 1901, page 691, to treat all cases of chronic Bright's disease surgically. The principles underlying the cure of chronic nephritis by operation, and the method of operation to be followed in carrying these principles into effect, were also indicated. A promise was likewise implied to discuss the subject in a fuller and more formal manner as soon as certain investigations then pending were completed. In fulfillment of this promise the present paper is presented.

I will first outline, in tabular form, the essential points in the histories of all the cases of chronic Bright's disease which I have treated by operation, including, for the sake of completeness, the six cases already published. The analysis of this table will serve as a basis for some deductions and general considerations to follow.

On December 3, 1901, I performed decapsulation of both kidneys on a woman of forty-three, referred to me from the First Medical Division of St. Francis Hospital, by Dr. Fritz Schwyzer, Attending Physician. A brother of the patient died of chronic Bright's disease. Patient herself seems to have suffered from chronic Bright's disease and cardiac derangement for the past two years. At the time of operation she had an extreme hypertrophy of the heart, with a mitral systolic and a mitral regurgitant murmur. Operation disclosed far advanced chronic interstitial nephritis, both kidneys being granular and shrunk to half their normal size. At the present writing, December 10, 1901, patient's general condition and the improvement in the work performed by the kidneys are both perfectly satisfactory. On account of the short period of observation I have not included the case in the table.

All of my eighteen patients were women, whose ages, varying between nineteen and forty-five years, averaged thirty and one-half years.

Cases of chronic Bright's disease only are included in the list. I have operated a few times upon kidneys affected with acute Bright's disease, and quite a number of times upon kidneys the seat of well-marked congestion, either acute or chronic, and, with one exception, always with good results. Such operations and such results, however, prove little or nothing, the tendency of acute nephritis, in the vast majority of cases, being toward spontaneous resolution

TABLE I.

AUTHOR'S CASES OF CHRONIC BRIGHT'S DISEASE TREATED BY OPERATION.

NO	NAME.	AGE.	CONDITION OF KIDNEYS AT OPERATION.	DATE AND NATURE OF OPERATION.	REMARKS AND RESULT.
1	Miss A. B. Hospital patient.	18	Right chronic interstitial nephritis.	29–XI–1892:— Right nephropexy.	Chronic Bright's disease, to my knowledge, for a year prior to operation. Urine became normal two months after operation, and remained permanently normal to date of last examination, 15–IV–1901, at which date patient was in the enjoyment of perfect health.
2	Mrs. G. H. Hospital patient.	39	Right and left chronic interstitial nephritis.	10–III–1893:— Bilateral nephropexy.	Bright's disease recognized shortly prior to operation. Previous duration unknown. On discharge of patient, six weeks after operation, Bright's disease unimproved. Patient not seen since leaving hospital.
3	Mrs. M. M. Dr. R. G. Wiener.	28	Right chronic diffuse nephritis, with formation of large cyst. Left kidney, probably, also diseased.	11–V–1893:— Incision of right kidney and evacuation of contents of cyst. Suture of kidney wound. Right nephropexy.	Chronic Bright's disease; to Dr. Wiener's personal knowledge of several years' standing before operation, persisted after operation. Dr. Wiener writes me under date of 7–XI–1901: "Mrs. M. M. died last May after an abdominal hysterectomy done by Dr. A. She had her left kidney removed about five years ago by Dr. B." This patient lived for eight years after my operation, the last five with only one kidney, the one originally operated upon. At the end of that time she still had nephritis, but not in sufficient degree, apparently, to contraindicate the serious operation of which she died.
4	Miss L. G. Dr. B. R. Morrow.	25	Left chronic interstitial nephritis. Right kidney healthy.	11–I–1896.— Bilateral nephropexy.	Bright's disease was recognized shortly prior to operation, and disappeared permanently four months after operation. 21–XI–1901. Urine normal, and patient in perfect health.
5	Mrs. M. F. Dr. P. J. Lynch.	42	Right chronic interstitial nephritis.	1–IV–1897.— Right nephropexy.	Patient under constant treatment for chronic Bright's disease during six years preceding operation. Urine became normal one year after operation, and has so remained. 30–X–1901: Urine normal; patient in perfect health.
6	Miss S. O. Dr. A. Strong.	20	Left chronic interstitial nephritis. Right kidney healthy.	10–I–1898.— Bilateral nephropexy.	Bright's disease was accidentally discovered a short time before operation. Urine became normal one month after operation, and has so remained. 24–X–1901: Urine normal; patient perfectly well. This is the first patient operated upon for the express and deliberate purpose of curing chronic Bright's disease.
7	Mrs. F. B. Dr. J. M. Egan.	38	Right and left chronic interstitial nephritis.	14–I–1899:— Bilateral nephropexy.	Chronic Bright's disease recognized several months prior to operation; duration prior to recognition uncertain. Urine became permanently normal five months after operation. 26–X–1901. Urine normal; patient enjoying good health.
8	A. Van W. Dr. B. R. Morrow.	45	Left chronic interstitial nephritis. Right kidney healthy.	6–III–1899.— Bilateral nephropexy.	Bright's disease discovered shortly prior to operation. Urine became permanently normal four months after operation. 25–X–1901: Urine normal except for presence of uric acid crystals in large numbers. Patient gouty, but otherwise well.
9	Mrs. C. G. Hospital patient.	42	Right chronic interstitial nephritis. Left kidney?	11–V–1899:— Right nephropexy.	Chronic Bright's disease recognized five months prior to operation. Albumin and casts had almost disappeared from urine on discharge of patient, five weeks after operation. Since then no trace of her can be found.
10	Mrs. L. J. Hospital patient.	26	Right chronic interstitial nephritis. Left kidney healthy.	12–V–1899:— Bilateral nephropexy.	Chronic Bright's disease first recognized six months prior to operation. No change four weeks after operation, when patient left hospital, after which all trace of her was lost.
11	Mrs. S. G. Private patient.	28	Right chronic interstitial nephritis. Left kidney healthy.	4–XI–1899:— Bilateral nephropexy.	Duration of Bright's disease prior to operation unknown. Four weeks after operation no change in urine. Patient then lost sight of. Died, after an operation for ruptured tubal pregnancy, exactly one year after nephropexy. Drs. S. J. Meltzer and J. Brettauer, who attended her in her last illness, inform me that there was then no chronic Bright's disease, the urine being perfectly normal.
12	Miss R. H. Dr. G. F. Blauvelt, Nyack, N. Y.	22	Left chronic interstitial nephritis and acute perinephritis. Right kidney normal.	5–XI–1900:— Bilateral nephropexy.	Bright's disease accidentally discovered just prior to operation. Urine became permanently normal two months after operation. 18–XI–1901: Urine perfectly normal, and patient enjoying good health.
13	Miss M. D. Hospital patient.	19	Right and left chronic interstitial nephritis.	30–XI–1900:— Right nephropexy. 19–IV–1901:— Left nephropexy.	Bright's disease was recognized just prior to right nephropexy, and persisted until left nephropexy, five months after which it entirely disappeared. 22–X–1901: Urine normal.
14	Mrs. L. K. Dr. H. Ruhl.	23	Advanced right and left chronic diffuse nephritis.	8–IV–1901:— Bilateral nephropexy.	Mother of patient died at forty, and her only sister at twenty-seven, both of chronic Bright's disease. Her father and a younger brother are ill with chronic Bright's disease. Patient herself has been under treatment for Bright's for over a year. Dr. Ruhl advised operation upon both kidneys for the purpose of curing her of chronic Bright's disease. 20–X–1901: Decided improvement in urinalysis findings. Albumin in urine one-third the amount before operation; casts less numerous; patient improving in other respects.
15	Mrs. R. K. Dr. H. Ruhl.	31	Right and left chronic interstitial nephritis.	15–IV–1901:— Bilateral nephropexy.	Bright's disease recognized shortly before operation. 4–XI–1901. Urine normal, except for low specific gravity.
16	Miss I. H. Dr. G. H. McGuire.	33	Right and left chronic diffuse nephritis with extensive cyst formation in left kidney.	6–V–1901.— Bilateral nephropexy.	Chronic Bright's disease accidentally discovered one month prior to operation. A piece of kidney tissue removed at operation showed advanced chronic nephritis on microscopical examination by Professor H. T. Brooks. Improvement began soon after operation, and on 6–XI–1901, Professor Brooks reports that the urine shows only very slight evidence of renal disturbance.
17	Mrs. M. S. Dr. T. W. Vardon, Galt, Ont. Canada.	33	Right and left chronic parenchymatous nephritis.	17–X–1901 Excision of capsule proper of both kidneys.	Chronic Bright's disease for five years preceding operation. Operation advised by Dr. H. Howitt, Guelph, Ont., Canada, in consultation with Dr. T. W. Vardon, patient's physician. Patient, at time of operation, practically moribund. Case detailed in body of paper.
18	Mrs. C. B. Dr. A. O. Bogert, Spring Valley, N. Y.	30	Right and left chronic parenchymatous nephritis, with multiple septic foci.	6–VIII–1901:— Right nephrectomy for septic kidney. 10–XI–1901:— Excision of capsule proper of left kidney.	Bright's disease first noted during last pregnancy; birth of child 12–II–1901. Sepsis, due to sloughing uterine fibroid, continuously from that date to 17–III–1901, when the septic uterus, tubes, ovaries, and a suppurating intraligamentous uterine fibroid were removed by abdominal parhysterectomy. Subsequent infection of right kidney necessitated excision of that organ, 6–VII–1901. Persistence of chronic Bright's disease in the left kidney treated by excision of the renal capsule proper, 10–XI–1901. Details of case in body of paper.

or cure. It is only when Bright's disease has become chronic that it is considered incurable.

The classification of chronic Bright's disease according to the pathological conditions found in the kidney varies greatly with different authorities. Parenchymatous nephritis, or inflammation of the secreting structures, the tubules and glomeruli, of the kidney, and interstitial nephritis, or inflammation of the renal connective tissue, form the two basic pathological entities upon which all agree. Confusion, in the further elaboration of the subject, arises chiefly from the fact that neither of the two conditions ever exists absolutely by itself; *i. e.*, one variety of inflammation is never present without some admixture, greater or less, of the other The variations in degree of each, in which parenchymatous and interstitial nephritis are found associated, are almost infinite, and explain the luxuriant abundance of classifications.

A practical division or classification, in the writer's opinion, is to designate as interstitial nephritis those cases in which the gross evidences of inflammation of the connective tissue of the kidney predominate; as parenchymatous nephritis, those in which involvement of the secretory apparatus forms the salient feature; and as diffuse nephritis, those inflammations of the kidney characterized by implication, in fairly equal degree, of both the parenchyma and the connective tissue of the organ. The diagnosis of these three varieties of chronic nephritis upon the living kidney, when exposed during operation, is easy after some experience, pathological changes being more readily appreciated with the blood circulating through the organ than they are after death.

Of the eighteen patients with chronic Bright's disease operated upon by the writer, five had right chronic interstitial nephritis; four had left chronic interstitial nephritis; four had right and left chronic interstitial nephritis; two had right and left chronic parenchymatous nephritis; three had right and left chronic diffuse nephritis.

In fourteen of the eighteen cases both kidneys were operated upon; in twelve instances at one sitting, and twice at two sittings. In four patients operation was performed on one kidney only, in every instance the right.

Of the four patients whose right kidney alone was operated upon, two have recovered complete and lasting health. It may be taken for granted, therefore, that their left kidneys were at the time of operation, as they are now, in perfect health. A third patient upon whom I performed right nephropexy disappeared from observation soon after operation; the condition of her left kidney must remain a matter of conjecture. The fourth patient, finally, whose diseased right kidney I operated upon, had her left kidney removed by another surgeon within three years after my operation on the right. In this case the left kidney was presumably diseased at the time I operated upon the right.

Embodying these conclusions with the statements contained in Table I, we find that the left kidney alone was affected by chronic Bright's disease in four cases, the right alone in four cases, and both kidneys in nine cases, while in one case the unilateral or bilateral nature of the disease remains undetermined. In other words, the chronic nephritis affected both organs in nine cases, and one kidney only in eight cases, one case remaining doubtful.

In six of the eight cases in which chronic Bright's disease is recorded as unilateral, the healthy condition of the other kidney was verified at operation, when both kidneys were brought out of the wound for careful and critical examination. It cannot be denied that, in some instances at least, microscopical examination of a kidney classed as healthy might have revealed evidences of incipient changes of an inflammatory character; to the unaided sight, however, and to the touch, the organ was healthy.

The fact that chronic Bright's disease may be unilateral in one-half, or nearly one-half, of a series of eighteen cases may come as a matter of surprise to many of my readers, as, indeed, it proved a revelation to the writer. The fact, however, well explains the chronic course of many cases of Bright's disease, and the comparatively little disturbance of health the disease sometimes occasions. The healthy kidney simply performs the eliminative work of both kidneys, and the toxæmic symptoms of uræmia are not manifested. In this regard, patients with Bright's disease affecting one kidney only are on a par with patients whose one kidney has been removed. Gradually, however, but none the less surely, in patients with unilateral Bright's disease, the steady loss of albumin through the affected kidney tells upon and undermines the general health, and leads, although in many cases only after the lapse of years, to a fatal issue. Probably, also, toward the end, the other kidney generally becomes involved, thus explaining the very great preponderance of bilateral over unilateral chronic Bright's disease as found in the dead house.

The diagnosis of chronic Bright's disease in the above eighteen cases was based upon the previous history of the patient, upon the chemical and microscopical examination of the urine, and, lastly, upon the critical test of actual inspection and palpation of the kidney at the time of operation. This evidence was supplemented in two cases by microscopical examination of a small piece of kidney tissue removed at operation.

In nine of the eighteen cases the existence of chronic Bright's disease was discovered on examination of the urine but a short time before operation, just as the first intimation of kidney disease often received by a man who considers himself in perfect health is the rejection of his application for a life-insurance policy, or for additional insurance in a company which at one time had considered him a good risk. Closer investigation of the histories of these nine patients, however, always revealed the previous existence of some indications, more or less pronounced in different cases, of deranged function of the kidneys. The other nine patients were fully aware of the existence of chronic Bright's disease in their persons for periods varying from several months to over six years preceding operation. In their cases the well-known severer symptoms of blood deterioration, dropsy, and uræmia were present in varying degrees and combination. The periods above given indicate the time elapsed between the first discovery of albumin and casts in the urine and the date of operation; how long chronic Bright's disease existed in each case before it was revealed by urinary examination, it is, of course, impossible to say.

The urine examinations, either establishing or confirming the diagnosis of chronic Bright's disease prior to operation, were, in the last fifteen of my eighteen cases, all personally made by Dr. Henry T. Brooks, Professor of Pathology in the New York Post-Graduate Medical School and Hospital. In a number of these fifteen patients the diagnosis had already been reached, after examination of the urine, by the patient's family physician. I preferred, however, to have the diagnosis verified and confirmed, in each instance, by one or several examinations of the urine made by such an unquestioned authority as Professor Brooks. My first three patients were operated upon prior to my acquaintance with the

latter gentleman. In my second patient, Dr. R. S. Wiener, the patient's physician, stands as sponsor for the urinalysis diagnosis of chronic Bright's disease; in my first and third cases the urinary examinations preceding operation were made by my house surgeon and by myself.

The evidences of chronic Bright's disease, as revealed by operation, clinched the diagnosis beyond peradventure in all of the cases. They were, in each instance, so positive and pronounced as to leave no room for doubt. The kidney, in all of my operations but one, was invariably delivered upon the skin of the back for examination and operation. In the one exception the right kidney was so delivered, but it was found impossible to deliver the left kidney, operation upon which was performed in the depths of the wound. This delivery of the kidney enabled me to demonstrate to all witnesses of each operation the visible changes produced by chronic Bright's disease in the particular kidney under operation—the adherent capsule, nodulation, granular condition of the subcapsular surface, shrinking, unequal contraction, and occasional cyst formation of chronic interstitial nephritis; the enlargement, cloudy swelling, mottling, and discolorations due to circulatory and degenerative changes, of chronic parenchymatous nephritis; the thickening, general or localized, of the capsule proper of the kidney, and the secondary inflammatory changes in the perirenal fat, common to both varieties of chronic Bright's disease. The variations in the density and hardness of the kidney substance, often varying widely in different parts of the same organ, could, for obvious reasons connected with asepsis, be appreciated only by myself and my assistant at the operation. With a personal experience of more than three hundred kidney operations available for comparison, I now find no difficulty in promptly determining, by inspection and palpation, whether a given living kidney before me for operation is, or is not, affected with chronic Bright's disease. It is for this reason, probably, that in only one instance have I felt myself justified in exsecting a small bit of kidney tissue at operation for the purpose of microscopical examination. The justifiability of deliberately depriving a patient, except under very exceptional and urgent indications, of even the minutest part of such an important excretory organ as the kidney, knowing that the defect can be made good only by compensatory hypertrophy, never by new formation of kidney tissue, is, to my mind, a subject of grave doubt. In the one instance referred to, the right kidney, as it lay before me at operation, delivered and stripped of its capsule proper, presented over its entire surface such an even and regular granular condition that a diffuse tuberculosis was suspected, which suspicion, if verified, would, of course, call for excision of the diseased organ. A minute piece of the kidney substance was exsected and forthwith taken to Dr. Brooks' laboratory. The right kidney was then replaced in the body, and the left kidney, which showed clearly the evidences of chronic Bright's disease, was operated upon, while Professor Brooks made examination of frozen sections of the piece of right kidney sent him. In fifteen minutes the report came from Dr. Brooks: "Chronic interstitial nephritis; no tuberculosis," whereupon nephropexy upon both kidneys was completed. In one other patient, while performing total excision of the renal capsule proper, a small bit of kidney tissue came away with the capsule. Examination of this tissue was made by Professor Brooks, who found "chronic diffuse nephritis, with foci of sepsis in some of the tubules."

Right nephropexy was performed upon four, and bilateral nephropexy upon twelve, of my eighteen patients. Extensive denudation of the kidney cortex, by stripping off the capsule proper, so as to lay bare about one-half of the surface of the kidney, was a feature of all these nephropexies. This fact, in my opinion, has a distinct bearing upon the results, as will be explained further on. In three or four instances renal cysts of various sizes were punctured and evacuated prior to anchoring the kidney.

A detailed account of the operation of nephropexy, as I now perform it, will appear in the *Annals of Surgery*, February, 1902.

Upon my last two patients, I performed total excision of the renal capsule proper with the sole and specific object of bringing about a cure of chronic Bright's disease. In one of the two patients both kidneys were operated upon at the same sitting. The other patient had but one kidney, as I had been compelled to remove the septic right kidney some months prior to performing excision of the capsule proper of the left kidney.

Excision of the renal capsule proper is performed as follows: The patient is placed prone upon the table, with the author's kidney air-cushion underlying and supporting the abdomen. Both kidneys are thus rendered accessible to operation without the necessity of changing the patient's position. An incision is carried from the twelfth rib to the crest of the ilium along the outer margin of the erector spinæ, without opening the sheath of that muscle. The fibers of the latissimus dorsi muscle are bluntly separated in the direction of their course, without cutting. The iliohypogastric nerve is sought for and drawn to one side or other, out of the way of harm. Division of the transversalis fascia exposes the perirenal fat. This is divided over the convexity of the kidney until the capsule proper is reached. The fatty capsule is now bluntly separated everywhere from the capsule proper, the dissection advancing on either aspect and around both poles of the kidney until the pelvis of the kidney is reached. Now and then the fatty capsule may be found so thickened and adherent, as the result of chronic perinephritis, that the scissors or knife may be required to separate it from the capsule proper. The kidney with its capsule proper is next lifted from its fatty capsule bed, and, if possible, delivered through the wound. The capsule proper is divided on a director along the entire length of the convex external border of the kidney and clean around the extremity of either pole. Each half of the capsule proper is in turn stripped from the kidney and reflected toward the pelvis until the entire surface of the kidney lies raw and denuded before the operator. In separating the capsule proper from the kidney, care must be exercised not to break or tear away parts of the kidney, which is often both very friable and very firmly connected with its capsule proper. The stripped-off capsule proper is next cut away entirely, close to its junction with the pelvis of the kidney, and removed. Delivery of the kidney makes this otherwise difficult work easy. If the kidney cannot be delivered, the capsule proper must be entirely peeled off the kidney by the fingers in the bottom of the wound, and excised as far as possible, any remaining portion being simply reflected backward around the root of the kidney, where it will curl up and stay. The kidney is dropped back into its fatty bed and the external incision is closed. Drainage, except when the parts are extremely œdematous, is dispensed with. After both kidneys have been thus operated upon, the dressings are applied and the patient is put to bed.

The safe performance of decapsulation of both kid-

neys at one sitting presupposes familiarity with kidney-work on the part of the surgeon. A surgeon unfamiliar with kidney operations, and consequently either too slow or too hesitant and timid, is not the right man in the right place in operating for chronic Bright's disease.

Excision of the renal capsule proper accurately defines the operation. It is, however, a long name, and either renal decapsulation, renal decortication, renal denudation, nephrocapsectomy or nephrocapsectomy (νεφρος, a kidney; καψακιον, a capsule; εκτομη, a cutting out, or excision), may, should the operation survive, come to be preferred.

Ether was the anæsthetic employed in all of my operations but one, on these eighteen sufferers from chronic Bright's disease. Upon many of them I performed operations additional to the kidney operation, always under ether, and in not one instance was the slightest untoward effect observed. Case No. 18 was operated upon under combined nitrous oxide and oxygen anæsthesia conducted by Dr. Thomas L. Bennett. I see no good reasons why any surgeon should not use, in his operations upon the kidney, the same anæsthetic to which he is accustomed in his operative work generally. Personally, I would prefer, especially in cases of far advanced Bright's disease, nitrous oxide and oxygen, provided I could always command the services of an expert like Dr. Bennett to administer the combined gases; otherwise I would choose ether. My third choice would be spinal cocaine anæsthesia, which I have found particularly well adapted for work upon the kidneys.

There has thus far been no mortality in my operations upon the kidneys of patients affected with chronic Bright's disease. All of my patients recovered from the operation and, as far as my knowledge goes, all but two are alive to-day. One of the two died after an operation for ruptured tubal pregnancy, performed by another surgeon, exactly one year after my operation on her kidneys; the other succumbed to a hysterectomy, also performed by another surgeon, eight years after my operation on her right kidney.

That this favorable showing as regards the mortality will continue can scarcely be expected, when we consider the widespread changes in the system produced by chronic Bright's disease, and the operative risk which the patient, in view of the hopeless nature of his illness, is justified in assuming. My patient, No. 17, came to the operating table in a state of impending dissolution, with the full understanding on the part of herself, her family, her physicians, and myself, that she might die on the table. She was literally snatched from the jaws of death by the operation.

A combination of fortuitous circumstances, largely a matter of mere luck, prevented almost certain death during or after operation in several patients having the operation under consideration.

A colleague of high standing, a professor at one of our medical schools and attending physician to a large general hospital, was consulted during the past summer by a patient of thirteen, suffering from chronic Bright's disease dating, to the doctor's personal knowledge, from an attack of scarlet fever at the age of five, and existing continuously since that time. At the time of consultation the patient was in much better condition than usual. The doctor, who was familiar with my work, advised him to place himself under my care for operation on both kidneys; but in view of his good general condition, the hot weather, and the fact that the doctor was about to leave town for a month's vacation, thought that an additional four weeks, in a disease which had already lasted eight years, would make no material difference. The operation was, therefore, set down for a date within a few days after the doctor's return. Two and a half weeks following the consultation, the doctor received word from his substitute in town that the boy had died in uræmic coma and convulsions. The comment made by the doctor was that we can never tell when a patient with chronic Bright's disease will die. A second patient, with chronic Bright's disease and extensive secondary vascular changes, died suddenly of heart failure four days after operation was first proposed to him, and while deliberating the proposition. A third patient, an otherwise promising case in a man of thirty, had just been purged and sweated out of the uræmic state by his physicians, and was quite ready for operation, when a new feature in his case, a pericardial effusion, put in an appearance. Beyond all reasonable doubt, operation would not have prevented the death of the first two of these patients, and would have caused the death of the third.

The results of my operations for chronic Bright's disease, as far as a diligent and persistent search has enabled me to obtain them in each case, are presented in Table I. Before drawing deductions from an analysis of this table, it will be necessary, in the first place, to throw out three cases (Nos. 2, 9, and 10) which disappeared from observation in from four to six weeks after operation, and whose further and present whereabouts cannot be ascertained.

Among the nine patients operated upon a year or longer ago, Case No. 3 represents the only failure radically to cure the chronic Bright's disease existing at the time of operation. Operation was performed upon the right kidney in May, 1893. The kidney was found extensively diseased, its surfaces being nodular, and the capsule proper irregularly thickened and very adherent, as a result of inflammatory changes. The kidney contained a cyst, four centimeters in diameter, the contents of which, a turbid serum, were evacuated by incision through the kidney substance. The wound of the kidney was closed by a running catgut suture, and the kidney was anchored in the usual way. Some three years after my operation on the right kidney, another surgeon removed the left kidney. For five years thereafter the patient lived with only the right kidney, and at the end of that time this kidney, although, according to her physician's statement, still the seat of inflammation, was apparently in sufficiently good condition to warrant hysterectomy at the hands of a third surgeon, ten days after which last operation she died. It is difficult to understand how she managed to live for eight years after my original operation, five of them with only the kidney operated upon by me, unless that kidney had considerably improved over the condition above described as found at operation.

Four of my cases (Nos. 13 to 16, inclusively) were operated upon but a little over six months ago. In two of them the urine is at present free from albumin and casts; it is yet, however, too early to speak of a permanent cure. One of the remaining two shows great improvement, and in the urine of the other, according to Professor Brooks, there is at present only very slight evidence of renal disturbance. These four cases are encouraging, but the period of observation after operation is considered too brief to speak either of permanent cure or permanent improvement.

The time elapsed since operation in my last two cases (Nos. 17 and 18) is as yet too short to warrant deductions of any great or very legitimate value. They present features of such an interesting character, however, that I cannot refrain from giving them somewhat in detail.

Case No. 17.—Mrs. M. S., aged thirty-three,

mother of one child. Dr. T. W. Vardon of Galt, Ontario, Canada, her family physician, to whose kindness I am greatly indebted for the history of the patient prior and subsequent to operation, states that albumin was first found in the urine in 1896. During and since her only pregnancy, which terminated on May 5, 1899, with the birth of a child at term, she has suffered continuously from chronic Bright's disease, which ran its usual downward course, in spite of all the care in the way of nursing and treatment which the patient's fortunate situation in life enabled her to command. On about September 20, 1901, she was seen by Dr. H. Howitt of Guelph, Ontario, Canada, in consultation with Dr. Vardon. Dr. Howitt, whose acquaintance it was my good fortune to make on the occasion of a recent visit to Canada, and to whom I had detailed somewhat my experience in the operative treatment of chronic Bright's disease, had the courage to assume the responsibility of recommending operation at my hands. In a letter from Dr. Vardon, dated September 23, 1901, the patient's condition, at that time, is described substantially as follows: "The patient passes twenty-seven ounces of urine per day; specific gravity, 1,020; contains 50 to 70 per cent. of albumin and abundant casts. Dropsy of lower extremities; small accumulation of fluid in abdomen. Pulse, 100; temperature, 99° to 101° F. Sits up two to three hours per day, and can walk a little. Swelling of face at times, but no headache for several weeks past." There was some delay in acting upon Dr. Howitt's advice, during which the patient sank rapidly in spite of high pressure treatment. The quantity of urine steadily diminished, until, for about two weeks preceding operation, only ten to twelve ounces were passed in the twenty-four hours. On October 12, the distended skin of both lower extremities was incised at several places to permit of the escape of the dropsical effusion, and on October 15 two and a half gallons of fluid were withdrawn from the abdomen by the aspirator. These measures were advised by Dr. Howitt, and carried out by Dr. Vardon, with a view to preparing the patient for operation.

I saw the patient for the first time on the day of operation, October 17, 1901. Her face presented the characteristic pallor and puffiness of advanced Bright's disease; she was completely water-logged, and unable to breathe in the recumbent posture, being compelled to sit bolt upright in bed, day and night. Pulse 120, soft and compressible; temperature, a trifle above 100°; respirations, 30 per minute; œdema of the entire lower lobes of both lungs. It was very evident that her end was fast approaching. With some misgivings as to the chances of the patient surviving it, operation was undertaken at the Galt General Hospital, with the kind and efficient assistance of Drs. Howitt and Vardon, Dr. J. S. Wardlaw skilfully administering ether. The bleeding was minimal, but water poured from all the tissues cut, and operative procedures were difficult on account of the depth of the wound caused by the œdematous condition of all the parts overlying the kidneys. Excision of the capsule proper of both kidneys, after the method already described, was performed as expeditiously as possible. Both kidneys were considerably enlarged and succulent, and presented all the characteristics of far-advanced, chronic parenchymatous nephritis, forming typical examples of the so-called large, white kidney. The patient was returned to her room forty-five minutes after leaving it; that length of time sufficing for inducing anæsthesia, cleansing the operative field, completing operation upon both kidneys, and applying the dressings. A few strands of silkworm gut were placed, chiefly to drain off serum, and the wounds were closed for primary union. The strands were withdrawn by Dr. Vardon a few days later, and both incisions healed by first intention.

For a few days after operation her condition continued critical, or rather grew more so, a temperature of 103.8° F., with a pulse of 132, and respirations numbering 42 to the minute being reached on the fifth day. After that there was slow but continuous improvement in every symptom. The daily amount of urine for ten days following operation varied between two and fifteen ounces, with a total of ninety-two ounces, and two lost voidings, for the ten days. From the eleventh day on, the daily quantity of urine steadily increased, until it reached forty-four ounces on the 20th, and high-water mark, fifty-five ounces, on the thirty-sixth day after operation. The facts with regard to the urine are of special interest, as sustaining my conception of the way in which my operation acts in bringing about this good result, a subject which will be again referred to later on.

At date of the last report received from Dr. Vardon, December 1, 1901, the general dropsy and the pulmonary œdema had gradually and entirely disappeared. There was, however, a slight tendency to reaccumulation of fluid in the abdomen, a fact which suggests the possibility of a cirrhosis of the liver complicating the chronic Bright's disease.

"Mrs. S. is able to rest and sleep in the horizontal position, without even a pillow, and without the least distress. She is gaining in strength, has no pain in the head or other parts of the body, feels, eats, and sleeps well, and is getting a better color. I hope to get her up this week."

The amount of albumin in the urine is at present 40 to 50 per cent., as against 50 to 70 per cent. prior to operation; casts of all kinds, large and small hyaline, coarsely granular, epithelial, and mixed, are present in great abundance. The quantity of urine voided during the thirty days of November amounted to 1,300 ounces, of which 390 were passed in the first ten days, 444 in the second ten days, and 466 in the last ten days of the month. The specific gravity has varied between 1,014 and 1,025, but the percentage of urea is still rather low. Unfortunately, an acute right pyelitis developed on December 5, the outcome of which, at the present writing, December 10, is still in doubt.

Case No. 18.—Mrs. C. B., thirty-nine years of age, mother of four children, suffered from nephritis and a fatty heart during her last pregnancy, which terminated, on February 12, 1901, with the birth of a living child at term. The first two weeks of the puerperium were uneventful, except for the persistence of nephritis. Then symptoms of mild sepsis developed, and an examination revealed a large tumor, sensitive to pressure, to the right of the uterus. During the subsequent progress of the case the sepsis increased, while the tumor-mass grew smaller and smaller with progressive involution of the uterus. On March 14, 1901, I first saw the patient at her home in Monsey, N. Y., in consultation with her physician, Dr. A. O. Bogert of Spring Valley, N. Y., to whom I am indebted for the above history, as well as for devoted and intelligent care and aid in the subsequent management of the case. Indeed, I am entirely within the bounds of truth when I state that the patient owes her life to the unremitting watchfulness and the skill and judgment displayed by both Dr. Bogert and her nurse, Miss Anna L. Merritt, in tiding her over the many desperate crises in the further progress of her illness.

On the occasion of my first visit the patient was profoundly septic, and examination showed a tumor, nine to ten centimeters in diameter, to the right of the uterus, and intimately connected by a broad

pedicle with the body of that organ just above its junction with the cervix. The flabby uterus, measuring twelve to thirteen centimeters in depth, was crowded to the left and backward by the tumor; its interior was clean, and the lochia were sweet.

A diagnosis was made of uterine fibroma undergoing necrosis or gangrene, and inducing general sepsis; and removal of the tumor was advised as affording the only possibility of saving her life. The advice was accepted, and the operation was performed under ether anæsthesia at the patient's home, on March 17, 1901. The uterus, containing the sloughing fibroid above mentioned, together with a number of younger fibromata, was removed in one piece with both tubes and ovaries by abdominal section. The abdominal incision was closed, and free drainage established in the direction of and through the vagina.

The patient was returned to bed in a state of profound collapse, from which she was only just beginning to rally, when, on the day following operation, a double pneumonia of the most severe type developed. The pneumonia ran a stormy course of ten days, during which the temperature reached 104° F., the pulse 170, and the respirations 67 to the minute. During all this time her life hung on a thread, and the heart was kept going only by stimulation to the limit, no less than 86 hypodermics of caffeine, glonoin, camphor, and other cardiac excitants being administered within a week. The fact that for two weeks the fæces and urine were passed involuntarily and unconsciously will convey some idea of the low state of the patient.

During convalescence from the pneumonia a urinary fistula developed, which a cystoscopic examination showed to be due to a small slough of the bladder wall just above the orifice of the right ureter. The abdominal wound, which had healed by primary union, also broke down as the result of a pneumococcus infection.

For two weeks after resolution of the pneumonia the patient did fairly well, though her condition was not entirely satisfying. An attack of acute infection of the right kidney then developed, characterized by a painful swelling of the right kidney, with pyuria and a decided increase in the amount of albumin and the number of casts habitually present in the urine, followed by symptoms of secondary general sepsis with a temperature of 104° F. and a pulse rate of 120. On April 24, Professor A. Caillé saw the patient in consultation with Dr. Bogert and myself. We all agreed that infection of the right kidney was at the bottom of her present troubles, and Professor Caillé was inclined to regard it as a late pneumococcus infection. Removal of the right kidney was discussed at the time, but the patient's low condition, and the rapid abatement of the acute symptoms on the following day, led us to defer operation. During the months of May, June, and July, the patient had three exactly similar outbreaks of severe manifestations of infection of the right kidney, each attack lasting from eight to ten days. In the intervals between the attacks there was remission, but never complete disappearance, of the septic symptoms. During the July attack, the temperature ran up to 105.5° F., with a pulse rate of 160, and the patient was prostrated to the verge of death. It was resolved to hazard a right nephrectomy as giving her the only chance, and a slim one at that, for life. The operation was performed under ether, at the patient's home, on July 9, 1901. The large right kidney, riddled with innumerable abscesses, and with its pelvis filled with pus, was removed, and the wound dressed in twenty minutes, the necessity for haste being especially urgent. The patient bore the operation and rallied unexpectedly well.

Professor H. T. Brooks reported as follows upon the specimen: "Microscopic examination of sections made from kidney of Mrs. B. showed typical histological characteristics of multiple abscess. In the abscess areas there was found a thick bacillus, corresponding morphologically to a species of proteus, a class frequently responsible for suppurative nephritis."

Following the operation of removal of the septic right kidney there was a marvelous and rapid improvement in the patient's condition. The abdominal incision and the vesical fistula, which for over four months had refused to heal, closed spontaneously within ten days after operation. The lumbar operation wound which, on account of accidental contamination with pus from the kidney, had to be drained, was brought together a few days later for secondary union, and was firmly healed in less than three weeks after operation, at which time the patient left her bed. Appetite and strength rapidly returned; she gained thirteen pounds in weight, and gradually resumed her usual occupations, even coming to the city several times on visits. There was only one drawback to her happiness, and one source of uneasiness to her family and physicians—the persistence of albumin and casts, with small quantities of pus, in the urine. Professor Brooks called it chronic Bright's disease, with some insidious infection of the kidney.

As time wore on, the improvement in health ceased and the characteristic pallor, puffiness of the face, and œdema of the lower extremities, due to chronic Bright's disease, came to the foreground. Her husband, who knew of my operations upon cases of chronic Bright's disease, asked that his wife be given any chance afforded by operation, and the patient concurred in the request.

On November 10, 1901, I performed excision of the capsule proper of the left kidney, at the home of the patient. Nitrous oxide and oxygen anæsthesia was skilfully induced and maintained throughout the operation by Dr. Bennett, who at both previous operations had administered the ether. The operation was completed in thirty-two minutes; the patient regaining full consciousness immediately thereafter. The wound healed by primary union throughout. The kidney acted well, the daily amount of urine passed during the first twelve days averaging no less than seventy-six ounces, with an average specific gravity of 1,010, rather remarkable work for one kidney.

A minute piece of kidney tissue, which came away with the capsule proper, was sent for examination to Professor Brooks, who reports as follows: "Microscopic examination of the small piece of renal tissue removed from the kidney of Mrs. C. B. showed decided histologic evidence of multiple foci of nephritis of infectious (septic) type. As far as was possible to determine from the minute size of the cortical tissue received, these foci were confined to the areas corresponding to terminal arteries, and consequently had a wedge-shaped outline. In the diseased areas the tubules presented granular and partially disintegrated epithelia, often detached from the membrana propria, and the lumina were not infrequently occluded by polynuclear leucocytes (pus), fragmented epithelia, blood cells, and amorphous detritus. Some tubules were filled with dense hyaline material (casts)."

It will be seen from the above that the prognosis as regards the ultimate result in this case is unfavorable, owing to the presence of pus in the kidney. Thus far the infection has been more or less con-

trolled by urotropin, which has been steadily administered for many months past. At the present writing, December 10, the patient is again out of doors, and is feeling perfectly well.

Leaving out of consideration, for reasons already sufficiently detailed, these ten cases, we have left eight patients, observed from one year to over eight years after operation, the further progress of whose cases and whose final condition fully justify the title of this paper These eight patients were all cured of their former chronic Bright's disease, and seven of them (Case 11 having meanwhile died an accidental death) remain so cured, as a result of operation on their kidney or kidneys, none of them having received further treatment of any kind after operation. They are free from all symptoms referable to the kidneys, and their urine remains permanently free of albumin and casts. My authority for the latter statement is Professor H. T. Brooks, who has made repeated examinations of the urine after operation in every case except one (Case No. 11), his examinations in six cases extending over a number of years.

Table II presents at a glance the duration of chronic Bright's disease prior to operation, as far as known, in each case; the time elapsed between operation and the final and permanent disappearance of albumin and casts from the urine, and the period after operation at which the continued health of the kidneys was last verified by examination of the urine.

TABLE II.

AUTHOR'S CASES OF CHRONIC BRIGHT'S DISEASE CURED BY OPERATION.

CASE NUMBER.	1	4	5	6	7	8	11	12	
Known existence of chronic Bright's disease prior to operation, expressed in months	12	?	72	?	2	?	?	?	
Time from operation to final and permanent disappearance of albumin and casts from urine, in months	2	4	12	1	5	4	?	2	Average for seven cases, 4½ months.
Period of observation, from operation to last examination of urine, in months	132	70	55	45	33	31	12	12	Average for eight cases, 44¾ months.

That chronic Bright's disease is curable by operation is demonstrated, I believe, beyond any legitimate doubt by the results obtained in these eight cases. The significance of this demonstration or proof becomes apparent when we consider both the wide prevalence of the disease and its inevitable tendency to a fatal termination, delayed though that termination may be, under any and all forms of treatment hitherto known.

Let it not be understood, however, that I entertain any enthusiastic hopes or expectations that chronic Bright's disease will be found to yield to surgical treatment in all cases and in all stages of the disease. When the patient is practically moribund, sufficient time may not be left for the circulatory changes in the kidneys, initiated by the operation, to produce any good results. I have already pointed out that the first beneficial effects of operation, as indicated by the increased flow of urine, do not appear before the tenth day. The manifold complications of the advanced stages of chronic Bright's disease, many of them in themselves necessarily fatal, will also stand in the way of our saving lives, even if we succeed in curing or improving the chronic Bright's disease. A number of these complications will, in addition, prove almost prohibitive to undertaking any operation whatsoever. The improvement noted after operation in some of the extremest and most desperate cases, for example, Nos. 14, 17, 18, is certainly most encouraging, and a final good result in any of these three cases will go far toward solving the problem of the limitations of my operation.

How does operation act in bringing about a cure or improvement of chronic Bright's disease? The answer to this question has, to my mind, been settled as a result of observations made during the course of three operations upon kidneys that had previously been operated upon, one by myself and two by other surgeons. In each instance, nephropexy was the operation originally performed. At the second operation upon the same kidney the following conditions were noted as results of the first operation: First, the formation of strong connective-tissue adhesions or bands attaching the kidney to its surroundings. Secondly, the existence, in these connective-tissue adhesions or bands, of very large and numerous blood vessels running between the kidney and the adjacent tissues. This fact was forcibly brought home to my assistants and myself by the necessity of ligating artery after artery of considerable size, in dividing these adhesions. Thirdly, the predominance in number and size of the newly formed arteries over the newly formed veins. Fourthly, the significant fact that in all the arteries the direction of the blood stream was *toward* the kidney.

The conclusion which I had reached, that arterial hyperæmization of the kidney was the basic factor underlying the subsequent changes which resulted in a cure or improvement of chronic Bright's disease after operation, was clinched when I casually happened across the following passage in E. Ziegler's "Text Book of Special Pathological Anatomy." The Macmillan Company, 1897, page 909. Ziegler writes: "When a portion of the renal epithelium has been destroyed by a morbid process which spares the interstitial structures, the loss is in general soon made good by regenerative proliferation of the remainder; and if the circulation is adequately maintained the new epithelium presently becomes capable of carrying on the secretary function."

The increased and adequately maintained blood supply to the kidney established by my operation leads, most probably, to gradual absorption of the interstitial or intertubular inflammatory products and exudates, thus freeing the tubules and glomeruli from external compression, constriction, and distortion, and permitting the re-establishment in them of a normal circulation. The result of this improved circulation in and between the tubules and glomeruli is the regenerative production of new epithelium capable of carrying on the secretory function.

That the cure of chronic Bright's disease is only initiated by operation, and is thereafter only gradual and progressive, is self-evident from the above considerations. The very fact that the final and permanent disappearance of albumin and casts from the urine required from one to as long as twelve months after operation indicates this, and at the same time furnishes proof, if such be needed, of the correctness of my explanation of the manner in which operation acts in bringing about a cure of chronic Bright's disease. It is not a question of the simple relief of renal tension, the beneficial effects of which in acute conditions of the kidney, described by Harrison in 1896, have since been noted by an increasing number of surgeons. In these acute cases the tight fit of the capsule proper is manifest, and the kidney bulges at once through an incision or puncture made through the capsule. In chronic Bright's disease, on the contrary, the capsule proper, although it may be abnormally adherent to the kidney, never compresses the latter, and may even sit loosely upon it. Moreover, on cutting the capsule proper, the edges of the incision do not gap. It is interesting to note

that Harrison, in his very recent communication, thinks that puncture to relieve renal tension in acute cases of nephritis may prevent them from advancing to the chronic stage.

Excision of the renal capsule proper, or renal decapsulation, is not in itself a new operation. It has been employed by Rose, quoted by Wolff, Ferguson, and occasionally by the writer, as part of the technics of nephropexy. The proposition, however, to treat chronic Bright's disease by bilateral renal decapsulation as a basic operation is original with the writer.

As already stated, my first five operations upon kidneys the seat of chronic Bright's disease were simply nephropexies, performed with the object of getting rid of severe symptoms due to mobility of the kidney or kidneys. The observation that the chronic Bright's disease in three of them was cured as a result of the operation led to the further evolution of the subject as presented in this paper. One practically identical observation is recorded by Wolff as following a nephropexy performed by Rose. At the operation, the kidney was found to be the seat of well-marked chronic nephritis, while examination of the urine made several years later showed both kidneys to be healthy. No practical deduction, however, was drawn by either Wolff or Rose from this observation. Somewhat similar observations are recorded by Newman and Ferguson. Newman performed nephropexy in two cases of movable kidney with intermittent hydronephrosis, in which casts appeared in the urine during the attacks, and found that the casts disappeared permanently after operation. Ferguson operated upon two kidneys, in the first of which "no diagnosis was made, but a stone in the kidney was suspected and exploration advised," while in the second, operation was undertaken upon the diagnosis of "septic kidney." On operation, both proved to be uncomplicated cases of acute or subacute nephritis. Nephropexy was performed upon both patients, and was followed by the prompt disappearance of albumin and casts from the urine.

Ferguson's two patients were operated upon early in 1899. As a result of the outcome in both, though after a period of observation extending over a few months only, Ferguson, in June, 1899, seconded my proposition, made in April, 1899, to treat chronic Bright's disease surgically. Neither Ferguson's paper nor my own, however, has received much attention, and no other publications of the same tenor have come to my knowledge.

In each of the cases cited from Harrison, Wolff, Newman, and Ferguson, one kidney only was operated upon, while in the large majority of my own cases, operation was performed on both kidneys. Harrison, indeed, believes that operation on one kidney may relieve the other. His observations, however, on which this opinion is based do not include cases of chronic Bright's disease.

We have seen that renal decapsulation is performed with the object in view of creating new and liberal supplies of arterial blood to the diseased kidney. How does the operation effect this object, and can the same object be effected in a better way? In answer to this question, it is simply necessary to point out that both the denuded kidney and its fatty capsule are most liberally supplied with blood vessels; that both are brought together by my operation over the whole extent of the surface of the kidney; and that the necessary result must be the formation, on the most extensive scale possible, of new vascular connections between the kidney and the fatty capsule embracing it. The fibrous capsule proper forms an almost impenetrable barrier to the passage of blood vessels between the kidney and its fatty capsule, as I have had abundant opportunity to verify in my operations upon the kidney. It is not at all uncommon, for instance, in operating upon a kidney, to find the blood vessels of the fatty capsule greatly increased both in number and size, generally as the result of a perinephritis. Now and then a large artery of the fatty capsule will be seen entering and apparently penetrating the capsule proper. On raising the capsule proper from the kidney, however, the artery is not severed, and further investigation shows that it does not enter the kidney, but is lost upon and in the capsule proper, which has thus intercepted a possible new blood supply to the kidney.

Practical clinical experience would seem to point to the same conclusions. In all the nephropexies upon patients suffering from Bright's disease, in which a cure or disappearance of the nephritis was noted as one result of the operation, in the case of Rose, reported by Wolff, in Ferguson's two cases, and in my own above listed, extensive or entire denudation or decapsulation of the kidney formed one of the features of the operation. Newman's two cases are not included, first, because they were cases of hydronephrosis, not of chronic Bright's disease, and secondly, because his technics are not specified in reporting the operations and their results.

Cirrhosis of the liver, chronic interstitial hepatitis, one of the most frequent complications of chronic Bright's disease, has within the past three years come within the domain of surgery. The most modern development of the operation for cirrhosis of the liver embraces, as essential features, both the establishment of anastomosis between the omentum and the anterior abdominal wall, and the creation of widespread adhesions between the upper surface of the liver and the diaphragm. Both operations are performed with the object in view of relieving the portal circulation, and of thus removing one of the symptoms of the disease, the ascites. The writer believes that the future will show that whereas the anastomosis between the vessels of the omentum and abdominal wall will relieve the ascites, the establishment of broad adhesions and extensive vascular anastomosis between the upper surface of the liver and the diaphragm will accomplish more than this, It will probably lead to an amelioration, and possibly, in some instances, to a cure of the cirrhosis itself, by establishing an increased arterial hyperæmization of the liver on the same principles which underlie my operation for the cure of chronic Bright's disease. There is no good reason, at the present day, why a sufferer from both chronic Bright's disease and cirrhosis of the liver should not have the chance of life afforded by operation for both conditions. The day is not far distant, I believe, when we will read of operation upon both kidneys for chronic Bright's disease, and the operations above outlined for cirrhosis of the liver, as all performed at one sitting on the same patient. I see no reason, indeed, why they could not all be performed simultaneously through one and the same incision of the anterior abdominal wall.

Returning from this digression to the consideration of our subject proper, the cure of chronic Bright's disease by operation, I think we have shown, in the first place, that chronic Bright's disease is curable by operation, and, in the second place, that the present state of our knowledge does not warrant us in accurately defining the limits beyond which operation can no longer avail. As the result of my experience thus far, and from my present standpoint, I am prepared to operate upon any patient with chronic Bright's disease who has no incurable complication, or one

absolutely forbidding the administration of an anæsthetic, and whose probable expectation of life, without operation, is not less than a month. The latter proviso is made in view of the fact that the beneficial effects of the operation can scarcely become operative to any extent in less than about ten days.

The above conclusions are reached from my standpoint as a surgeon. From the patient's viewpoint the facts must be recognized that the treatment of chronic Bright's disease by operation forms an entirely new departure; that experience in this direction is limited to that detailed in this paper; that it will require time, and probably considerable time, before a larger and more definite experience becomes available; that no individual present sufferer from chronic Bright's disease can be certain of living to see an accumulation of such experience sufficient finally to settle the question, and that by delay he may imperil whatever chances he may at present have of being cured by operation.

In deciding for operation, it must be remembered that renal decapsulation is not directly and forthwith curative of chronic Bright's disease, but that it only leads to a cure or improvement of the disease by establishing circulatory conditions essential to such cure or improvement. The attainment of permanent cure, or of the full measure of improvement possible in a given case, will necessarily require time, during which the patient will, especially in the severer cases, stand in need of the further guidance and treatment of his family physician. The latter will come to regard the operation as one of the measures, albeit the most essential one, necessary to enable him to cope successfully with a case of chronic Bright's disease.

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AN IMPROVED METHOD FOR INTRODUCTION OF THE STOMACH TUBE.

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Heretofore there has ever been the serious objection of nausea and much discomfort on the part of the patient to the use of the stomach tube. In the case of neurasthenic and hysterical individuals introduction of the tube is frequently impossible. If, however, the patient can be got to submit to a few introductions of the instrument, a tolerance is usually established, and the unpleasant accompaniments of this valuable diagnostic and therapeutic procedure disappear, at least to a considerable extent. But how to palliate these initiatory steps safely and effectively is the heretofore unsolved problem.

Cocainization of the fauces and pharynx has been resorted to by some, but is now pretty generally abandoned as dangerous and ineffective. The peculiar susceptibility of some persons to the drug, which must be applied in considerable amount in order to produce any result, has led most of those who have had large experience with the tube to give up the use of cocaine altogether.

But an effective and entirely safe method of preventing nausea occasioned by the stomach tube is that of freezing two or three inches of the extremity of the tube just prior to its introduction, the object being to secure slight temporary anæsthesia of the fauces and pharynx by means of the cold rubber. In this way cold is applied exactly where anæsthesia is needed, and the irritability is overcome. Thus the tube may be introduced for the first time with practically no gagging, straining, or nausea. The well-known anemetic procedure of swallowing ice offers a parallel illustration of the principle involved in the above method.

The extremity of the tube may be frozen by a few moments' spraying with ethyl chloride. The tube, of course, may be chilled in other ways, but the ethyl chloride is convenient and efficient. The tube has been found not to stiffen markedly under the influence of extreme cold, so no violence from the frozen rubber can occur. And by the time the tube reaches the cardia, its low temperature is sufficiently overcome to prevent any danger to the gastric mucosa, though the tube remain in the stomach some time.

It is not advised that the cold tube be used longer in any one case than is sufficient to accustom the patient to the use of the stomach tube, though there are stomachs so irritable that the introduction of the tube as ordinarily practised is never comfortable, when the cold tube is indicated for continued use.

The writer has made frequent successful tests of the principle herein set forth. Modifications, such as the use of an ice plug inserted in the end of the tube, have been tried, but the freezing of the extremity of the tube itself has proven most satisfactory.

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RESULTS OF OSTEOTOMIES FOR THE CORRECTION OF GENU VARUM AND GENU VALGUM.

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Of the many hundreds of cases which present themselves at the outdoor department of the Hospital for Ruptured and Crippled, perhaps the most commonly met deformities of childhood are bow-legs and knock-knees.

These very naturally vary in degree from the slightest deviation from the normal to the most severe or corkscrew variety.

During the summer just passed, I have had the opportunity of operating on a number of these deformities at the Hospital for Ruptured and Crippled, and present a few cases showing the results, giving the age and condition at operation, tracing of deformity, and methods employed.

Cases of mild degree respond quickly to manipulation—always taught the mother—and properly built shoes. This method of treatment applies equally to bow-legs and knock-knees. In a number of cases where deformity is more marked, and where consent to operative interference is withheld, mechanical means are resorted to; and we employ the splints or braces used for many years at this hospital; (*a*) in bow-legs, where the bowing is confined to tibiæ, a long inner bar of steel extending from a point an inch above the condyle to a free joint at internal malleolus, to which is attached the foot-plate, the outer corresponding bar extending from tuberosity to external malleolus supporting outer portion of foot-plate. Inside of the outer bar and attached firmly to nearly the length of the inner bar is a cuff-shaped leather piece, divided in center, and perforated with eyelets which grasps two-thirds of the calf, and, when properly laced, makes uniform, steady pressure on deformity; and as this deformity decreases and the bones approximate more

nearly the inner bar, the old eyelets are cut away and new ones inserted, or, in many instances, new leather pieces are adjusted. The heel is held in the moulded leather cup by a cross-strap which is a triangular chamois piece, to which are attached bits of tape.

(*b*) Very nearly the opposite of this brace just described is employed in the correction of similiar cases of knock-knee, except that for years we have made the outer bar extend from the trochanter, where a firm pad is held in place by a semi or, divided belt, to the bottom of the shoe, to which a heel a quarter of an inch thick is added. No joint at the knee or ankle, terminating in a right-angled circular stem pointing inward. This stem fits in a hole previously drilled in the heel, the leather cuff exerting constant pressure from within to outer bar over lower one-third femur knee-joint and upper one-third calf.

The more severe and those which come to operation, in many instances require protective apparatus only a short time, and not a few walk easily on the removal of plaster-of-Paris dressings. The method employed at the hospital, since operations were inaugurated, is the one I have done with very little if any modification—the *subcutaneous osteotomy*.

The legs are prepared as for any surgical operation. An assistant grasps firmly the thigh, the knee is held in semiflexion over a sandbag for supracondylar osteotomy, and on either side of the site of operation, for tibial osteotomy in bow-leg; the small osteotome is then forcibly pushed through skin and soft parts to the bone parallel with long axis; the osteotome, then at apex of greatest deformity, placed transversely, and with a mallet is driven into the ivory-like cortex of the bone. By gradually manipulating the osteotome, a line semicircular is cut down to the medullary canal, where less resistance is appreciable; withdraw gently the osteotome, and place a pad of gauze over the small opening made by the insertion of the instrument, the partial or incomplete fracture is in many cases easily effected.

This varies, however, according to the character of the bone, complete fracture being often done. The legs are then held carefully by an assistant or the operator; the wound, if oozing is marked, is sutured (single catgut sutures), dressed surgically, and put up in position of over-correction in plaster-of-Paris, in nearly all instances encircling and hugging the pelvis snugly.

CASE.	NAME AND AGE.	DIAGNOSIS.	CONDITION ON ADMISSION.	OPERATION.	RESULTS
	Female, 6 years.	Bow-Legs	General condition good. Marked outward bowing of legs; also marked anterior curvature of tibiæ, deformity mostly in lower quarter. (See Tracing.)	Osteotomy of tibiæ at point of greatest curvature. Normal fracture of fibula and tenotomy of tendo Achilles. Tissues stretched thoroughly to prevent over-lapping of the end of bones. P. P. above knee, and limb put up in corrected position. Tenotomy also of right side.	Four weeks later P. P. removed, bony union firm. Bow-legs entirely disappeared and corrected. Tracing shows slight K. K. in femora. (See Tracing.) Patient goes about without apparatus.
II	Female, 42 years.	Bow-Legs. (Bilateral.)	General condition fair. Patient shows evidences of former rickets. Deformity most marked below knees.	September 10. Subcutaneous osteotomy of both tibiæ, and correction of deformity without complete fracture. P. P. applied, limbs in corrected position.	October 7. P. P. removed to-day. Legs are absolutely straight. Bony union firm. There is some laxity of ligaments at knee-joint this existed on admission. Patient going about without apparatus.
III	Male, 4 years	Bow-Legs	General condition fair. Marked evidences of rickets. Legs bowed in such position that feet are approximated. Knees about 1½ inches apart.	Subcutaneous Osteotomy of both tibiæ. P. P. applied in over-correction. Wound closed with one catgut suture.	P. P. removed. Deformity entirely corrected. No apparatus.
IV.	Male, 4 years.	Bow-Legs. (Double.)	General condition fair. Evidences moderate. Rickets. Bow-legs very marked, with greatest deformity at knees, at upper extremity of tibia	September 2 Double osteotomy of tibiæ Incision closed, catgut, limbs put in over-correction, and P. P. applied	September 21. P. P. removed. Bony union firm. Deformity corrected and in good condition
V.	Male, 4 years.	Bow-Legs. (Double.)	Patient shows evidences of moderate rickets Bow-legs very marked. Separation at knees 2½ inches; vertical 11¼, greatest deformity above ankle; child walks on outer border of feet. No spinal deformity.	August 27. Subcutaneous osteotomy lower third, both tibiæ Limbs placed in position over-correction and P. P. applied.	September 26. P. P. removed There was some slight internal rotation and outward bowing in lower one-half tibia, also slight anterior curvature. These deformities over-corrected by secondary osteotomies and placed in P. P., which patient is still wearing (See Patient.)
VI	Female, 4 years.	Bow-Legs.	General condition good; shows evidences of rickets. Bow-legs very marked, with greatest deformity below knee-joint.	August 2. Subcutaneous osteotomy both tibiæ. Incision closed with catgut suture placed in over-correction, and P. P. spica applied.	August 20. P. P. removed. Deformity is corrected. P. P. reapplied until braces are ready October 3, wearing braces and walks well.
VII	Male, 6½ years	Bow-Legs.	General condition good; walks with marked limp There was marked outward bowing of left lower extremity. Most marked in upper one-third leg Marked lateral inclination to left side in standing. Has used braces and had osteotomy. Deformity is principally in left leg. Ra.—21¾. La.—17¾.	August 20 Subcutaneous osteotomy 1½ to 2 inches above external condyle, higher than usual on account of great thickening. Radiograph shows bones much thicker than normal on each side knee-joint, and ossification was irregular Femur, soft, difficult to fracture. Decided curvature of tibia remained, and it was partially divided subcutaneously near lower third and deformity corrected without making complete fracture. Long P. P. spica applied, with deformity over-corrected.	September 28. P. P. S removed. Bony union firm Measured for leg support stiff at knee free at ankle and this to be attached to 3-inch high shoe to overcome shortening.
VIII.	Female, 10 years.	Femoral Bow-Legs.	Condition fair Bowing of femurs, and besides deformity, as shown by tracing, there is marked anterior curvature of femur Right limb is in flexion, and patella falls in space between condyles. Shaft of femur is rotated inward.	Supracondylar osteotomy from inside and limbs put up in double spica, and in corrected position, spica short, just over pelvis.	September 10. P. P. S removed. Union firm. Deformity corrected. To remain in bed few days September 28. Patient up to-day, looks well. No apparatus.

ASE.	NAME AND AGE.	DIAGNOSIS	CONDITION ON ADMISSION.	OPERATION.	RESULTS.
IX	Female, 4 years.	K K.	General condition good; evidences of rickets; marked K K and anterior curvature of tibiæ	August 6, 1901. Double subcutaneous supracondylar osteotomy. Patient put in double P. P. spica, limbs in over-correction	August 22 P. P. S. removed; deformity corrected Firm bony union at point of fracture. Two days later the anterior curvature was corrected by subcutaneous osteotomy of tibiæ and division of tendo Achilles Deformity fully corrected. No apparatus.
X.	Male, 5 years.	K. K. (Double.) Congenital.	Condition fair; evidences of rickets, anterior curvature of both tibiæ, and slight rotary lateral curvature with convexity to right. Marked flat feet	October 1 Supracondylar osteotomy, left femur limb in corrected position in P P S. On right side, osteotomy of tibiæ and correction anterior curvature P P. applied.	(See Patient.) Patient in R & C. Hospital. Dressing now removed.
XI	Male, 10 years	Left K. K. and failure of development.	K. K. very marked. Deformity in femur principally. Well-marked limitation of dorsal flexion at ankle due to original equinus at ankle. Left femur 12½ to outer condyle; 2-inches shortening evidently in femur.	August 13. Subcutaneous supracondylar osteotomy from outer side. Tenotomy of tendo Achilles. P. P. applied with deformity of limb over corrected, and foot at angle 90°	September 18. Deformity corrected, union firm. Dorsal flexion normal. Patient now walking inward To have left shoe raised 2 inches. No apparatus
XII.	Female, 4½ years	K. K.	Child in fair condition, but undersize. There is marked rachitis, with deformity equally marked between tibiæ.	Double supracondylar osteotomy from outer side. Wounds closed with catgut. Double P P S applied, and limbs put up in bow-leg position.	Spica removed for cleanliness and reapplied on August 29, the spica again removed Union firm Deformity corrected, to have brace.
XIII.	Male, 8 years.	K. K	Marked rachitis on admission On right side, well marked bow-leg. Deformity confined to tibiæ, which is twisted inward	August 13. Left supracondylar osteotomy and right osteotomy of tibiæ Limb in over-correction. P. P S applied	September 14 P P removed. Deformity corrected Union firm. Right further corrected, and P P below knee and including foot
XIV	Male, 4 years.	K. K.	General condition good Marked K K Deformity being greatest in tibia Old scars of previous osteotomy knees hyperextended.	August 13. Cuneiform osteotomy upper one-third both tibiæ, inner side. Deformity corrected. Periosteum and skin closed with catgut	P P removed. Marked recurvature still persists in part, due to backward bowing of tibia
XV.	Female, 4 years.	K. K. (Double.)	Child undersize. Marked rachitis on right side K. K., very marked, on left side K.K., slight	July 23. Double, subcutaneous supracondylar osteotomy. Bones soft, fracture not complete P P S (double) applied; limbs in position over-correction.	August 21 P. P removed; deformity corrected Union firm. There is slight outward bowing of tibia. Measured for K. K. braces, now being worn.
XVI	Male, 4½ years.	K. K. (Double.)	Evidences, marked rickets Extreme K. K. and deformity of tibia Marked anterior curvature of tibiæ	August 6. Double subcutaneous osteotomy. Limbs placed in bow-leg position, deformity corrected Double P. P. S. applied October 1. Osteotomy of both tibiæ and anterior curvature corrected. P. P. applied as usual	Solid union Deformity corrected Child now in hospital for operation on October 1.
XVII	Female, 5 years.	K. K. (Double.)	General condition good Marked K. K., both sides.	Double supracondylar osteotomy, legs put in corrected position. P. P S. applied.	Now in R & C
XVIII	Female, 6 years.	K. K.	General condition good. In addition to the deformity, as in tracing, there was genu recurvature and anterior bowing of femur. Both trochanters are above Nealta line. Bones bend under pressure. Child also has rotary lateral curvature and bilateral cubitic varus. No incision teeth. Shape of head characteristic. Marked laxity of ligaments.	Supracondylar osteotomy on left side and cuneiform section of tibia on right side Incision closed with catgut suture dressed in usual way. Double P. P S. applied, with limbs in bow-leg position.	P. P. removed Bony union firm Still marked laxity in ligaments in knee-joint P P applied again, to be worn until braces are ready for fitting.
XIX	Male, 4 years.	Bow-Legs and anterior curvature of tibia.	General condition fair; shows evidences of marked rickets, standing in rachitic attitude, hip rotated inward. La. —1⅜. Ra.—1⅜.	Osteotomy of both tibiæ; limbs placed in corrected position, and P P. applied. Limbs were over-corrected and later P P was removed and reapplied in slight over-correction	Union firm. Deformity corrected. Child walking about in good condition Ra.—14½. La.—14½. Total increase, ½ inch.
XX	Male, 4 years.	Bow-Legs.	General good condition; stands in typical bow-leg attitude. Deformity most marked at knee, and is equally divided between lower end of femur and upper end of tibia.	Double subcutaneous osteotomy of tibia and deformity corrected without complete fracture P. P applied in over-correction.	Deformity of tibia is fully corrected There is a slight outward curve of femur, with malleoli approximated, condyles separated, ½-inch Patient measured for bow-leg braces.
XXI.	Female, 15 years.	Deformity after excision at knee-joint	Patient was operated on when about ten years old improved; but about two years ago, limb began to contract at sight of former excision, knee flexed at 90°; a. g. e. 90°, a. q f 90°; Rth =18; Lth.=20; Rk = 13; Lk.=14½; Rc.=11—Lc.=11½. Ra.—14½ (?); La.—13 inches. There is subluxation and ankylosis at knee. No patella	May 27. Supracondylar osteotomy and leg straightened to 125° P. P. applied, July 8, P P removed, good union, leg stretched again to 145°, August 29, again stretched, a longitudinal incision made over tubercle of tibia, also incision of periosteum, cuneiform osteology and leg almost in complete extension. K. K. deformity corrected. P. P to thigh and including foot.	October 7 General condition excellent. Limb in good shape and wounds all closed A. G E 160° Patient walks well and will wear long spring brace.

At the expiration of two weeks or perhaps three, depending on cleanliness and habits of child, the dressing is cut down, position of limbs observed, and still further over-corrected, as in some instances it is necessary, and the legs again put up in plaster-of-Paris, lighter this time, and measurements taken for apparatus. This is worn after the discontinuation of plaster-of-Paris, to prevent relapse. Cases of moderate degree, and those which are active and allowed up and about the ward, soon after operation, do remarkably well, if made to wear protective or corrective apparatus at night.

A METHOD OF PROTECTING THE PERINEUM DURING LABOR.

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PROMPTED by the satisfaction derived from the practice of this method, I have, much against my usual inclinations in such matters, decided to offer it as something new in the field of this much-written-about subject. Some ten years since, while acting as house physician to the Sloane Hospital, I became so dissatisfied with all the textbook methods of helping the perineum through the ordeal of labor that I made a very close study of my cases of rupture, both as to cause and prevention, with the result that where in the beginning I had almost begun to think that a certain percentage of labor cases would tear in spite of all treatment, in the end I reached the conclusion that such a result could almost always be prevented. Since using my method, I have positively not seen a tear that even the most enthusiastic surgeon could think necessary to suture, nor have my patients found it necessary to seek the aid of a gynecologist to suture the body later on. I know this is a pretty strong statement, but I am willing to stand by it. I will, however, state that I have never seen a persistent occipito-posterior presentation, but I have used my method successfully in several face cases. In breech cases the method is of no use.

Before I present my method, I would like to say a few words as to what I consider the cause of rupture in the vast majority of cases. I do not think I ever saw a single rupture due to the fact that the head was too large to pass through the vulva under any circumstances, though I suppose such a disproportion may occur with monstrosities, or in cases of maternal pelvic contraction; but in the latter class of cases the contraction would probably prevent the head ever reaching, much less tearing, the perineum.

On the other hand, I have seen many a tear occur, and when I examined the child's cranial development, I was mortified to find all its measurements moderate, while the mother's vagina was seemingly perfectly normal in size. In these last cases, however, the labor was characterized by the so-called "stormy pains," as a rule. These storm cases are really they key to my method, for from them I learned the cause of the rupture. These pains are nothing more than undue muscular contractions. No time is allowed for accommodation on the part of the fetal head, or stretching on the part of the maternal soft parts. The powerful abdominal muscles force the head down, with the help of the uterine contractions. At the same time the auxiliaries, in the shape of the pelvic and perineal muscles, pull up the vagina and perineal body over it, until the perineum becomes as thin as paper and as tense as a "fiddle-string." Suppose we wished to produce a rupture of the parts, could we desire a more ideal condition? Now, another contraction comes on, and often I have seen the perineum melt away like wet blotting-paper, and the child's head born, without time being allowed for any extension at all. Rupture of the body may also occur in cases with very moderate pains, but here, also, as in the stormy cases, I believe the chief cause lies with the muscular action.

Granting my theory to be correct, it would seem that an ideal labor would be one without "pains;" but as I hardly expected to accomplish this happy combination, I had to look about for the nearest substitute. My forceps cases gave me my first hint. One invariable rule with those instruments was to give chloroform to full muscular relaxation, and then, with their help, bring the child's occiput well down under the pubic arch; then to extend the head only far enough to allow the fingers placed behind the mother's arms, to control it by pressure on the forehead. At this point the forceps was removed, and the labor completed by upward pressure on the child's forehead. In these cases muscular action was stopped, and instead of the perineum being tense, the chloroform relaxed it so that I have often seen one that a moment before looked impossible of salvation, now really wrinkle as the head passed out. It was a very rare occurrence for a tear to be found after our forceps; but here again I could hardly advocate the use of forceps in every labor case with the idea of saving perineum thereby; but, on the other hand, it seemed to me that it would be a good idea to let Nature bring the head down to the point where we had removed the forceps blades, and then at once stop muscular action with chloroform and complete the labor by manual extension. I tried this method, and both in hospital and private practice have been more than satisfied with the result, for not only does it help to save the perineum, but it also renders the woman unconscious of that climax of labor suffering—the passage of the head through the vulvar orifice; and this last point alone is enough to recommend its use.

Now as to the method itself. It is absolutely necessary to have some one, nurse, mother, or husband, who has some nerve, to act as assistant, and take charge of the anæsthetic. Any one will do, as the patient will only take enough to relax her, and then the chloroform can be stopped in a moment or two more. Explain to your assistant that when you give the word the woman must get enough chloroform to make her go to sleep, and show him or her how much of the drug to drop on the cone. Always see that your patient's bowels are empty, for your own comfort, as well as to prevent a loaded bowel keeping the head back. As the second stage comes on give the patient a whiff or so of chloroform at each pain, both to ease her suffering and to get both patient and assistants accustomed to the use of the anæsthetic. Now, as the head comes down enough to separate the vulva, give the chloroform to your assistant, and with your fingers behind the woman's arms watch the child's head. Now, the occiput being well hooked under the pubic arch, a pain brings the extending head so far forward that the fingers feel the forehead slip under their control. At once give the word for full chloroform, and with the help of your left fingers on the child's occiput, hold the head still until relaxation takes place; then slowly shell the head out by pressure on the forehead. Take your time and do not go by jerks, but allow the perineum to stretch as much as possible. As soon as the head is out, throw your chloroform out of the room, and by the time you have seen to the child's eyes and mouth, the woman will be conscious, though she will not want to talk, but would rather sleep.

A very prominent New York physician once said to me that ruptured perinei, directly or indirectly, gave the gynecologists two-thirds of their patients. Having this in view, I offer my method for what it is worth, and ask for it only a fair trial from my fellow obstetricians, and I am sure they will save at least 95 per cent. of their cases from a tear.

Density of Population.—The density of population in foreign countries has, says the *Scientific American*, recently been computed. Great Britain takes the lead with 132 inhabitants per square kilometer, which is equal to 0.3861 square mile; then comes Japan, 114.4; Italy, 106.6; the German Empire, 104.2; then comes Austria, 87; Hungary, 59.6; France, 72.2; Spain, 35.9; the United States, 8.4; Russia, 5.9.

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RECIPROCITY OF LICENSURE.

THE great interest manifested by the profession in the relative standards of qualifications for the medical degree, and of the interstate reciprocity of different examining boards, has induced the MEDICAL RECORD to present to its readers a complete official account of the educational requirements of each State in reference to the points at issue. The British Provinces are for obvious reasons of comparison included in this list.

It is gratifying to note that in the majority of instances the laws governing the practice of medicine in the different commonwealths are reasonably stringent and well calculated to fulfill their aims. The exceptions to this rule are surprisingly few in number, and while the standard of fitness is necessarily variable as defined by different laws, it is nevertheless sufficiently high to hold wholesale quackery in effectual check.

In view of the strong feeling in favor of reciprocity of licensure, it may be a matter of surprise to learn of the number of States practically indorsing such a measure. Alabama, California, Delaware, the District of Columbia, Illinois, Louisiana, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Texas, and Wisconsin have fallen into line, and others are in a fair way to follow. The whole question hinges on equality of qualification, and the recognition of an absolute standard of fitness. In this regard there must be a proper agreement among the States themselves, as their independent sovereignty does not admit of a National law which might place each on a common level. Good progress is being made, however, toward a proper understanding with all parties concerned. The movement toward the required end must be largely evolutionary, following free discussion, and much missionary work.

Practically speaking, there is no question as to the desirability of universal reciprocity of licensure on the broad grounds on which it should be based. In some quarters there is a disposition to stickle for special forms, which are immaterial as affecting final results. The larger States have simple enough regulations to meet all requirements. Their laws are neither complicated, cumbersome, nor impracticable. The whole question of uniformity of requirements rests upon very simple propositions. Four years of study in a reputable medical college, a medical degree, and afterward an independent State examination for license is all that any one can ask. When such requirements are met in one State, they should not be exacted in another. There is a justice and equity in the matter that cannot be gainsaid. From a legal point of view, a man who has once proved his qualifications should be always qualified.

The mere fact that a physician who has practised for years in one State, and moving to another, is unable to pass a new licensing board, by no means proves that he is an ignoramus. He is often rusty on elementary subjects, and may thus be disqualified on a purely technical or arbitrary ruling. In this respect, what is mere child's play for the fresh graduate, is a veritable hardship to the older man. And yet this is what a new State examination means to many a capable practitioner. It is obviously unjust that he should be compelled to submit to them.

THE EVOLUTION OF SPECIALISM.

IN the good old times, the written and unwritten ethics of professional relations made it distinctly understood with all parties concerned that when once a patient put himself under the care of a physician, the latter necessarily owned him body and soul. It became, then, a matter of as much importance to the sick one to choose his medical adviser once and for all time as to embrace an article of faith in his religion. The family physician, when the stray sheep entered his fold became responsible for his safe-keeping until the time when the absolute and inevitable decree of nature made longer possession impossible.

Under ordinary circumstances, the advantages to both physician and patient were obvious enough in bringing them in constant and confidential relations with each other, and in enabling each to discharge those mutual obligations of trustfulness which should properly exist between them. Thus, the old family physician was as much the general adviser on all matters medical as was the priest or clergyman on matters spiritual.

It would be hard to prove, even in these days of advanced specialism, that the patient was much worse off then than now, if the actual statistics of general mortality are seriously taken into account. There was one element of safety in the treatment by the old-fashioned method, and that consisted in the practice of a forced and judicious conservatism, which was not so prone to interfere with nature's method of cure in the commoner diseases, and which thus offset some of the failures in the rarer ones. The family doctor became thus a good all-round man for ordinary emergencies. He could operate for hernia, tracheotomize a strangling infant, set a fracture, and perform version as effectively as he could blister a pleurisy, treat typhoid, venesect for pneumonia, or "physick" for dysentery. Hence he was the only one consulted when sickness visited his district.

Of course, some of his patients died for want of special skill, which he did not possess. On the other hand, no one was apt to suffer from overtreatment.

The possession of too much skill is in itself an element of danger. The deft operator is apt to use the knife too frequently. Any one who follows the discussion concerning the new operative procedures of the day need not be convinced of this fact. While some patients are saved, how many are lost as the result of absolutism in extremes? In the evolution of a new idea—a so-called improvement on nature—the scales are constantly shifting with the counter weights which are used. What physician or sur-

geon long in practice has not gone through countless epidemics of remedies and operative methods that have in the end made him immune against any undue enthusiasm? We have had notable exceptions to the rule, it is true; but the rule exists nevertheless. The mistakes in attempting to evolve the principle have equaled the triumphs of its establishment. The ovaries are not extirpated as of old, and even the appendix is sometimes left in its place to take its chances against the knife of the eager theorist. The everyday practitioner is oftentimes justly constrained, while reading the claims of rival disputants, to thank his stars that he can take the middle ground, and not be sorely tempted to be fashionably progressive and go beyond the range of his common sense. From this point of view, his function as general adviser to his clients is magnified rather than minified, and his hold on the confidence of his patient becomes correspondingly confirmed and safely impartial. If he makes himself worthy of such trust, he deserves to maintain his old-time function. His only interest, then, is to advise as to the best course, and to shift his responsibility only in such cases as circumstances may warrant. He thus becomes the true and rightful conservative element in deciding between inordinate zeal in one direction and absolute safety in another.

The claim is made by the general practitioner that specialism is robbing him of his business. This is certainly true to some extent, and is one of the inevitable results of the survival of the fittest. Taking into account the prevalent practices of patients to consult specialists at first hand and decide for themselves their needs in given cases, there are many chances of making wrong selections.

The ordinary expert is usually a man of one idea, a hobbyist by force of habit and by virtue of his education. He is not inclined to look beyond the special sphere of his work. As a gynecologist, his first thought is of the uterus as the pivotal point of his real interest in the patient. So with the throat man, the neurologist, the ophthalmologist, and the laparotomist. He need not look long in the direction of his favorite trend without finding something important to treat. Thus the part becomes greater than the whole, and so long as given and desirable symptoms exist, the patient is his, and the general practitioner looks on from the outside. When mere business is the consideration, the specialist is tempted to hold on so long as he can, and to force the refinements of his skill into unnecessary directions.

The question with the general practitioner is where such practices are likely to end. Obviously, the line must be drawn somewhere between the greed of the expert and the rights and privileges of the ordinary all-round man. In the treatment of general diseases, the family physician should have some voice in deciding upon cases actually requiring the skill of the specialist. He should certainly be better qualified to do so than the patient himself, and the recognition of relative rights in this respect would do much to combat the spirit of apparent antagonism between both classes of practitioners. If it is conceded that in cases requiring special operations the expert should have full temporary charge of the patient; it should likewise be granted that the general physician should not be blamed for treating the minor ailments of diseased organs when they present themselves in his ordinary line of work. There is ample room and abundant opportunity for both general practitioner and specialist, only the line has not yet been definitely drawn between the two.

CANCER AND SALT.

Dr. James Braithwaite has published in the *Lancet*, November 30, an article upon cancer, in which he puts forward the theory that there are four factors in the causation of the disease, excess of salt in food being the most prominent. Salt, he holds, is an essential factor, but requires one or probably two of the others to originate the malady.

The other factors are an overnourished condition of the system proceeding from the consumption of too much food, and especially of meat, and the impure condition of the body, resulting from the non-oxidation of the food. The fourth factor is local irritation or stimulation.

Dr. Braithwaite, who is on the staff of the Leeds General Infirmary, was struck by the almost complete immunity of the Jewesses, who attended the gynecological department of that institution, to cancer, there having been but one case in a period of ten years. Dr. Tunstall, late Medical Officer to Jewish Hospital for Incurables, gives corroborative evidence as to the rarity of cancer among Jews.

The argument is therefore made that this apparent immunity is either due to race or diet, the latter he claims as the more probable cause.

The Jews forswear bacon and ham; and as it has been shown that the pig is the only domestic animal never attacked by cancer, by the process of elimination, he concludes, it must be the salt and the flesh of the animal that are at fault. The Jews also eat less butcher's meat than do the followers of most other religions.

That diet has much to do with the incidence of cancer is a belief constantly gaining ground, and there can be no doubt that a large quantity of salt is consumed by civilized people; but the contention of Dr. Braithwaite, that where salt is absent, cancer is absent, appears quite untenable, if not absurd.

TICK-FEVER AND INOCULATION.

The analogy between the disease of cattle variously known as "tick-fever," "red water," "Texas fever," and the malarial fevers of man is at the present time a source of much interest.

The Americans, Theobald Smith and Kilbourne, were the first to describe this disease, and to point out that it has for its essential cause, as in malaria, a microorganism, in fact, it has been greatly due to the investigations of these two men, that the connection between the mosquito and malaria and yellow fever was first suggested.

The English *Medical Review of Reviews*, November, calls attention to an article which appeared in the Australian *Medical Gazette*, giving an account of an important experimental inquiry into tick-fever, made by Dr. Frank Tidswell, Principal Assistant Medical Officer to the Government of New South Wales. Tick-fever occurs in Australia, Texas, Jamaica, the Argentine Republic, South Africa, Roumania, Java, Finland, Sardinia, Italy. Turkey, France,

Algeria, and Tunis. It is known to affect only horned cattle, and is not directly communicated from beast to beast, but under natural conditions is only acquired by an animal as a consequence of infestation by cattle ticks.

The important consequence of tick-infestation of cattle is tick-fever. It begins from 10 to 20 days after exposure, and lasts from 8 to 15 days, during which the temperature is between 103° and 107° F.

Dr. Tidswell defines the microorganism of tick-fever as an Apiosma (Pyrosoma) bigeminum. In the bovine host it is found in the red blood corpuscles, is usually in the form of a double (bigeminate) pear, or flame-shaped organism, sometimes as a more or less rounded body. The disease is really an acute infective anæmia, termed in Jamaica ixodic anæmia.

In America, it was first observed that native cattle had acquired immunity, and subsequent experiment showed that this is the case after undergoing an attack of tick-fever. Hence arose the practice of inoculating the blood of immune cattle, in the hope that the mild illness so produced would protect against the serious consequences of exposure to ticks.

Dr. Edington, Director of the Bacteriological Institute, Cape Colony, arrived at the following conclusions. (1) That the blood of animals, themselves healthy, from a red-water area is dangerous, if inoculated into an animal which suffers coincidentally from another disease. (2) That the blood of animals suffering from mild or modified red water may be safely used to inoculate a healthy animal subcutaneously, but is dangerous when injected into a vein. (3) That the subcutaneous inoculation of mild or modified red-water blood conveys a mild form of the disease, and since the blood of such an animal is virulent when injected into the vein of another animal, it is safely to be inferred that the animal suffering from the mild form becomes more or less immunized or "salted."

The result of the investigations of all observers, therefore, shows that inoculation confers a very considerable degree of protection upon healthy animals imported into a tick-district, and the deductions to be drawn therefrom may be of use when the question of malaria and yellow fever is considered from the standpoint of inoculation.

The Streets of New York.

Never within recent years have the streets of the city been in such a filthy condition as now. Building operations are in progress in every part of the metropolis of America, the subway construction has played havoc with many of the principal thoroughfares, the contractors of both buildings and subway evince a regrettable disinclination to remove débris or dirt caused by their work, nay, it would almost seem as if they took a pride in exhibiting their contempt for the public by littering the streets and sidewalks, in some instances, to an incredible extent.

Unfortunately, however, these are not all the inconveniences to which the inhabitants of New York are compelled to submit. For reasons, into which it is not within our province to delve, the street-cleaning commissioner seems to have practically suspended the work of his brigade during the past two or three weeks. The consequences have been an accumulation of filth in some of the streets which reminds one of the Cuban towns before they came under American administration.

The death rate of New York is greater than it should be, although whether this increased mortality is due to the laxness of the street-cleaning methods is not easy to prove. Probably so long as winter lasts the danger to health of unclean streets will not manifest itself conspicuously. But when the grasp of frost unloosens the microbes of disease lurking in the unsavory heaps of refuse, the mortality lists will be swelled accordingly.

The late Colonel Waring made New York a model of cleanliness, the policy of the gentleman who now holds the position of street commissioner would seem to be exactly to the contrary.

How to Increase the Library of the Academy.

The Committee on Library in their report to the New York State Medical Association make known to all save a comparative few of the profession the existence of a large collection of useful books which are hidden away in our midst as truly as though buried.

In lower Madison Avenue, once the neighborhood of the fashionables, in the old house left for purposes of science as a memorial to Dr. Valentine Mott, who died the closing year of our Civil War, are to be found upward of 10,000 bound volumes, besides catalogued and uncatalogued pamphlets. The shelves entirely filled, over 1,200 volumes are packed away for want of space.

This collection is made up of Dr. Mott's own valuable medical library, to which are added those of Dr. Bolton and Dr. Isaac Wood, with later additions from various sources.

One of the many functions of the Academy of Medicine in furthering the welfare of the profession is to afford ample library privileges. By degrees this institution has developed, by purchase and gift, a library of its kind, which, in size and medical value, is second to none in the United States.

It seems to us that it would be entirely legitimate for the Mott collection to be added to the library of the Academy. We would therefore advise the Academy to look into this matter, and take such steps as become necessary for the acquisition of the now buried treasures in the memorial building.

Cycling and Its Abuse.

The curse of cycling, as of course with many other modes of exercise, is the tendency to carry it to excess. A striking and pitiable example of this human failing has been recently given in Madison Square Garden, where, for a week, a number of men toiled round and round that hall for hours at a stretch, making a spectacle of themselves, and like the gladiators of old, providing the inhabitants of New York with a Roman holiday.

The brutalizing effect of contests of this nature was recognized two years ago, and laws were passed which seemed to minimize the severity of long-distance races.

Notwithstanding this legislation, the men who raced the past week appear to have suffered from the strain as much, if not more, as did the men who pedaled for the same period two years ago. Utterly exhausted, worn out in body and mind, several were forced to retire many hours before the stipulated time for the contest to end.

Those who stayed to the finish were kept going by stimulants and drugs, which imparted to them sufficient fictitious strength to endure through their appointed task.

Needless to say that such tests of endurance are useless, foolish, and even criminal. No good object is attained by bicycle riding of this description, and it tends to bring the exercise into disrepute. Some of the men who played tricks with their constitutions in

Madison Square Garden will suffer from the effects of their foolishness for years, perhaps for life. The heart is almost certain to be affected injuriously, and the strain put upon the nervous system is more than likely to sap the vitality of any but the strongest constitution. Medical journals everywhere should protest against bicycle riding—in itself a healthy exercise—being thus so grossly abused.

CONVEYANCE OF WOUNDED IN NAVAL ACTIONS.

The conveyance of the wounded in battles at sea between ships of the modern type is a problem that awaits a successful solution. Many attempts have been made to devise an apparatus which will meet the difficulties of the situation, but with no complete success.

Fleet-Surgeon Gilbert Kirker of the British navy read a paper at the last meeting of the British Medical Association in which he described a contrivance of his invention, and which he thinks is better than any now in use.

In the *Journal of the Association of Military Surgeons of the United States*, Dr. Kirker's paper is given with illustrations of his contrivance.

Dr. Kirker says that "an ambulance to be suitable for use on board ship must satisfy several conditions. It should be able to retain its occupant safely in all positions, from horizontal to perpendicular; it should be able to go into a hatchway by sliding down the ladder, or being lowered at any angle; it should be as short as possible in order to get easily round corners; and in confined spaces, where there is not room for two men to carry it, it should be transportable by one."

Dr. Kirker claims for his apparatus that it can be slung or suspended, carried as an ordinary stretcher, wheeled, barrow-fashion, on casters at the ends of the carrying handles which are hinged so as to fall back under either end of the cot to permit of its being trundled along the deck or passage ways, slid on its sleigh attachments down ladders or other inclines, or suspended from the head end perpendicularly; for lowering down narrow hatchways, etc., the occupant being secured in the cot by straps. Its weight is 35 pounds, its length 7 feet 2 inches when carried as a stretcher, and 6 feet 2 inches when the handles are folded back, its breadth is 21 inches at the head, 18 inches at the foot.

The contrivance of Fleet-Surgeon Kirker, which is a modification of M. Auffert's, in use in the French and Chilian navies, is undergoing official trial in the British navy.

Treatment and Management of Advanced Cases of Consumption.—Bernhard J. Zwar pleads for the open-air treatment, which, even if not curative, does certainly prolong the life of the patients, even of those apparently near death. The practice followed in his hospital is that with a maximum temperature of over 100° F., the patient is taken out into the open air in his bed, or is bedded on a lounge, while, with a temperature close on 100°, he is advised to rest on a lounge the greater part of the day. Patients able to get about are given carefully superintended, graduated exercise, which must stop short of fatigue. By the out-of-door treatment, cough is lessened, and nausea and vomiting rapidly improve and disappear. Morphine should be used as little as possible. Open-air patients usually sleep well, and have few digestive disturbances. A useful inhalation is one containing menthol and eucalyptol, of each 1 drachm, to 2 ounces of rectified spirit, and a teaspoonful of this added to a pint of water at 150° F. Carbolic acid, creosote, or other bases can be added to this as special occasions demand. *Intercolonial Medical Journal of Australasia.*

News of the Week.

Mortality Among the Troops in the Philippines.—A report of deaths among the troops in the Philippine service during October shows fourteen from dysentery, one from non-specific diarrhœa, four from typhoid fever, two from malaria, four from Bright's disease, one from tuberculosis, one from tetanus, three from smallpox, two by drowning, three by suicide, seven from the result of wounds, one from alcoholism, and one from accidental bichloride-of-mercury poisoning.

Six Hundred Children a Year Burned to Death in London.—Dr. Westcott, Coroner of Hackney, a suburb of London, has drawn public attention to the terrible yearly record of 600 children burned to death in London. As a result of representations on this subject made by the Coroners' Society to the Home Secretary, the government is considering the advisability of legislation which would enable the coroners to fine and imprison persons who leave children alone with fire, or with material for making a fire, if children are thereby burned to death.—*The Sun.*

War Against Rats at Marseilles.—A dispatch in *The Sun* states that the port authorities of Marseilles have experimented with carbolic acid instead of sulphuric acid in exterminating rats in two ships. The results have been very effective and the carbolic acid has not damaged the cargoes. They hope it may be the means of prevention of plague infections which have hitherto been brought by rats.

A New Medical Society in Montreal.—A petition has been presented to the Quebec authorities for a charter for the Montreal Medico-Chirurgical Society.

Health Department of New York City.—Mayor Low has appointed Ernst J. Lederle Health Commissioner, with Dr. Herman M. Biggs as medical officer, having charge of the medical affairs of the board. Under the provisions of the new charter which takes effect on January 1, the Health Board will consist of the Health Commissioner, the Health Officer, and the Police Commissioner.

Extensive Skin Grafting.—A man was received at the Englewood, N. J., Hospital a few days ago who had been severely burned by an explosion of gas. The denuded surface was of such a great extent that skin grafting was necessitated. The man had served in the Spanish-American war, and his former companions in arms being appealed to, nineteen contributed of their skin for the operation.

New York Red Cross Hospital.—Dr. R. Coleman Kemp has been elected to the position of Attending Physician to Red Cross Hospital, to act in the special department of Experimental Medicine and Hydrotherapeutics for the ensuing fiscal year.

Legacy to the Metropolitan Hospital and Dispensary.—By the will of the late Dr. Henri Guilbault, the Metropolitan Hospital and Dispensary of New York, No. 248 East 82d Street, receives $3,000.

College of Physicians of Philadelphia. Section on General Medicine.—At a stated meeting held December 9, Dr. A. A. Eshner exhibited "A Case of Akromegaly." Dr. Jos. Sailer presented a communication entitled "Demonstration of Some Peculiar Bodies Found in the Peripheral Blood of a Case of Abdominal Tumor Resembling the Parasites of Cancer Described by Gaylord." The conclusion was expressed that these bodies are not parasitic, but in the nature of artefacts resulting from the manipulations to which preparations are subjected. Dr. David Riesman read a paper entitled "Skin

Eruptions in Malaria, with the Report of a Case of Urticaria." He pointed out the relatively frequent occurrence of herpes and urticaria, in conjunction with malaria, referring also to the occurrence of various other cutaneous exanthems in associating with malarial infection. Drs. Wm. M. Welch and Jay F. Schamberg read a paper entitled "A Study of the Initial Symptoms in One Hundred Cases of Smallpox." Attention was called to the frequency with which the disease in its early stages was mistaken for typhoid fever.

A New Kind of "Practitioner."—A woman was sued in a civil court here last week for $90 by a man who claimed the amount for medical services. The man, whose name is Julius A. Ward, calls himself a doctor on the strength of a degree of D.D. which he claims to possess. He also adds the letters M. S. and D. O. to his name in his business. The D. O. stands for diplomat of osteopathy, but the man says he is a somatopath. The definition of somatopathy, as given in the newspaper accounts of Ward's suit, is "the science which, by manipulating and desensitizing the patient, makes possible the correction of physical irregularities or omissions or diseases, due to maladjustments." The defence was that Ward was a quack in the first place, and in the second place, that the woman had agreed that in full exchange for his services to her she would introduce him to her many friends and acquaintances and induce them to patronize him.

Pathological Society of Philadelphia.—At a stated meeting held December 12, Dr. Geo. B. Wood exhibitde sections of "Lacunar Keratosis of the Tonsils" and of "Endothelioma from the Nasal Fossa." Dr. Wm. G. Spiller exhibited a specimen of "Compression of the Brain in a Case of Hyperostosis Cranii," one of "Compression of the Brain from Internal Hemorrhagic Pachymeningitis," and one of "Brain from a Case of Extreme Microcephaly." Dr. A. C. Croftan presented a communication detailing "Some Experiments on the Formation of Bile-pigments and Bile-acids." He showed that trypsin in the presence of hemoglobin and dextrose or other form of physiologic sugar gives rise to the production of the pigment and acids of the bile, and that this function does not belong peculiarly to the cells of the liver. It is the action of trypsin on the sugar in the blood that normally prevents hyperglycemia, and consequently glycosuria. Dr. David L. Edsall read a paper entitled "A Contribution Concerning the Excretion of Sulphur in the Urine," in which he related observations that led to the conclusion that no significance is to be attached to the amount of sulphur eliminated with the urine. Dr. Wm. M. L. Coplin exhibited a specimen of "Secondary Cancer of the Lung (Hematogenous Infection)." The lung was so densely infiltrated with small nodules as to present an appearance suggestive of tuberculosis. Drs. W. M. L. Coplin and D. H. Prince presented the following specimens: (1) Cancer Thrombus in a Branch of the Hepatic Vein, with Infiltration of the Wall; (2) Fatty Cirrhosis of the Liver of a Dog; (3) "Abscess (Chronic) of the Liver; Recrudescence Due to Secondary Infection(?); Thrombosis of the Hepatic Vein and Vena Cava; Extensive Necrosis of the Liver—Hemorrhagic Infarction(?)."

Philadelphia Pediatric Society.—At a stated meeting held December 10, Dr. James K. Young presented a child on whom he had operated for bowlegs by dividing the tibia on each side in its upper third and bending the fibula in position, after which a plaster dressing was applied. Dr S. McC. Hamill presented a case of chronic endocarditis with symptoms of nephritis in a colored child in which marked improvement in symptoms and physical signs followed upon rest in bed, good food, and the administration of small doses of digitalis. Dr. L. C. Peter presented a case of sporadic cretinism in a child seven years old that had been for three years under treatment with thyroid extract and had improved conspicuously. Dr. Peter presented also a case of tumor of the cerebellum in an undersized boy of fifteen with headache, projectile vomiting, impaired vision, atrophic changes in the optic discs, unsteady gait, and variable reflexes. Dr. J. K. Young presented a child three years old in the case of whom recovery had taken place from an attack of epiphysitis of the left femur after incision and drainage. Nominations were made for officers to serve for the ensuing year.

Philadelphia Hospital.—Dr. Geo. M. Boyd has been elected gynecologist to the Philadelphia Hospital, in succession to Dr. G. I. McKelway, previously resigned. The resignation of Dr. R. F. Sommerkamp as Assistant Physician in the Department for the Insane has been accepted. The members of the visiting staff have been re-elected for the year.

Obituary Notes.—Dr. Francis A. Utter died on December 10, at his home in this city. He became ill two days previously, while giving advice to a patient in his office. He was born in this city in 1840 and was graduated from New York University Medical College in 1865. He served as surgeon throughout the Civil War, since which time he had been the official surgeon of Lafayette Post 140. G. A. R.

Dr. William H. Johnson died at his home at Adamstown, Md., on December 13. He was born in 1827, and was graduated from the University of Maryland School of Medicine in 1849.

Dr. Lesslie M. Sweetnam of Toronto died of pyæmia at the Johns Hopkins Hospital, Baltimore, on December 11. Several weeks ago, while cleaning his hands after an operation in the hospital of the University of Toronto he received a small puncture in one of the fingers of his right hand from the nail brush he was using. Blood poisoning set in and he came to the Johns Hopkins Hospital for treatment. He was a graduate of the University of Toronto Faculty of Medicine in 1881. He was professor of clinical surgery in the University of Toronto and associate professor of surgery in the Ontario Medical College for Women. He was also surgeon to the Toronto General and to St. Michael's Hospitals. He was a Fellow of the British Gynecological Society, and a member of numerous local, provincial, and national medical societies.

Dr. J. G. Shoemaker died at Phœnixville, Pa., on December 14, at the age of thirty-six years. He was deputy inspector of the State Board of Health, County Medical Inspector, and one of the Physicians to the Phœnixville Hospital.

Dr. E. S. Leake died at Philadelphia on December 13, at the age of eighty years. He was a graduate of the Medical Department of the University of Pennsylvania.

Population of Great Britain.—According to the official quarterly returns, recently issued, the population of the United Kingdom, in the middle of 1901, is estimated at 41,544,145 persons; England and Wales, 32,617,001; Scotland, 4,483,774; and Ireland, 4,443,370.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING AND HOSPITALS—MEDICAL COUNCIL—PATHOLOGICAL SOCIETY—URINARY SURGERY—BERIBERI—FOOD REPORT—EMBALMING —SMALLPOX.

LONDON, November 29.

THE King has intimated his pleasure that the Prince of Wales' Hospital Fund, from January 1 next, shall be known as King Edward's Hospital Fund for London.

The General Medical Council is sitting—began the session on Tuesday, with the usual dilatation of an agenda paper by the president, concluding with an intimation that he would resign during the session, so as to make his term correspond with that of the period for which he was elected by Edinburgh University. As he has been re-elected for that body, he, no doubt, expects to be again chosen as president. Well, it will be a good precedent, and he is a good chairman, if rather too self-willed and too given to these introductory talks.

The election of direct representatives to the council is going on at the same time. The voting-papers have been posted, and must be returned by the 4th prox., but the poll will not be declared until the 10th prox. Certain formal matters were disposed of and the council sat *in camera* on judicial procedure and decisions. On Wednesday the case of sale of poisons by Scotch practitioners, through unqualified assistants, was pronounced to be "infamous in a professional respect." The degrees of Malta University were agreed to be such as to entitle them to be registered in the colonial list. The report as to Italian degrees was postponed to a later day.

After some discussion on the scientific institutions to be recognized, and indications of the difference between the council and the royal colleges, which may lead to further difficulties, this subject was also postponed by fourteen votes to six.

The council on Thursday was chiefly occupied with penal cases.

What is the difference between the Danysz rat bacillus and the Gaertner bacillus enteritidis? Dr. Klein cannot tell us, but he hesitates to think them identical on account of their different derivation. Both belong to the coli group. They are alike in morphological, cultural, and clumping characteristics, he said at the Pathological Society, where Professor McFadyean and Mr. Foulerton seemed inclined to regard them as identical.

At the same meeting, Professor McFadyean detailed the results of four experiments as to the immunization of cattle against the bacillus tuberculosis, and he agreed with a comment made on his communication by the president (Mr. Watson Cheyne) to the effect that we have no evidence that immunity can be produced in the human subject by tuberculin; its action was to set up inflammation at the sites of infection; if these were small, removal might take place.

In reply to a question, Dr. McFadyean said he did not consider mallein was curative in glanders. The disease was mild in horses, and they recovered from it when they were well kept, though those treated with large doses of mallein withstood large doses of glanders.

The Harveian lectures were this year delivered on the 7th, 14th, and 21st of this month, by Mr. Buckston Browne, who took for his subject, "Twenty-five Years' Experience of Urinary Surgery in England." He related some very interesting personal reminiscences, among which may be numbered his association with Sir Henry Thompson. At the end of 1874, Sir Henry invited him to become his assistant, and for fourteen years he worked as such, and since that period by himself, so he has made up his twenty-five years as a private practitioner of urinary surgery. With such an introduction to the specialty, and such an experience, he might well devote his lectures to what he has learned and what he believes in this branch of practice. At the bottom of this lies urinary fever, and with this be began.

The somewhat vague statements of the textbooks are very unsatisfactory, and may be contrasted with the lecturer's clear view and illustrations. He regards it at the outset as suppression of urine due to urethral shock, producing inhibition of the kidneys' action—more or less complete. He deduces the lesson to deal gently with the male urethra, and all will be well; use violence, and disaster will result. This lesson, no doubt, he learned from the first; for Sir H. Thompson has been the great propagandist of the principle of gentleness. It seems that not infrequently Thompson crushed a stone and washed it out at a single sitting, before Professor Bigelow, in 1878, laid that down as a principle of the first importance. Thus Thompson very nearly anticipated Bigelow, and perhaps would have done so altogether but for his respect to the male urethra, his fear of violence preventing him from making the plan his usual practice, though he constantly used Clover's apparatus for evacuating débris.

Clover's name has become so associated with anæsthesia that there are many who have never heard of that apparatus which he described in the *Lancet* in 1866. It is well, therefore, that Mr. B. Browne should have taken the opportunity of doing justice to his ingenuity and resource. He invented a number of things, and among them that apparatus which is the prototype of all subsequent evacuators, and in it lay the germ of modern lithotrity. It is curious, said the lecturer, to note how right Clover was in everything he pointed out from the very beginning, though he never operated for stone; and if he had, he would almost certainly have anticipated Bigelow by some twelve years; instead of that, he handed his apparatus to Sir H. Thompson and turned his attention to anæsthesia. Mr. Browne said sufficient acknowledgment had never been made to Clover, and he pointed out the many proofs that even Bigelow himself had to go back to the principles Clover had laid down.

There are three ways of removing a stone from the bladder: (1) Lithotomy; (2) Lithotrity, or crushing and washing out; (3) Washing out whole through a tube. It is the last to which Mr. Browne would apply the term litholapaxy, which merely means carrying away a stone. For Bigelow's operation, lithotrity is sufficient, as his method is the one to be always adopted. Lithotomy cannot be got rid of for some cases. It is the useful partner of the other methods, and Mr. Browne showed when it must be trusted.

On prostatic disease, Mr. Browne spoke more hopefully than of late has been common. He does not admit that in any of these cases a catheter cannot be passed. Naturally, therefore, he is opposed to serious operations, justified by that alleged impossibility. Catheter life is often comfortable and long, provided every care be exercised, and he has known many such persons go on well into the nineties. He has also known a patient, who had depended on a catheter for twelve months, completely recover his natural expulsive power. With this experience he has no good to say of castration or vasectomy, and he offered some grave cautions about prostatectomy. The lecturer holds that the prostate is only a sexual organ and exercises no urinary function whatever, although learned papers have been written on its urinary importance in health, the obvious fact being overlooked that women perform their urinary functions very well without it.

Equally conservative views were expressed on stricture, which largely occupied Mr. Browne in his third and concluding lecture on the 21st inst.

Dr. Patrick Manson delivered an inaugural address before the Epidemiological Society on the 15th inst., taking for subject that *pro tem.* malady, beriberi. If we take the leading feature to be multiple peripheral neuritis, the literature of beriberi shows that other conditions have been included in the name, and the descriptions of epidemics in different localities exhibit no little confusion in nomenclature. It is, therefore, interesting to have Dr. Manson's large experience epitomized. What he understands by beriberi is an epidemic or endemic multiple peripheral neuritis, distinguished from other forms of that condition by proneness to œdema, with implication of the cardiac neuro-muscular system; absence of trophic skin lesions of paresis of muscles of head and neck, of marked implication of the organs of sight, hearing, taste, and smell, and of the mental faculties. Having pointed out other features likely to be present, Dr. Manson mentioned others less constant, and here there seems abundant opportunity for confusion, and difficulty for those who have not had experience in the tropics. Even the lecturer was compelled constantly to reiterate the words, may be. Thus the intensity and duration of the disease may vary within wide limits. It *may be* of a trifling description and a week or two's duration; or it *may be* rapidly fatal, or last for months. The leading feature *may be* paresis and muscular atrophy, or it *may be* extreme anasarca, or it *may be* effusion into pericardium or pleuræ, or it *may be* œdema of the lungs, or it *may be* rapidly fatal paralysis of the right heart or of the diaphragm and respiratory muscles.

These examples of instructive repetitions of may be will suffice to impress the varying features of the disease, and the difficulties which beset the diagnosis, and a similar uncertainty is exhibited on other points in most of the records of the disease. Some of these were considered by Dr. Manson, in whose opinion the etiology and pathology are best referred to an intoxication produced by a toxin formed by a germ, the nidus of which is outside the human body. In this respect it is on all fours with alcoholism, the germ of which is the yeast plant, the nidus solutions of sugar, the toxin alcohol, the pathological effect—peripheral neu-

[illegible] we cannot say what the toxin is, what the germ [illegible] where this germ resides. It clings to people; it clings to places. Take the patient away from the circumstances under which he is being poisoned, and he begins to recover. Completing the parallel with alcoholism, keep the drunkard away from his liquor and he begins to amend.

The report of the committee on food has appeared. It recommends the prohibition of the use of formaline in any food or drink; of either preservatives or coloring matter in milk; the restriction to 0.25 per cent. of boric acid in [illegible] and to 0.5 per cent. in butter or margarine; the absolute prohibition of any other preservative in dairy produce, prohibition of all preservatives in food for infants and invalids; the restriction to 1 grain per pound and per pint of salicylic acid in food or drink; the prohibition of copper salts for greening peas, pickles, etc. Wine, says the committee, which cannot be kept without a preservative, should not be offered for sale. The law in France is stringent as to this.

At the examination hall of the two royal colleges a demonstration is being given of a mode of embalming by means of formaline vapor. The body is placed in a sort of coffin of copper, through which air, heavily laden with formalin, is drawn by an electric fan. The degree of preservation depends on the length of treatment. Three rays is enough to arrest decay for about a week, and no change is perceptible. A month's exposure to the formalin preserves for an indefinite period. There seem plenty of opportunities for the use of such an apparatus in the mortuaries, as well as on board vessels, to avoid burials at sea. The cost is from £80 to £120, but the working expense is small. It is estimated that a body may be embalmed for about 4s. 6d.

The deaths registered last week in the thirty-three great towns rose to a rate of 21.3 per 1,000, against 17.6, 19.7, and 19.4 in the three preceding weeks.

Smallpox still increases in London, from thirteen to sixteen new cases being reported daily. At midnight on Wednesday, 422 cases were under treatment, and thirteen notifications were added yesterday.

COPPER IN THE TREATMENT OF GLAUCOMA.

To the Editor of the Medical Record:

Sir: Permit me to reply to the letter of Dr. Williams which appeared in your issue of November 16th, touching upon the use of copper in trachoma. I conceive it to be Dr. Williams' privilege, but not necessarily his duty, to criticise a method of treatment which he considers pernicious, and I would have gladly accorded him the privilege. But I consider it equally my right, and hence in my reply I have combated the views he advanced, and condemned the treatment he advocated. He began the discussion, and I have replied. I do not, therefore, see that your correspondent has any cause for complaint. Honors, so far, are even.

Dr. Williams holds that atropine "should be used in every case of conjunctival or corneal affection in which there is photophobia, ciliary spasm, or even excess in lachrymation"; and he holds that these conditions are always present in trachoma with ulceration of the cornea. I hold that atropine is *not always* indicated in these conditions, and that the use of atropine in trachoma, with ulceration of the cornea, is not only not indicated at times, but seems to be contraindicated; and that the judicious, skillful use of copper alone, under these circumstances, is more beneficial than its use in conjunction with atropine. I consider your correspondent's assertion too glitteringly general. Concerning the case of mixed infection, which resulted in perforation of the cornea, to which reference has heretofore been made, I can only say that if I note his case correctly, the patient had trachoma with ulcers of the cornea. It was treated in New York without atropine, but with peroxide of hydrogen for the ulcers, and likewise copper was applied to the conjunctiva. After a month of this "infernal" treatment, he returned home, and his physician found that he was suffering from iritis, with occlusion of the pupil and ulcer of the cornea, which had perforated. I repeat, I recognize in this history an unfortunate case, which undoubtedly has had its parallel in the hands of many surgeons. I do not believe that the result was caused by the failure to use atropine and the "infernal" treatment he received in New York. I doubt if the use of atropine and the use of your correspondent's weak solutions of silver and copper would have altered the effect. It interested me to know that the operation for glaucoma, which supervened, was done by another surgeon than Dr. Williams; but it interests me still more to know that "the resulting V. 5/200 was not in any way attributable to the operation." He remarks further that he himself had supervision of the after-treatment. Does he mean to imply that the operation for glaucoma did not improve the vision at all, and that the low vision was due to the "infernal" treatment; or, does he consider the final result good, and that the V. 5/200 was due to his supervision of the after-treatment?

I am glad to have pleased your correspondent by reference to Hirschberg's view concerning the treatment of trachoma with 1-per-cent. solution of silver. He evidently considers Hirschberg's views in line with his own. But I would remind your correspondent that there is a long walk between ½ to 1/10 grain solution of nitrate of silver and a 1-per-cent. solution. Moreover, I do not think that many, if any, adherents, even of Hirschberg's views, can be found in New York, let alone those of your correspondent.

I was quite well aware of Dr. Williams' experience in New York, the instruction which he received, and the colleague with whom he associated. I was, therefore, all the more surprised at his views. But then, I ask no man to swear by the words of his master or his mates. I rather commend originality.

Your correspondent complains and accuses me of misrepresenting him before the public. I am willing to lay this matter before the same tribunal, and abide by their decision. In this connection he says: "I am rather pleased at Dr. Claiborne's astonishment at the cases detailed by me, which must have been profound, or he would not have taken the liberty of misrepresenting what I said. I did not say that the patient R. had been treated by 'six or eight eminent surgeons;' but that he had been treated by 'six or eight men more or less eminent.'" Now, in the name of reason, what is the difference between these expressions, Mr. Editor? If a man is "more eminent" or "less eminent" than another, he is at least *eminent*. The comparative involves the positive. He follows with this parenthetical sentence: ("I think that the gentleman was not treated in New York, or I should not have called attention to the correction.") I do not grasp the meaning of this apocryphal parenthesis. I plead "Not Guilty" to this specification.

Your correspondent continues: "Further, I did not say that I had cured this patient completely in three months, or in any other time; but that, under the treatment outlined above, he was immediately relieved and able in three weeks to return to his work, using the bichloride at home; in three months the eyes were practically well, and have remained so now twelve years."

Now, Mr. Editor, let us dissect this matter, and render justice. Your correspondent claims that he did not say that he cured this patient completely in three months or *any other time* (italics my own, J. H. C.); yet, by his own words, correctly quoted above, he says, the eyes were *practically well* in three months, and have remained so for twelve years, presumably up to the time of writing. If a case has got practically well in three months, and remained so for twelve years without recrudescence, I think it reasonable to pronounce it cured.

If, however, in any slight way I have rendered your correspondent injustice I hasten to express my regret, to disclaim any intention of so doing, and to leave my justification in the hands of the tribunal selected by your correspondent.

The emotion which I have heretofore admitted on reading his views finds its climax in the following quotation from his letter: "Dr. Claiborne will never see a cure of trachoma effected in any other way, whatever the treatment used." I would say here, in the interests of the younger men, to whom we have both appealed, that I have seen cases of trachoma cured by copper alone, and by the use of "expression" followed by a course of copper.

Your correspondent continues: "I regret that the opportunity may not be mine of demonstrating to Dr. Claiborne, at first hand, the efficacy of the method of treatment which has made such a shocking impression on his mind; but if the doctor is inclined to play fair, and really is in earnest, I now ask him to give the plan an honest trial, and report his results as honestly."

Now, Mr. Editor, I fancy I shall be forgiven if I do not permit any one to cram down my throat views that are contrary to my teaching, my experience, and my sense. I am willing to learn anything from anybody, and I do not deny specifically anything that I have not seen disproved; but I cannot permit myself to depart from the ways of experience and reason

to waste time and energy in following what I believe to be a therapeutic will-o'-the-wisp.

In case I do not accede to the request he makes, he hands me the following alternative: "If he declines this gambit (*sic*), then I name him a slave to the copper jade, a victim of cuprous hemianopsia, and afflicted with psychic pseudo-scientific myopia, and that to keep his peace." I would point out to your correspondent that in these words he has dropped the keen sword of debate with which he has heretofore afforded me some amusement, and makes an awkward attempt to use the bludgeon. I would point out to him, also, that he has used what in logic is called the *argumentum ad hominem*, which is not regarded as ethical in debate, is not relevant to the subject, and is usually construed as a sign of spiritual perturbation, and the forerunner of disintegration and defeat. From a scientific standpoint it can only be described as *twaddle*.

J. H. CLAIBORNE, M.D.

30 West Thirty-sixth Street, New York City.

BORDERLAND BETWEEN MEDICINE AND SURGERY.

To the Editor of the Medical Record:

SIR: Your issue of December 7, 1901, contains a very interesting article by Dr. George Woolsey of New York City entitled "Some Observations on the Borderland Between Medicine and Surgery." So far as the same subjects are treated, this is in accord with articles of mine on the co-operation of physician and surgeon in abdominal practice appearing in *International Clinics* in January, 1900, and in the *International Medical Magazine* in June, 1900. But, with all respect to Dr. Woolsey, it is high time that a protest should be made against the surgical dictum that, in all cases of appendicitis, the surgeon should be called in to confirm the diagnosis and to decide when to operate. I make no allusion to instances in which the attending physician is inexperienced, nor to those cases which present peculiar and puzzling features and which suggest a number of consultants in the hope that some one's experience will fit the case in question. With these exceptions, I would submit the following propositions regarding appendicitis:

1. The great majority of cases to which the term appendicitis may be applied are essentially typhlitides with or without a local lesion of the appendix.

2. Unless there is a septic or gangrenous process or reasonable danger of such a condition, mild acute cases should not be submitted to operation, but should be treated medically.

3. Chronic inflammations should be treated medically unless there is great or irregular enlargement, or unless the result of a few weeks' treatment is unfavorable. An exception should also be made in favor of patients who wish the operation as a sort of insurance, especially if their residence is at a distance from skilled medical and surgical attendance.

4. Relapses should not be regarded as significant unless they occur with increasing severity and after rational treatment. The morphine or opium treatment is really no treatment at all; it simply keeps the patient comfortable while he runs his chances of a spontaneous cure. It may favor the formation of protective adhesions, but it is certainly not reliable for this purpose and, anyhow, the case that needs adhesions requires operation much more. It is unreasonable to suppose that a case should not relapse unless something is done to prevent it by proper care during the remission of acute symptoms. Even after the extirpation of an appendix, the case should be remanded to the medical practitioner for treatment of the typhlitis that almost always remains. Several patients have consulted me for "relapses" after operation by careful and thorough operators.

5. It is the duty, not of the surgeon, but of the physician, to make the diagnosis, and to decide whether operation is necessary, and, if so, when it shall be performed.

Very truly yours,

A. L. BENEDICT, M.D.

BUFFALO, N. Y., December 10.

A Bacteriological Study of Dissecting-Room Cadavers.—Nathaniel Gildersleeve discovered living, infective organisms (B. tuberculosis and staphylococcus pyogenes aureus) in bodies which had been properly embalmed, and had remained as long as six months in the cold-storage vault. The pus organisms were in the majority of cases virulent. Such evidence leaves no doubt as to the advisability of careful precautions against infection during practical work in the dissecting room.—*University of Pennsylvania Medical Bulletin.*

THE INJECTION OF SOLIDIFYING OILS INTO THE TISSUES FOR NEURO-MECHANICAL PURPOSES.

To the Editor of the Medical Record:

SIR: I note with peculiar interest the letter of Dr. Eugene H. Eising on "Cosmetic Surgery," contained in the MEDICAL RECORD of December 7.

The "Cosmetic Surgery," to which he draws attention, and which is now stirring the interest of medical circles in Vienna, "consists in the subcutaneous injection of a preparation of paraffin over bony excavations which have resulted either after operation or from disease or from congenital causes."

What! another American invention dressed up in European motley and sent back to the land of its birth to dazzle the originator!

As long ago as 1894 (see the *New York Medical Journal* of April 14, 1894), Dr. J. Leonard Corning of New York practised the injection of solidifying oils (paraffin and cocoa butter) in cases of localized muscular spasm. Thus, in a case of severe torticollis, occurring in the writer's own practice, where the chronic convulsive condition was largely limited to the splenius muscle, Dr. Corning resorted to this expedient, injecting a melted mass of cocoa butter and paraffin into the affected muscle in such fashion as to completely prevent its contraction. The melting point of the injected oil was several degrees above that of the blood temperature; and the precipitation of the same was brought about *instantly* after injection—a most important point in the prevention of oil embolism—by throwing a spray of ether upon the injected region. Gersuny and other imitators of Corning would have done better, had they retained this principle, so scientifically conceived by our distinguished countryman.

It only remains to add that my patient is still living; that he still carries around in his muscle a considerable quantity of the solidified oil—long since incapsulated, no doubt—and that his spasm has been cured, although I must confess that he occasionally suffers pain. When I recall the fact that this patient's debility and suffering were so great as to render him suicidal, I feel that the result achieved was remarkable. May not the profession hope that the proverbial sense of justice of the distinguished editor of the MEDICAL RECORD will see that due credit is awarded in this matter?

MORTIMER LAMPSON, M.D.

SURGEON ST. FRANCIS HOSPITAL, JERSEY CITY, N. J.

"SANATORIUM" VS. "HOSPITAL FOR INCIPIENTS."

To The Editor of the Medical Record:

SIR: In to-day's MEDICAL RECORD appeared the admirable address, entitled "Municipal Sanatoria," which was delivered by Dr. Alfred Meyer, before the Second New York State Conference of Charities, on November 21. I had the honor of opening the discussion on Dr. Meyer's paper, and, like any one in sympathy with this movement, was happy to have an opportunity to endorse the many strong and telling arguments brought forth by Dr. Meyer in favor of the consumptive poor, and to express to him my gratitude for his ceaseless energy, his enthusiasm, and the wide knowledge which he has displayed in pleading so just, so urgent, and so noble a cause.

There is, however, one point in the paper on which I took issue with Dr. Meyer at the time when he read it. I take issue again, now that it has appeared in print, to make it possible to get also the expression of opinion of other minds on the subject.

To make my point clear I may be permitted to reproduce here a few sentences of the address. On page 930 of the RECORD, Dr. Meyer says: "As a final outcome (of a meeting of the Academy of Medicine), a committee of five physicians, of whom I am one, was appointed by the council to co-operate with other bodies to further the erection of a municipal hospital for consumptives, and the following resolutions were adopted, which may well be accepted as a most excellent enunciation of principles for all similar institutions.

"First, Resolved, That the Committee appointed by the Academy be instructed to use its influence to have the municipal hospital constructed for cases in the early and presumably curable stage of phthisis.

"Second, Resolved, That while the proper designation for such a hospital would be for curable cases, yet, in view of the bad effect a refusal to be admitted would produce upon others, the designation be "Hospital for Incipients."

At the State Charity Conference I criticised the expression "Hospital for Incipients" and protested against the use of these words. I think it is a very unfortunate name.

It does not hide anything. The average American citizen is intelligent enough to know what incipient means, and if he does not, he will look it up in his dictionary. It means, beginning, commencement or belonging to the first stage; and he knows that if he is not received in that institution with the peculiar name, it is because he is no longer in the first stage. I would much prefer the simple word "Sanatorium," whether in the city or country, belonging to the municipality or to the State. There is a charm in this word. The average patient will think it vastly better than hospital. If he should look it up in his dictionary it will reveal to him the fact that the word "sanatorium" is derived from *sanare*, to heal, and that that means an institution for healing disease—"Heilanstalt." New hope will enter into the often depressed spirit of the patient; by being received in a sanatorium he will think and feel that he has another chance for life. The word "sanatorium" is in my humble opinion more appropriate than "sanitarium," from *sanitas*, health, employed in this country usually to designate a place as especially healthy, a favorite resort for convalescent patients, or an institution for the treatment of nervous diseases or mental disorders.

Dr. Meyer is so enthusiastic over the words "Hospital for Incipients" as a name for the place for curable cases of phthisis, that he desires all similar institutions to accept the name. I sincerely hope this may not be done. The first public institution established for the treatment of incipient tuberculosis patients is the one at Rutland, Mass. It was formerly called "State Hospital for Tuberculous Patients." I had the gratification of seeing this name changed into simple "Sanatorium." The U. S. Marine Hospital has adopted the word "sanatorium" in preference to the word "sanitarium" for its Fort Stanton hospital for the treatment of consumptive sailors.

I have made this criticism in the spirit of kindness and hope that Dr. Meyer and his colleagues on the Committee will accept it in the same spirit. The Committee of the Academy of Medicine has done most excellent work in bringing the need of a municipal sanatorium before the New York public. Thanks to this committee and to the State Tuberculosis Commission the sanatorium movement has received a strong impetus, and I desire to repeat here what I said at the Charity Conference in reference to the two greatest workers in the anti-tuberculosis crusade in the State of New York: When our State sanatorium will at last be established, it will be largely due to the effort of Dr. Pryor of Buffalo, and if our city sanatorium should see the light of day, which we hope will be very soon, it will be largely due to the efforts of Dr. Alfred Meyer.

S. A. Knopf, M.D.

16 West Ninety fifth Street.

Prognosis in Neuritis.—F. Savary Pearce says that pressure neuritis, the result of a continued pressure of some consecutive hours, will, as a rule, be cured with the use of galvanism and massage within two to three months. Alcoholism makes the prognosis worse. Relapses may occur. Degeneration of peripheral nerve trunks after severance is usually grave as to prognosis, unless the operation of suturing is done. Septic cases of neuritis are usually favorable, if of interstitial type, and will subside under treatment within a few weeks after the primal seat of infection has been eradicated. Alcoholic neuritis is most difficult to prognosticate; first attacks are usually recovered from in a year or eighteen months under careful treatment. Neuritis from lead or mercury poisoning may leave local palsies and tendencies to relapse. Neuritis from diphtheria is apt to be fulgurant and more severe when antitoxin has been used. To reach neuritis due to gastro-intestinal disorders on the gouty or rheumatic diathesis, the original disease must be treated.—*Pennsylvania Medical Journal.*

Is It Advisable to Await Reaction from Shock in Severe Injuries Before Operating?—M. F. Porter says that anæsthesia is the best remedy known with which to combat the nervous element in shock; that direct intravenous transfusion of normal saline solution is the best remedy in hemorrhage; that delay in operating increases the danger from sepsis. Therefore, he thinks, we should be governed by reason, rather than by rule, in these cases, and operate at once, and transfuse under anæsthesia rather than wait and waste time that is precious to our patients, by adhering to traditional teaching through fear of the fetish of authority.—*Fort Wayne Medical Journal.*

Progress of Medical Science.

Boston Medical and Surgical Journal, December 12, 1901.

Use of Antistreptococcus Serum in a Case of Septicæmia Following Mastoid Operation; Recovery.—Mary F. Hobart reports the case of a woman of sixty-three years who developed septicæmia after mastoid operation. Dr. Shattuck, called in consultation, considered the case all but hopeless, and suggested the serum as a last resort. Temperature was 105.2°, pulse 122. Owing to a fault in technique only 3 c.c. of serum were injected, but two hours later 10 c.c. All the symptoms became exaggerated, but after about five hours there was slight improvement. Erysipelas developed in the wound, and the pus was loaded with streptococci. The next day a second dose of serum was injected; the patient's condition again seemed hopeless, but the following day there was a slight change for the better, and the reaction after the dose was less marked. Recovery set in, and four days after the first injection of antitoxin the temperature was normal all day, and the pulse was 84 to 90. Three weeks later the patient was convalescent.

Twelve Cases of Pneumonia Treated by Antipneumococcus Serum.—George G. Sears says that the cases treated were unsatisfactory for experimentation, as six of the patients were alcoholics, two had mitral regurgitation, two nephritis, and one arteriosclerosis, while another was pregnant and had pericarditis. Three patients died. In the nine recoveries the temperature returned to normal at about the usual time, so that the only conclusion to be drawn is that the course is not lengthened. The serum is certainly no specific against the pain resulting from the inflamed pleura, yet in some cases it gave relief. The fever was not markedly affected; while distinct benefit may not be positively ascribed to the serum, no ill effects, beyond what may occur from the use of diphtheria antitoxin, were observed. However, the results obtained, considering the unsatisfactory nature of the material, seem to justify a further trial of this form of treatment. Greater success might have been obtained if it had been begun earlier in the disease, as it was given before the third day in but four cases.

Massage and Movements in Hemiplegia.—Douglas Graham says that in cases of paralysis, in the absence of severe pain, obstinate contraction, or tonic spasms, massage has been found useful in improving the circulation, reducing temperature, and producing comfort of the parts affected. When the causative conditions have ceased, paralyzed muscles will not at once resume their former natural condition. Massage and passive and resistive movements restore them to a sense of existence, enable them to recognize the power they still possess, and educate this to a higher degree; and at the same time such treatment affords the only means of judging of the capabilities of the patient, and of telling him how to use them. Sometimes the patient will make better motion against resistance than without it. Interlocking the fingers of one hand with the other, so that the well arm can raise the paralyzed one, is a most excellent device, encourages the patient, and educates the unimpaired centers to supplement the deficiency of the injured ones. This should be repeated regularly, six to twelve times, three times a day. The author reports several cases.

Journal of the American Medical Association, Dec. 14, 1901.

Rhinoscleroma.—C. W. Allen reports two cases of the affection so rare in America. One was in a woman from Hungary and the other in a man from Galicia. The report is accompanied by some excellent photographs. In the first case, there was, contrary to the statement given by several writers, a considerable sloughing of the affected tissues. In view of the fact that the disease does not confine itself to the nose when once its course has begun, Allen prefers the term "glioscleroma," suggested by Kaposi.

Complete Recovery from Double Neuroretinitis in a Case of Prolonged Hæmaturia, with Symptoms of Bright's Disease.—The patient of C. A. Veasey was a woman of thirty-five years, who had passed bloody urine without known cause, had lost flesh, was weak and pale, with vertigo, dyspnœa, tinnitus, and intense constant headache. Systematic examination revealed the presence of Bright's disease. Under milk diet and Basham's mixture recovery was steady, though slow, until, at the expiration of nine months from the time at which the eyes were first examined, the ophthalmoscope revealed no intraocular changes. The nerves were healthy in appearance and normal in color, the edges well defined, the vessels were unchanged, and there were no traces of the minute hemorrhages previously noted, the macular regions giving absolutely no indications of the previously existing conditions. Vision in each eye equaled 6/6 and the fields

were normal. From a study of the symptoms and course of the affection, the most plausible explanation seems to be that the patient at first had an acute inflammation of the kidneys, which ran into a chronic state, at the expiration of eight months, producing the intraocular lesions previously described. What bearing the hematuria had upon the condition, whether it was a factor in the production of the nephritis or *vice versa*, or occurred merely as a coincidence, can only be surmised.

The Value of the Excision of the Superior Cervical Sympathetic Ganglion in Glaucoma.—The conclusions of G. F. Suker are as follows: (1) Sympathectomy is a justifiable operation. (2) Though the excised ganglion shows changes, yet the true relationship between it and glaucoma is an open question. (3) It is not the *sine qua non*, but a most valuable adjunctive procedure. (4) It is always indicated when an iridectomy or sclerotomy in any form of glaucoma has failed. (5) Iridectomy is still the classical treatment for certain forms of glaucoma, *i. e.* chronic and acute. (6) It is the preferable procedure in glaucoma absolutum and hemorrhagicum. (7) Operate only on one side—affected side. (8) Employ the suitable medicinal treatment after the operation. (9) Do not extirpate the ganglion in acute inflammatory forms of glaucoma. (10) There probably is a close connection between the ciliary, superior cervical sympathetic, and glaucoma. What it is, experiments will show. (11) Extirpation of the ganglion is indicated whenever there is increased tension not controlled by any other measure. (12) The results depend in a great measure upon the condition of the case. (13) Primary extirpation may have to be followed by an iridectomy. (14) It is indicated in those cases of glaucoma which already have extremely poor vision and where any interference with the eye proper might result unfavorably. (15) It is to be considered at all times when other operative measures are refused, irrespective of the form of glaucoma. (16) The excision of this ganglion has varying effects upon the fundus oculi—none detrimental, however.

The Rôle of Mast-Cells in Acute and Chronic Affections.—H. U. Williams reviews the literature of this subject. He says that mast-cells are uncommon in pus and in mucopurulent discharges. Although it does not appear that any special search has been made for them in acute infectious diseases, the histologies of the infections have been so carefully worked out that they could certainly not have been overlooked. Upon reading recent studies of acute affections of all sorts, one finds that while mast-cells are frequently present in and around he lesions, they have not been seen in such numbers or so arranged that any specific relation has been ascribed to them. In chronic infectious diseases, especially tuberculosis, mast-cells are usually present in the zone of reactive inflammation about the lesions, where they may be numerous. The lesions themselves do not contain them in large numbers, if at all. There is nothing to show that the infectious element causes this increase. It appears from the preceding that evidence is at present lacking to prove that mast-cells have any special relation to infections in general or to any particular infection. But it must be said that the subject has not yet received the study that it deserves. The facility with which these cells may be demonstrated, the large size of their granules, and the exhibition of characteristic reactions by the granules make them a promising field for research. In general, Williams believes that where mast-cells become increased, plasma-cells are likely to be present and in much larger numbers than the mast-cells. This parallelism is not close, however. The writer's impression is that plasma-cells appear to be more definitely connected with infectious processes than mast-cells.

New York Medical Journal, December 14, 1901.

Mycosis of the Tonsil and Base of the Tongue.—E. H. Griffin reports a case occurring in a woman of twenty-four years, the growth being unusually abundant and heavy. Cure resulted from having the patient smoke tobacco, from cauterization with chromic acid, evulsion of the deposits with forceps, and a gargle of iron tincture in glycerin.

Hysterical Dissociation of Temperature Senses with Reversal of Sensibility to Cold.—G. W. McCaskey reports the case of a man of forty-two years in whom there was a functional involvement of the sensory centers concerned in the reception of the sensations of pain and cold—the former being impaired and the latter "reversed" and morbidly acute. The patient complained of weakness, especially in the lower extremities, pain in the back (lumbar region), impaired appetite, troubled sleep, and "dizzy staggering spells." There was also complete loss of sexual power and, at times, difficult urination, *i. e.* difficulty in starting the flow of urine. There was profound malnutrition. Tactile sensation and the percepion of warmth were found to be perfectly normal throughout the body. The pain sense was absent over the entire area of the lower extremities. The result of the test for thermal sensation was, however, entirely unique in the author's experience. Two large test tubes, eight inches long and one inch in diameter, were filled with hot and cold water respectively and applied to the skin, the patient's eyes being closed. As already stated, the perception of warmth was entirely normal. Different degrees of heat were correctly recognized without hesitation. But when the tube of cold water was applied to the skin, he invariably said it was hot; and the colder the water, the more he would flinch from the sensation of "heat." If the tube contained iced water, he would very nearly jump off the table. If, on the contrary, it was 55° or 60° F., he would simply designate it as hot or warm. No cold impression was recognized as such anywhere, except over the face and neck. The character and distribution of the sensory disturbance at once pointed to hysteria, although there was nothing in the history of the case indicating that condition.

Laryngeal Paralyses and Their Importance in General Medicine.—J. W. Gleitsmann gives a review of our present knowledge of the nerve supply of the larynx and of the centers governing this organ. The prototype of cortical paralysis is seen in hysterical aphonia in which the muscles subject to the will-power (the adductors and their adjuvants) do not respond to attempted voice production, but in many cases retain their function for reflex acts, such as coughing, crying from pain and during sleep, with ability to sing, but not to talk. Certain sexual events, psychical influences, direct trauma, reflex action as from adenoids or nasal polypi may also cause lateral adductor paralysis. All the lesions enumerated produce bilateral paralysis. Cortical paralysis may also follow symmetrical tumors, syphilis, tuberculosis, softening, etc. Paralyses of the pneumogastric, recurrent, and posticus nerves vary in appearance according to the exact site on the nerve at which the disturbing cause acts. Organic causes may either be from the bulb and spinal column or of peripheral origin. The former include softening processes, hemorrhages, syphilis, tumors, diphtheria, progressive bulbar paralysis, amyotrophic lateral sclerosis, syringomyelia, and tabes. Peripheral causes are tumors of the neck, aneurysm of the aorta, innominate, or right subclavian, mediastinal tumors, enlarged peribronchial glands, pericarditis, pleuritic adhesions, trauma, infectious diseases, influenza, scarlatina, typhoid fever, toxic influences (lead), or rheumatism. These latter act by causing a peripheral neuritis. The importance of bearing all these possibilities in mind arises from the fact that an abductor paralysis may antedate all the usual symptoms of locomotor ataxia, and one cord in the median line may be the only danger signal of an incipient aneurysm. Another equally important point for practical medicine consists in the absence of any laryngeal subjective symptom in many cases in which only unilateral abductor paresis is present. It does not produce dyspnœa under ordinary circumstances or any alteration of the voice, as a perfect approximation of the cords takes place in phonation, and to the patient himself his serious condition is unknown. Hence in all doubtful and obscure cases a thorough examination of the larynx is just as necessary as is an examination of the urine.

Medical News, December 14, 1901.

Rectocolitis.—William M. Beach concludes that: (1) Rectocolitis is a condition of the rectum and colon of varying degrees of inflammation; (2) A knowledge of the anatomical bearings of the rectum and colon is necessary to understand the symptoms and reflexes; (3) The symptoms are local and systemic; (4) Rectocolitis may be catarrhal or ulcerative; (5) It may be acute or chronic: (6) When dependent upon polypus, hemorrhoids, fistula, etc., the cure depends upon their removal; (7) Chronic rectocolitis due to altered secretions, anemia, and congenital narrowing of the sigmoid strait is difficult to cure.

Clinical Facts and Their Meaning.—Joseph M. Aiken believes that the physician in his everyday practice sees more cases classed as nervous than the sum of his cases in any other two departments of medicine. The writer calls attention to the large number of cases which are ill because of faulty digestion or assimilation. The variety and degree of gain and nervous disorder consequent on acute gastric indigestion are generally conceded as sufficient cause for great prostration. At least 80 per cent. of our population have faulty digestion, and of these 75 per cent. are gastro-intestinal, principally the latter. A large percentage of the neurotic cases are of purely functional origin. However, rational therapeutics are necessary here. When the alimentary canal refuses to assimilate natural ingesta, the overworked organs must

have rest. Liquid diet should be given, and as far as possible all food should be hot for its stimulating effects. Nourishment in atonic dyspeptic cases should be given every two or three hours.

Philadelphia Medical Journal, December 14, 1901.

The Operative Treatment of Intercostal Neuralgia Occurring in the Deformities of the Chest Following Pott's Disease and Scoliosis.—Charles F. Painter describes the technique of this operation as simply that of an excision of the rib; the point of election at which to operate is not chosen with a view of finding the particular nerve which is pressed upon, but to remove sufficient bone to give the other ribs more room. It may be, of course, that one of the ribs is chosen which is causing the pressure upon the intercostal.

Penetrating Wounds of the Heart, with Suturing of the Wounds.—H. L. Nietert has collected twenty-three cases of penetrating wounds of the heart, where suturing was performed. In this number is included his own case. Out of these twenty-three patients, sixteen died and seven recovered. In twenty-one cases, the wound was located on the left side of the sternum, in two cases on the right side. The pleura was injured in twenty-two cases, and uninjured in one case. The left auricle was penetrated in one case, the right ventricle in six cases, the left ventricle in fifteen cases. The writer is persuaded that, in the future, operations on the heart for penetrating wounds will be more frequently performed. Statistics show that more than 90 per cent. of all heart wounds not operated upon prove fatal. The mortality in the cases collected, although these are among the most serious of heart wounds, is only 70 per cent.

The Division of the Sensory Root of the Trigeminus for the Relief of Tic Douloureux.—William G. Spiller and Charles H. Frazier recommend as a substitute for all operations which depend for their success upon removal of all or part of the ganglion, an operation which depends for its success solely upon the division of the sensory root of the ganglion. Granting that it would effect a radical and permanent cure, the advantages of this operation would be: (1) It should be attended with a lower mortality; (2) It should obviate a number of difficulties; (3) Its execution would be, comparatively speaking, simple; (4) It would be practically complete when the posterior aspect of the ganglion and its sensory root have been exposed; that is, it would be practically complete before the most serious and troublesome difficulties common to other operations would have been encountered; (5) The integrity of the cavernous sinus would never be in danger; (6) The risk of injuring the sixth nerve would be avoided.

American Medicine, December 14, 1901.

Formalin as a Disinfectant for the Hands; An Unpleasant Personal Experience.—Charles P. Noble reports an experience with formalin which shows the danger of prolonged contact with formalin. After using formalin for about a month, his hands were attacked by such a violent inflammation that serum formed under the nails, separating them from the underlying tissue. Under the influence of rest and elevation of the parts, together with an ointment of ichthyol, the inflammation subsided without suppuration. On the two days preceding the attack, rubber gloves had been worn for four hours each day. The gloves had been filled with formalin, and enough of the solution was left inside the gloves to keep the finger ends moistened while the gloves were worn.

What Protection Have the People Against the Dairy?—D. M. McMasters says that, so far as laws made for the protection of food are concerned, milk, which is a universal food, has less protection than any other. Nothing absorbs impurities more rapidly than does milk. The writer believes that it is proven beyond doubt that that transmission of tuberculosis from man to animal and animal to man is an assured fact. He is convinced that tuberculosis can be transmitted through milk. Dairymen should be impressed with the fact that the number of bacteria in milk depends upon four things: (1) The original amount of germicidal substance in the milk over which they have no control; (2) The number of bacteria falling in during the milking or afterward; (3) The length of time which has passed since milking; (4) The temperature at which it is kept. This subject is now with the medical profession, boards of health, the dairymen, and the people. The harmonious working of all these factors can so reduce the bacterial army that its power for destruction will be reduced to a minimum.

The Relation of Appendicitis to Infectious Diseases.—J. M. T. Finney and Louis P. Hamburger declare that every variety of appendicitis is to-day essentially a surgical disease. For purposes of treatment this disease is rightly regarded as a local disease subject to serious accidents readily explained by anatomic and bacteriologic factors. The diseased appendix is a source of danger to the peritoneum and thus to the life of the patient. When it is removed the danger is averted. According to M. Reclus, there is a kind of appendicitis called "propagated appendicitis"—appendicitis which results from the extension of inflammation from the neighboring intestinal mucosa, a sequel or an accompaniment of an enterocolitis. Cases have been noted of appendicitis associated with arthritis. These cases call attention to the form of appendicitis which may be the local expression of a general infection. There seems now and then to be a close relation between polyarthritis and appendicitis. The articular disease may precede as well as accompany or follow the inflammation of the appendix.

The Lancet, December 7, 1901.

Acute Emphysematous Gangrene.—N. H. Choksy gives the details of treatment in four cases seen in the course of the last two years. He confirms the statements of Welch and others that tissues damaged by the injection of bacterial toxins are prone to irritation by the gas bacillus and that even the most unirritating solutions injected hypodermically are at times followed by such infection. He believes that in view of the fact that so many injections have been made during the last few years in cholera, the plague, etc., gaseous abscesses are surprisingly few and that the infection when occurring has probably been conveyed by the needles (used for the injections), from the skin of the patients.

A Few Words on Headaches of Nasal Origin.—A. Bronner believes that headaches are often due to diseases of the nose and its accessory sinuses. Nasal headache is often of a neuralgic character and is then generally caused by sinus disease. It is generally supraorbital or localized in the middle of the head behind the eyes or at the top of the head. It is usually intermittent, often very severe, and it comes on at certain fixed periods, but is always worse in the morning. A diffuse headache may be due to nasal obstruction or rhinitis. The head symptoms due to sinus disease are not characteristic or confined to any special area. Antrum trouble may cause pain in the cheek or frontal region. Frontal sinus disease causes local pain increased on pressure. It radiates into the head and is often worse over the sinus of the opposite side. The pain is intermittent and worse in the morning. It is increased by any sudden movement. The pain from ethmoidal disease is not typical or severe. It is chiefly confined to the nose and radiates backward. Affections of the anterior ethmoidal cells simulate frontal sinus disease; those of the middle or posterior ethmoidal cells simulate sphenoidal trouble. The latter is generally not diagnosed. There is usually intense pain in the middle of the head behind the eyes. It is intermittent and may be absent for days or weeks. There are frequent attacks of giddiness and the head feels as if it was going to burst. Illustrative cases are given.

Pure Urea in the Treatment of Tuberculosis.—Seven cases of the disease are reported by Henry Harper, who believes that urea exerts a specific action on tuberculosis quite as marked as mercury on a syphilitic node, salicylate of soda in rheumatism, or iodide of potassium in bronchial asthma. Cases suitable for the administration of urea are (1) Circumscribed pulmonary tuberculosis of the lung, in which the sputum exhibits abundance of bacilli and only a limited number of cocci; (2) Enlarged tuberculous glands situated on any part of the body; (3) Tuberculous pleurisy (here in my cases urea acted like magic); (4) Tuberculous laryngitis; (5) Lupus; (6) Tuberculosis of the peritoneum with fluid in the peritoneal cavity; (7) Hydrocephalus in children; and (8) Tabes mesenterica or carreau. Cases which are unsuitable are: (1) Pulmonary tuberculosis in which cocci predominate, practically covering the whole field of the microscope, and the tubercle bacilli exhibit a short, stumpy appearance, the typical Koch bacillus being scanty; (2) Acute miliary tuberculosis with a high temperature (103° F. or over); (3) Gastritis; (4) The last stage of tuberculosis when the patient is dying; and (5) When the patient has a temperature over 101°. To carry out the intensified method, a beginning should be made with small doses of from 10 to 15 grains thrice daily, gradually increasing them up to 40, 50, or 60 grains as a maximum. Practically this amounts to one-half per cent. of artificial urea added to the normal quantity circulating in the blood.

Excess of Salt in the Diet a Probable Factor in the Causation of Cancer.—From a statistical study of the dietetic peculiarities of certain districts and of the occurrence therein of cancer, J. Braithwaite favors the view that the excess of salt in the diet has a bearing on the etiology of this malady. He believes that this excess of salt is one of the four factors which originate it. This

is the essential factor, he says, but it is inoperative without at least one, and probably two, of the others. Excess of salts may arise from individual taste, or from much salt meat, or from too much ordinary meat, which of course involves much salt. The other factors are these: (2) An over-nourished condition of body from more food, and especially more meat, than is required. This condition is rarely met with amongst out-of-door manual workers; (3) An impure condition of body owing to non-use and non-oxidation of the food which has been taken. The amount may have been moderate or even small. The cells of the body in this condition are loaded with effete material. It obtains in old age; in persons who lead indolent, easy, and indoor lives; and locally in organs the active functions of which have ceased. (4) A fourth factor is some local irritant or stimulant, such as friction from the stem of a pipe or irritation from some microorganism of which no one is actually specific, or ovarian stimulation in the case of the breast. Of these the first must always be present, and probably in some form the fourth and also in all either the second or the third, but not both of them. Confirmatory evidence is also afforded from the fact that cancer is practically unknown among animals that do not use salt.

Three Cases of Family Periodic Paralysis, with a Consideration of the Pathology of the Disease.—The cases are reported by E. F. Buzzard, the patients being a woman and her two sons, aged respectively eleven and thirteen years. Concerning the pathology of the affection, he reviews the various theories of the nature of the disease, calling attention to the fact that all writers have assumed a toxic origin for the disease, while many have pinned their faith to a theory of autointoxication. Buzzard himself inclines to the view that the muscular substance itself is the seat of some temporary change profound enough to prevent it from carrying out its normal function, that of contraction, under any form of stimulation. The fact that this change follows muscular activity, but is only consummated during periods of muscular rest, leads one to consider what part may be played by the lymphatic circulation in the production of this change. We know that the lymph-flow is influenced chiefly by three factors: (1) The difference between the intra-capillary blood-pressure and the extra-capillary pressure in the lymph spaces of the surrounding tissues; and (2) The influence of muscular contractions in conjunction with (3) The presence of valves in the lymphatic vessels. The first factor suggests that the production of lymph in the muscle tissue will be increased by the activity of the muscles. The second factor suggests that during muscular inactivity a most important agent in the removal of this lymph is not at work. Two questions naturally present themselves: (1) Is it possible that conditions may arise when, in the absence of muscular contraction, the other factors in the removal of lymph may be insufficient for the purpose and so lead to a form of stagnation in the lymph-spaces of muscle tissue? (2) Can the lymph in such circumstances cause some physical or chemical change in the muscle plasma sufficient to reduce or temporarily to destroy its contractility? These possibilities nearly assume the proportions of probabilities when the clinical phenomena of the disease are examined by their light. In conclusion, Buzzard calls attention to two points he deems worthy of careful consideration: (1) That a chemical or physical change in the muscle plasma alone is not only a possible, but the probable, explanation of the loss of contractility described in this disease. (2) That the important part played by the muscular system in the control of the lymph circulation points to an unstable condition of the latter or an abnormal, perhaps toxic, constituent of the fluid itself as possible sources for the changes in the muscles.

British Medical Journal, December 7, 1901.

Rectal Serum Therapy.—E. Wolfenden Collins was called to attend a glycosuric patient for an attack of erysipelas. He first washed out the bowel with hot water, after which he injected from an ordinary glass syringe, through a catheter, high up into the rectum, 10 c.c. of anti-streptococcus serum. Four hours later there was a decided improvement in the patient. The next morning this treatment was repeated, and two hours later the patient was walking around the room. The further progress was perfectly satisfactory.

Paroxysmal Dyspnœa in Aneurysm of the Arch of the Aorta.—F. Bushnell refers to a case in which the patient became acutely orthopnœic, cyanosed, and rapidly unconscious. Tracheotomy was performed though the cause of the spasms of the ordinary and extraordinary muscles of respiration continued. Dyspnœa was uncertain, but the patient was only slightly relieved, and lived two days. Necropsy discovered a sacculated aneurysm, the size of a Tangerine orange, projecting from the lower and posterior part of the arch of the aorta immediately beneath the origin of the left subclavian and common carotid arteries. It had ulcerated into the trachea, without pressing upon it sufficiently to cause much obstruction, the cartilaginous rings being intact.

An Outbreak of Epidemic Catarrhal Jaundice in Derbyshire.—Herbert Peck studied sixty-nine cases of this disease, which he believes to be icterus gravis or epidemic jaundice, sometimes called Weil's disease. It differs from the accounts given of previous outbreaks in its onset, being sometimes gradual, and in the comparatively low temperature recorded, which was usually between 100° and 101.5° F. The incubation period is, perhaps, six or seven days. The period of duration of the disease from exposure to infection to commencing recovery was ten or twelve days, but the jaundice sometimes persisted after complete recovery from the other symptoms. The mode of infection could not be learned from a study of the cases recorded in this outbreak, but bacteriological examination might elucidate it. The disease was not due to the ingestion of food or drink. The popular impression that the outbreak was caused by the drinking of water from a certain reservoir was incorrect, for none but isolated cases occurred outside of two villages, which contain only about 2,000 of the 23,000 persons thus supplied. The disease was probably conveyed by individuals. A post-mortem examination in one case revealed a spleen which was too fragile to allow microscopical specimens being made in gum. The lobular arrangement of the liver was almost lost. The organ consisted of a mass of shaggy connective tissue, a large number of fat cells, and amorphous *débris*. The kidney showed a marked fatty degeneration of the tubular epithelium of the cortex.

A Case in which, After Erasion of a Tuberculous Elbow, a Thin Gold Plate Was Buried in the Joint for Two Months.—C. B. Keetley reports this case. His patient was a girl of seventeen years. The left elbow was tuberculous, and the writer opened it. He found the synovial membrane and the ends of all three bones diseased, especially the head and neck of the radius and the interior of the olecranon. The head of the radius was excised, and the joint surfaces of the other bones freely removed with sharp spoons. The olecranon remained as an empty shell. The synovial membrane was cut away with scissors. The wound was swabbed with corrosive sublimate and packed with iodoform gauze, iodoform crystals also being inserted. The elbow was fixed at a right angle. One month later, the incisions were opened, disclosing a healthy looking joint, with just a little caseous-looking material in the olecranon. This, together with some granulations, was removed. The joint was washed out with warm bichloride solution. A gold plate was spread over the end of the humerus. The remains of the olecranon were sutured to the ulna with silkworm gut. After the wound was closed the elbow was put up in plaster-of-Paris at nearly a right angle. After eight weeks the plate was removed, and the wound reclosed. Within less than two weeks there was a great deal of smooth and painless mobility in the joint. Four years later a small sinus was found which did not, however, open into the joint. It was scraped out. The movements of the joint are now smooth and painless, and are limited only in the direction of extension.

Berliner klinische Wochenschrift, November 25, 1901.

Early Diagnosis of Arthritis Deformans of the Hip.—J. A. Becher calls attention to two valuable signs for the early diagnosis of this condition. (1) Limited abduction of the thigh of the affected side; (2) The pain in the diseased joint is diminished by exercise and increased by rest. He reports a case in which these symptoms were observed, and sufficed to establish the diagnosis between arthritis deformans and ischiatica.

Reflex Variations of the Pupil in Inflammation of the Optic Nerve.—J. Hirschberg draws attention to certain pupil reflexes which are observed in inflammation of the optic nerve, and which may be utilized for diagnostic purposes. Under normal conditions, if the light is excluded from one eye, the pupil of the other eye slightly dilates. In pupils of average size (3 to 4 mm.) this physiological dilatation amounts to about 1 mm. If, however, inflammation of the optic nerve exists, the dilatation of the pupil of the affected eye amounts to about 8 mm. under the conditions above described. In all cases of loss of vision this so-called pathological reflex dilatation is diagnostic of inflammation of the optic nerve. The author reports a case of hysteria in which blindness came on in one eye. The diagnosis lay between hysterical blindness and an inflammatory optic-nerve lesion. The pathological reflex dilatation present established the latter diagnosis. Subsequent events proved this to be correct. The importance of the value of this sign is to be the more urged because

it is always present early in the disease before the characteristic retinal changes have been established. Furthermore, it is of prognostic worth. During the course of the disease a diminution in the intensity of this pathological dilatation is invariably followed by a subsidence of the inflammation, and ere long, in the majority of cases, a complete return of the normal vision

Relation of Bovine to Human Tuberculosis.—Prof. Biedert and E. Biedert present a series of new observations which they think confirm the view recently expressed by Robert Koch that bovine tuberculosis is not transferable to man. They cite the condition in a region of Bavaria where the milk industry has long been very extensive, and large amounts are daily consumed by all classes. Sixty to seventy years ago tuberculosis was very prevalent there. With the adoption of preventative measures against the spread of bovine tuberculosis there was a marked decrease in human tuberculosis. Recently, however, although the same preventative measures are in operation, human tuberculosis is markedly on the increase. Investigation shows that during the first period when tuberculosis was extremely prevalent among the people, the manufacture of nails was carried on in the community. With the cessation of this industry human tuberculosis began to decrease. The recent outbreak of tuberculosis is coincident with the establishment of spinning-mills in this locality. Furthermore, those classes which are engaged in the factories show the largest number of tuberculous individuals, while the disease is comparatively rare among those who come into direct contract with the cows, and who drink large quantities of milk. The authors therefore ascribe the prevalence of tuberculosis during the periods mentioned not to the milk consumed by these people, but to an increased susceptibility to this disease brought about by the exigencies of factory life. Additional observation has shown that those regions which show the greatest amount of bovine tuberculosis give a less mortality from human tuberculosis than those localities where bovine tuberculosis is comparatively rare. It was always found that the presence of a large number of cows in a given locality was accompanied by a comparatively small mortality from human tuberculosis. This held true whether or not bovine tuberculosis was prevalent in such a place.

Deutsche medicinische Wochenschrift, November 28, 1901.

Bacteriolytic Substances in Normal Goat-Serum.—R. Pfeiffer and E. Friedberger report a series of experiments which demonstrate the specificity of the bacteriolytic substances present in normal goat-serum. Their work is confined to the study along this line of the cholera and cholera-like vibrios, and of the bacillus typhosus. As is well known, these organisms when respectively placed in a given amount in normal goat-serum are broken down and perish. Such mixtures are, of course, incapable of producing infection when inoculated intraperitoneally into guinea pigs. If now to a given amount of serum a sufficient number of cholera organisms are added, so that all the bacteriolytic substances present in the serum are used up, the further addition of cholera vibrios is without effect upon these, and the mixture upon intraperitoneal inoculation promptly produces infection. If, however, instead of the further addition of cholera organisms, as mentioned above, typhoid bacilli are added, these are straightway destroyed. This proves that normal goat-serum possesses specific bacteriolytic substances, each of which is effective only against one of these organisms. By work similar to the above, the presence of specific substances, operative against the vibrio Finkler, vibrio phosphorescens, and a number of other organisms, has been proven.

Practical Application of the Agglutination Reaction of the Bacillus Tuberculosis.—Robert Koch says that the agglutination-reaction is of very little value in the diagnosis of tuberculosis, and is not to be compared to the tuberculin reaction for this purpose. He examined the agglutinating power of the sera of thirty non-tuberculous and seventy-eight tuberculous persons. In the former a positive result was obtained in 5 with a 1 to 25 dilution, 6 with a 1 to 10 dilution and 1 with a 1 to 50 dilution. Among these were cases of carcinoma, typhoid fever, erysipelas, furunculosis, and muscular rheumatism. Of the tuberculous cases, 1 showed a positive reaction with a 1 to 50 dilution, 4 with a 1 to 25 dilution, and 14 with a 1 to 10 dilution. Contrary to the results obtained in typhoid agglutination, in tuberculosis the further advanced the case the less pronounced is the reaction and the more often is it entirely negative. This fact lends strength to the argument that agglutination is closely related to immunity; for in typhoid fever, as a rule, the more advanced the disease the more pronounced is the immunity; in tuberculosis, however, the reverse is the case. It appears, therefore, that so far as tuberculosis is concerned, the intensity of the agglutination-reaction is a measure of the immunity present Animal experimentation shows that this is the case. In animals which are being artificially immunized with gradually increased doses of tuberculin, the intensity of the agglutination progressively increases until very high agglutinative values are reached. If, however, at any time the tuberculin inoculations are discontinued or decreased in amount, the agglutinative value of the serum is immediately diminished. Individuals sick with tuberculosis and subjected to tuberculin inoculation give identical results. Furthermore, with the increased agglutinating power, the symptoms of the disease diminish, and in some cases entirely disappear. Observations of seventy-four tuberculous persons have shown that those in the first and second stages of the disease are most suitable for this treatment, and when subjected to these inoculations give the highest agglutinative values. In those in whom the disease is far advanced the increase in the agglutinative power, by this treatment, is slight and soon is entirely lost. Those patients with pulmonary tuberculosis which possess so-called "healed areas" in their lungs are very suitable for this immunization treatment.

Münchener medicinische Wochenschrift, November 26, 1901.

Effect of Ovarian Preparations when Administered After Double Ovariotomy.—A Flockemann discusses the effect of ovarian preparations upon the climacteric symptoms which frequently follow double ovariotomy. He reports the study along this line of twenty-eight cases. In six the climacteric symptoms entirely disappeared as the result of the administration of these preparations. In four the symptoms were markedly benefited. In nine the condition was slightly ameliorated. In nine no favorable result was obtained. The usual method pursued was to give one or two tablets three times daily for periods of one or two weeks. These results show that the administration of ovarian preparations in this condition is followed by uncertain results, but that in the majority of cases some benefit is obtained, a conclusion which warrants their exhibition in all such cases. They never produce unfavorable symptoms. It is recommended that at the operation a small portion of the ovarian tissue should be allowed to remain, if possible. By this means disagreeable climacteric symptoms may be avoided.

Tetanus Following the Subcutaneous Injection of Gelatin.—F. Kuhn emphasizes the dangers from infection consequent upon subcutaneous injections of gelatin. As is well known, this treatment has found adherents in some quarters in the management of uncontrollable hemorrhage. He reports a case in which the injection was followed by fatal tetanus. The patient, a child, had been operated on for adenoids. It was not possible to control the hemorrhage, although all ordinary means were employed. Accordingly, an injection of 50 gr. of 2-per-cent. gelatin was made into the inner side of the left thigh. Shortly following the injection, the contiguous tissues took on a gangrenous appearance. This increased in intensity until on the fourth day following the injection, a large area of tissue surrounding the site of injection was in an advanced gangrenous condition. The next day tetanic symptoms appeared, which rapidly increased in severity. Death shortly supervened. Bacteriological research gave the following result: Two rabbits inoculated with the heart's blood remained normal, as did also two inoculated with fluid from the gangrenous tissues. One rabbit inoculated with a large piece of the gangrenous tissue promptly developed tetanus and succumbed. One rabbit, which received only a small portion of such tissue, developed slight tetanic symptoms and eventually recovered. The author believes that when gelatin injections are resorted to, great care should be exercised in the selection of the gelatin employed.

Blood Poisoning and Amputation.—Heinrich Wolff warmly urges the advisability of amputation in blood poisoning, when certain contingencies arise, as follows: (1) When, notwithstanding ample drainage, the acuteness of the process continues, new tissues being successively involved, and marked systemic symptoms have developed. (2) When the local process remains stationary, but the systemic symptoms are not alleviated, and the life of the patient is threatened by toxæmia or bacteræmia, in spite of the fact that ample antisepsis is employed at the local lesion. (3) When the primary injury of the affected part is extensive, rendering its complete regeneration and subsequent usefulness extremely questionable. Under these conditions amputation is not only logical treatment, but is generally absolutely demanded to save life Recent bacteriological researches which have demonstrated the rapid absorption (in a few minutes or hours) of the infective agents into the general circulation have led some to suppose that

amputation under these conditions is useless, since in spite of this operation a sufficient number of bacteria are thus absorbed to produce death. Such is not usually the case, and in the absence of any specific agent effective against the bacterial infection, amputation is the only logical treatment to pursue. The author reports a number of cases to show that even after general infection has taken place and the presence of the causative microorganisms in the blood has been demonstrated, amputation is of avail and may save life. In acute infectious osteomyelitis, amputation is indicated and is often followed by favorable results. A case is reported to emphasize this statement.

Cancer and Malaria.—Professor Kruse advances strong arguments in opposition to Löffler's view that malarial infection is antagonistic to the development of cancer. The latter advocates the inoculation of the malarial parasite as a routine measure in the treatment of cancer. A consideration of the cancer and malaria statistics in different countries and in different regions of the same country disproves this view. Thus in Italy, where malaria is very prevalent, cancer is more common than in Prussia, where malaria is unknown. The same comparison holds true in other malarial and non-malarial countries. If we compare the statistics of the various provinces in Italy, we find that in many instances a high malaria mortality corresponds with a low cancer mortality. This would, perhaps, tend at first sight to confirm Löffler's view. On closer examination, however, we find that this relation does not always hold true, and when we consider the country as a whole, we find that no definite relation exists between the prevalence of malaria and cancer. It has been thought by some that the occurrence of cancer in various localities stands in direct relation to the longevity of the inhabitants. A study along this line of various localities in Europe shows that the variations in longevity are not sufficient to account for the frequency or rarity of cancerous diseases. To a certain degree the condensation of the population is favorable to the development of cancer. As a rule in various countries, those provinces which contain the largest number of densely crowded cities show the greatest cancer mortality. By far the most potent factors in the occurrence of cancerous diseases are climatic conditions. Those countries or localities where such conditions are favorable to the development of corpulency and marked cutaneous pigmentation show, as a rule, the greatest cancer mortality. So far as Italy is concerned, this observation does not invariably hold true when applied to the various provinces. In all probability here the predominating factors are certain racial peculiarities or predispositions. Also in some other countries racial characteristics are of considerable import. The comparative rarity of cancerous diseases in the tropics, for example, is to be ascribed to a natural immunity which the inhabitants of these regions possess.

French Journals.

Cancer of the Liver of the Hæmatoid Type.—Célos reports a cancer of the liver, secondary to a small gastric neoplasm. The hepatic tumor was very large. All of the organ seemed destroyed. The cancer was composed of blood to such an extent that on section most of its substance seemed to consist of this fluid.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, December 5, 1901.

Therapeutic Action of Strychnine.—Fernet insists upon the therapeutic administration of strychnine in alcoholism, tuberculosis, and the adynamic infectious diseases. In the treatment of delirium tremens, opium, chloral, and sulfonal are not equal to this remedy; the rational treatment consists in isolation, feeding, and the administration of strychnine. In tuberculosis, in the adynamic forms of pneumonia, of grip, and of typhoid fever, strychnine also gives good results. It may be administered either by the mouth or by subcutaneous injection.—*La Presse Médicale*, December 4, 1901.

Operative Treatment of Lupus, Extirpation of the Lesions and Autoplasty.—The operative treatment of lupus is not ordinarily practised, and it is only exceptionally employed by dermatologists, for it demands on the part of the operator a certain dexterity united with great patience; and on the part of the patient, too, it is not considered with favor. It is, nevertheless, the best treatment for circumscribed lupus that has not spread extensively, and that is accessible. It gives a rapid cure, and a more satisfactory result from the æsthetic standpoint than the other procedures which are more in vogue.—*Revue de Chirurgie*, November 10, 1901.

Scientific Treatment of Deafness.—Marage describes this treatment as based on two principles: (1) The acuteness of hearing is measured by causing the patient to listen at a constant distance to the sounds of a siren which reproduces the fundamental vibrations of the vowels. The intensity of the sound being proportional to the pressure of the air, the acuteness of hearing is $\frac{1}{n}$ when the pressure of the air ought to be n mm. in order that the sound may be heard. The normal acuteness of hearing $\frac{1}{4}$ is that of an ear which hears a sound under the pressure of 1 mm. (2) The vibrations of the same siren are transmitted to the ear by means of a tube lined with a membrane which transmits all the vibrations without introducing or suppressing any harmonic; massage is given in this way with the vibrations that the ear is fitted normally to receive. According to the writer's observations, this message does not give rise to any buzzing, nor does it ever cause pain. Under its influence, the tinnitus, due to a lesion of the middle ear, rapidly diminishes, and often completely disappears. It seems that sclerous otitis is hindered in its development by this method of treatment.—*La Presse Médicale*, November 27, 1901.

American Journal of the Medical Sciences, December, 1901.

Mastitis Complicating Typhoid Fever.—Fellowes Davis, H. S. Patterson, and A. W. Hewlett report a case of this nature in a woman thirty-four years old. Both breasts were affected. The left breast was opened and about 150 c.c. of thick pus obtained. The temperature which had been septic now fell to normal. Cover-slips and cultures were made and the result showed typhoid bacilli in the abscess in pure culture. A culture tested with the blood-serum of a typhoid patient, and in a dilution of 1:10, gave a well-marked Widal reaction in ten minutes.

Report of a Case of Lymphocytosis, Without Glandular Enlargement.—William Charles White believes the following conclusions to be justified from a study of the case which he reports: (1) That a lymphocytosis may result, when there is absence of enlarged lymph glands, from increased lymphoid tissue in the intestine. (2) That the presence of these cells in the blood-stream is probably due to mechanical causes (Ehrlich). (3) That the lymphocytes in the blood-stream play no part in ordinary inflammatory conditions.

On the Nature of the Disease Known as Erythema Induratum Scrofulosorum.—Arthur Whitfield concludes that there are at least two forms of disease to which the name of Bazin's disease has been given. One of these diseases is essentially indolent, chiefly affects adolescent girls, and is in some cases undoubtedly caused by the living tubercle bacillus. The other affects women of middle age chiefly if not entirely—usually those who suffer from some form of cardiac weakness—is more acute, more amenable to treatment by rest in bed, and has nothing to do with the tuberculous process.

Penetrating Gunshot Wounds of the Abdomen.—Robert G. LeConte gives the following directions for the management of these cases: (1) Remove the patient at once to the nearest place where a clean operation may be undertaken. (2) Assure yourself positively that penetration has taken place. (3) Having demonstrated this fact, always open the abdomen and search for injuries, and make this search systematic. (4) Never wait for symptoms to tell you that profuse hemorrhage or intestinal perforation has taken place, for by that time operation will usually be of no avail. (5) Cleanliness and thoroughness must never be sacrificed to speed.

A Fatal Case of Acetanilid Poisoning.—Philip King Brown reports a case in which the patient's life was sustained eight days after having taken sixty grains of acetanilid. There was general hyperæsthesia and not anæsthesia. There were increased reflexes, and the motor and sensory functions were retained practically to the end. The patient retained nothing on the stomach from the first and was fed per rectum. There was frequent vomiting. Arterial pressure was constantly low and the pulse-rate steadily increased until just before death. The respirations were slightly increased until just before the end, when they were thirty a minute. They were always shallow. The temperature per rectum appears to have been elevated by the toxic dose, but it fell gradually to several degrees below normal. There was a progressive destruction of red blood corpuscles. There was a marked leucocytosis, and a large number of nucleated cells were present. The alkalinity of the blood was diminished 80 per cent. There was hæmatoporphyrinuria, beginning twenty-four hours after the dose was taken, and complete suppression of urine three days before death. There was acute diffuse nephritis, and hemorrhage from the bowels occurred. There was acute progressive jaundice.

Report of Two Cases of Aortic Aneurysm Treated by Means of Silver Wire and Electricity.—Leonard Freeman and J. N. Hall report two cases, and from a study of them conclude as follows: (1) Considering the inefficiency of medical treatment, and the comparative efficiency of the use of silver wire and electricity, it is probably better to proceed to the latter at once without wast-

ing valuable time upon the former. This seems all the more desirable when we consider that wiring is not a very dangerous process, and that it is in the early stages of an aneurysm, when the sac is still firm and the patient is in good condition, that the best prospect of cure exists. (2) Soft, undrawn, unalloyed silver wire, devoid of spring, that is to say, wire just as it comes from the shop, is preferable to the hard, highly drawn wire alloyed with copper and full of spring. It is hardly necessary to coil the wire previously. (3) It is still an open question as to which is preferable, a large amount of wire or a small amount; but the theoretical advantages are in favor of the former. (4) A strong electric current is preferable to a weak one. (5) The cannula through which the wire is introduced should be inserted just within the sac and no farther. (6) There is little if any danger of bursting the aneurysm from increase of pressure due to coagulation in a portion of the sac only.

A Case of Myxœdema, with a Study of the Blood and Urine During Treatment.—Thomas P. Prout reports a case of myxœdema in a woman aged forty-three years, which he treated with thyroid extract. The first blood examination was made before the administration of the thyroid. These examinations were all made between 11 and 12 o'clock in the morning. The first count showed 4,293,000 red blood cells. The next one 3,520,000 red blood cells per cm. After this the number steadily increased. The first drop is explained by the great increase of the fluid elements in the body, due to the renewed activity in the various organs of the body. The white blood cells at the various counts were: 7,200; 4,500; 5,400; 6,000; 6,266. The differential count showed nothing distinctive, except perhaps the primary drop in the number of eosinophiles, and after that their gradual increase in number. The blood platelets were of large size. They became normal in size about three weeks after the beginning of the thyroid treatment. The hæmoglobin was decreased at first, and the red blood cells were irregular in size and shape. At the last count the cells were nearly normal. The albuminuria, which was well marked at first, disappeared completely after a time. The largest amount of thyroid taken while the patient was in bed was nine grains daily. She is now taking regularly ten grains daily. Her general condition is excellent at the present time.

Edinburgh Medical Journal, December, 1901.

Report of Successes in the Treatment of Floating Kidney by a New Method.—J. Ross Watt bases his method of treatment on supporting the entire abdomen. This he does by applying two wing-shaped pieces of sheet-lead such as is used by plumbers, five pounds to the square foot, so as nearly to meet in the middle line under good, long-fitting corsets (the straight front is the best), so as to cover all the muscular area bounded by the various bony curves and elevations. Directions are given for making and adjusting the support. The author reports eighteen cases successfully treated. The patients were able to be up and about, to get out of doors, and to exercise while wearing the support; their symptoms, consisting of gastric disturbance, dragging pains, headaches, etc., disappeared, and they had increased weight, firmness of muscle, especially of the abdomen, and in a few months or a year were able to give up the support entirely.

Fever in Lymphadenoma.—H. Batty Shaw reports seventeen cases of terminal recurrent fever in lymphadenoma and sarcomatous disease. The author says that a consideration of these cases impresses the view that "lymphadenoma with recurrent fever" is not a special form of disease; that such cases are due to a terminal infection occurring any time during the last year of life of some patients affected with lymphadenoma, that the nature of the bacterial invasion is different in different cases, and that in some cases proof of a bacterial invasion is wanting; that in a considerable number of cases of lymphadenoma with recurrent fever there is great constitutional disturbance with elevation of temperature, rigors, vomiting, diarrhœa, anorexia, and malaise; that in some cases urobilinuria is a marked symptom, that in some of the cases the superficial lymphatic glands, and even the spleen, become very tender and enlarged during the attacks, and that the skin over the enlarged glands may become reddened and show increase of local temperature. The prognosis is, as a rule, hopeless, and the duration of life, after the onset of the periodic attacks of fever, averages about seven and a half months, but it may be as much as twelve or fourteen months.

Atony of the Uterus as a Cause of External Hemorrhage During Uterogestation.—James Oliver says that as soon as fecundation is effected, the vascular activity of the uterus generally becomes augmented, but at about the sixth week of pregnancy, and in response to the irritative influence of those chorionic villi which are destined to participate in the formation of the placenta, the vessels over a localized area of the mucous lining of the uterus increase rapidly in size, and eventually form sinuses. This increase in size is attained at the expense of the wall of the vessel itself, but in virtue of the vital support which the maternal vessels should receive from the opposing chorionic villi, the thinning process must be arrested before the blood pressure is capable of producing deleterious effects. If from any cause the coaptation between the chorionic villi and the uterine wall becomes impaired, rupture of the maternal vessels may result, and hemorrhage of a more or less severe character ensue. In this way hemorrhage is apt to be induced in consequence of atony of the uterus, and as the atony tends to interfere with the implantation of the chorionic villi at the very outset, hemorrhage from this cause is commonly noted as early as the fifth or sixth week of pregnancy.

The Toxæmic Basis of General Paralysis.—John Macpherson, in reviewing the studies of Bruce and Ford Robertson on this subject, says that the paper of the one is purely clinical, the other purely pathological. The former seeks to establish the fact that the symptoms of general paralysis are caused by a bacterial toxin which is constantly or intermittently poured into the system, presumably from the intestinal canal. The latter in his pathological investigations of twelve cases found gastrointestinal lesions, which he believes to have been the effects of a toxic condition. Both authors conclude that general paralysis depends upon a condition of gastrointestinal autointoxication which results from excessive growth of the microorganisms that normally inhabit the alimentary tract. Macpherson, while he considers it premature to conclude that the symptoms of general paralysis are wholly referable to gastrointestinal autointoxication, says there is every reason to believe that such intoxication plays a most important part in the order and development of its symptoms. Before further progress can be made in this direction, the rôle of the intestinal flora, especially that of the B. coli communis, in the presence of other specific infections of the organism, must be cleared up.

Revue de Médecine, November 10, 1901.

A Case of Ophthalmoplegic Migraine.—Constant Mathis reports the case of a man in whom there was incomplete paralysis of the muscles of the eye innervated by the third cranial nerve. The periodicity of the affection, the pains located on the right side of the head, a history of migraine in the mother and the beginning of the affection in childhood suggested the malady described by Charcot as ophthalmoplegic migraine. No syphilitic nor malarial cause was found for the disease, neither were there symptoms of general paralysis nor of exophthalmic goiter, and the author therefore concluded that it belonged to the type of nervous diseases described as nuclear ophthalmoplegia.

Should Fever Be Treated, and If So, How?—Ernest Jendrassik believes that cold bathing in fevers, by abstracting a certain number of calories which immediately have to be replaced causes overwork of the system, exaggerated combustion which means a considerable loss of substance, and rapid return of the fever: in many ways it resembles the old-fashioned bleeding. If not too cold, it may be sedative, refreshing, tonic hygieric, but not antipyretic. The author holds that both antipyrin and phenacetin are of value. Phenacetin is best in high fevers, especially in children, but because of its sometimes suddenly losing its effect, may have to be replaced by antipyrin. One to one and a half grams of phenacetin should be given in one dose. The action will last about six hours, and when the temperature begins to rise again, the dose should be repeated, and thus four doses may have to be given in twenty-four hours. Insufficient doses account largely for the dissatisfaction felt by many practitioners with these medicines.

Tympanic Resonance in Acute Pneumonia.—H. de Brun holds that there are three varieties of tympanic resonance in acute pneumonia, the first or premonitory tympanism is a temporary symptom, found at the onset of the disease, and indicating that a layer of healthy tissue lies between the surface and the affected area. The second, or *satellite*, tympanism is of frequent occurrence, is found chiefly at the apex, especially in the subclavicular fossa and the axillary space. It is usually in the near vicinity of a hepatized area, but in rare cases at a certain distance from it. The lung itself is the source of these two varieties of tympanism. The third, or *ples-*

simetric, is merely transmitted by the lung. When there is total hepatization, there are two areas in which this resonance may be heard, one in the subclavicular region, which is of the cracked-pot variety, and arises in the trachea and larger bronchi, and the other at the base of the thorax, of a clear sonorous nature, originating in the hollow organs of the abdomen or in the lung of the opposite side. It is a serious sign when both the upper and lower areas of resonance are present at the same time.

Revue de Chirurgie, September 10, 1901.

Resection of the Gasserian Ganglion.—K. Sapejko holds that when neuralgia occurs in all three branches of this ganglion, the seat of the trouble is intracranial, and if the pain is strictly confined to one-half of the face, the Gasserian ganglion is the part involved. Resection of the ganglion is indicated in this case, as it is in cases of severe peripheral neuralgia in which peripheral resections give no permanent relief. To prevent all possibility of relapse, the extirpation must be complete. To this end, the principal branches of the trigeminal will have to be removed, and the otic and nasal ganglia, or at least their connections with the trigeminal, must be destroyed. When the trigeminal is involved, we must differentiate accurately between neuritis and neuralgia. The author gives the various differential symptoms.

Fracture of a Phalanx by Muscular Action.—Charles Féré reports the case of a man whose work on Mosso's ergograph necessitated the immobilization of the hand and of the fingers, with the exception of the middle finger, which by flexion had to lift a weight of three kilograms a second. The position of the fourth finger caused forced extension of its phalanx, and during the course of a long piece of work a cracking was heard at the articulation of the third and second phalanges. There was neither pain nor abnormality of motion. The pulp of the finger swelled, and the tissues around the matrix of the nail became reddened and tense. The radiograph showed a circular projection above the articulation, and a slight backward bending of the phalanx. Muscular action alone could have caused this deformation, as the finger was protected from all other action, either direct or indirect, at the time of the accident..

Malignant Leiomyoma with Visceral Dissemination.—M. Devic and Louis Gallavardin report a case of malignant leiomyoma in a woman of forty-four years. The tumor was situated in the right iliac fossa, and had been in existence for several years, but during the past year had grown rapidly. Six months after it began to increase in growth, there was distention of the abdomen, ascites, and a large tumor occupying the hypochondrium and flank, and the larger part of the abdominal cavity. The liver was hypertrophied, and its edges were irregular and lumpy. At the autopsy a subcutaneous tumor was found near the glutal region. The kidneys, liver, lungs, pancreas, and thyroid body were also affected. Histological examination showed the tumor to be a malignant leiomyoma. This variety of tumor is generally supposed to be benign, but several malignant cases have been reported, involving the uterus and pelvis, the stomach, and the subcutaneous tissues.

Il Policlinico, September, 1901.

Mixed Typhoid and Malarial Infection.—Rufino Fiocca reports the case of a boy who suffered from both malarial and typhoid infection, as shown by the blood examination for the parasites, and by the agglutinating reaction. From November 25 to December 28 the symptoms present were due to typhoid, as proved by the fact that the Widal reaction was progressive, the malarial parasites were absent, and the temperature curve was typical. On the 4th and 31st of January there were attacks of malarial fever, but from the 10th to the 22d of that month there was a relapse of typhoid. The two diseases showed a decided tendency toward remaining separate, one beginning as the other ended. This independence could not be attributed to the administration of quinine.

A Rare Case of Spontaneous Bilateral Pulsating Exophthalmos.—F. Mariani reports the case of a man in whom pulsating exophthalmos came on suddenly after straining efforts. The left eye was practically blind. At the inner and upper part of the orbit was a fusiform tumor in which could distinctly be felt a pulsation synchronous with the radial pulse. The right eye was affected in the same way, but to a less extent. Treatment consisted in a low diet, chiefly of milk, 2 gm. of ergotin daily, and ice bladders applied to the head. The left carotid artery was compressed at intervals of five minutes. Satisfactory improvement has followed. The left eye is still blind, but the conjunctival œdema has diminished, the ectropion and the pulsation are reduced, and the tumor has almost entirely disappeared. The right eye is also greatly improved, the upper lid being easily raised, the chemosis and ectropion are reduced, the exophthalmos is less marked, and the pulsation is scarcely perceptible.

Therapeutic Monthly, October, 1901.

The Selective Action on the Central Nervous System of Some New Morphine Derivatives.—Albert C. Barnes concludes that: (1) While morphoxylacetic acid and its homologues are relatively non-poisonous bodies, their methyl and ethyl esters represent violent convulsion-producing poisons, which in frogs and mammalia excite picrotoxin-like convulsions. (2) While in the frog the spinal cord is associated with the toxic action of the substances, in the case of the rabbit the spinal cord, medulla, cerebrum, and cerebellum remain unaffected. The only point of selective action, giving rise to the characteristic manifestations, is situated in the brain-stem.

A Few Notes on the Salts of Sulphocarbolic Acid.—Edgar Moore Green believes sulphocarbolic acid to be a valuable remedy in cases of nervous irritability of the gastrointestinal mucous membrane, especially when there is much fermentation. The sodium, ammonium, and potassium salts of this acid correct the extreme acidity which is common in these cases, and may be given in 5 to 10 grain doses at intervals of two or three hours. After meals and at bedtime are excellent times to give the medicines. The sodium salt is advantageously combined with the aromatic fluid extract of cascara sagrada. A useful combination is that of acetanilid and sodium sulphocarbolate. This is used for headache and neuralgia. Sodium or ammonium sulphocarbolate in pill form (enteric coated) reaches the intestine and corrects fermentation there. Sulphocarbolate of zinc is useful in dysentery and diarrhœa.

Hysterical Pain and Static Electricity.—Mary Putnam Jacobi believes that hysterical pains imply a partial benumbing of cerebral centers—hysterical anæsthesia and complete loss of function, *i. e.* a paralysis. A local pain which is not increased by pressure can almost surely be referred to the brain. It is the so-called imaginary or subjective pain which so often simulates organic disease, especially utero-ovarian trouble. Electricity should be *the* remedy for hysterical brain exhaustion. The effect of falls, blows, and the like, in causing hysteria, is very marked. The writer, in her treatment of hysterical pain, uses a coil of fine wire, No. 34, with a length of 4,500 feet. She has obtained positive results in the relief of pain in a considerable number of cases. The most marked anodyne effects have been noted in the pains of pelvic neuralgias, unassociated with gross lesion of the uterus or ovaries. The effect of intrauterine treatment in the relief of dysmenorrhœa has also been marked. In superficial pains due to neurasthenia or hysteria in any part of the body, the analgetic effect of the fine-wire, high-tension current will usually yield good results.

Archives of Pediatrics, November, 1901.

Adenoma of Both Adrenals in the New-Born, Associated with Retrogressive Changes in the Adrenals of Marchand.—Alfred Scott Warthin reports a case the most interesting features of which he considers to be: (1) The presence of adenomatous hyperplasia in both adrenals, and probably also in the left adrenal of Marchand, associated with retrograde changes in the right adrenal of Marchand, suggesting a congenital anomaly or defect in the development of the adrenal anlage from the Wolffian body. (2) Suppression of urine and death from uræmia caused by a toxic acute parenchymatous degeneration of the kidneys.

An Unusual Case of Spasmus Nutans.—Samuel Amberg reports the case of an infant of five months, whose head was moving constantly. Rotary movements to both sides were prevalent, but were interrupted by less frequent nodding and shaking movements. The number of the jerky movements was about eighty to the minute. There was blepharospasm which relaxed at intervals; there was no injection of the conjunctivæ, and no oscillation of the pupils. The eyeballs made nystagmic movements of a mixed character. Treatment consisted in the administration of sodium bromide. In less than two months recovery was complete.

Infantile Scurvy and Marasmus.—Francis Huber reports the case of a child, thirteen months old, whose emaciation and general appearance made it absolutely corpse-like. Treatment consisted in the administration of orange-juice whiskey in small amounts, water internally, and salt-solution per rectum; boiled milk and barley water were given hourly in small quantity, gradually increased; later, mutton broth, with rice or barley water, soft-boiled egg, and scraped meat were prescribed, or a piece of steak was given the child to suck. About five weeks after admission the child was practically well weighing thirteen pounds one ounce.

Book Reviews.

TEXTBOOK OF NERVOUS DISEASES. Being a Compendium for the Use of Students and Practitioners of Medicine. By CHARLES L. DANA, A.M., M.D., Professor of Nervous Diseases in Cornell University Medical College, etc. With 240 illustrations. Fifth edition. New York: Wm. Wood & Co., 1901.

THERE is little need in saying much in further praise of a book that has within a relatively few years reached its fifth edition. Doctor Dana's book deserves its success. It is well written, in concise and lucid fashion, containing all that a student need to know concerning nervous diseases, supplying him with facts only, and keeping his mind free from conflicting views and theories. It is, moreover, thoroughly reliable and fully abreast of recent advances.

In the fifth edition, the chapter on myelitis has been entirely rewritten. The author is in accord with other recent writers in believing that "most of the causes produce primarily mechanical destruction, hemorrhages, or thrombosis, and the inflammation is secondary." Speaking of the etiology of acute anterior poliomyelitis, he makes "age, season, and infectious diseases" the three most important factors; and of these, of course, the last-named far outweighs the first two.

The chapter on general paresis has been added in this edition. In this, as in all other chapters, the author condenses within a few pages (7) all the well-ascertained facts regarding the disease, and there is room left for such illuminating and helpful remarks as the following: "An almost sure recipe for producing a case of paresis is this: Let a man of nervous constitution acquire syphilis between the ages of twenty and thirty, then let him work as hard as possible without vacation under great mental strain (worry is still more important, Rev.), drink a great deal of alcohol, and indulge excessively sexually. This will be pretty sure to bring on a case of paresis in ten or fifteen years."

There are slight slips in the make-up of the book. There is no good reason for putting the "Summary of the Hereditary or Family Nervous Diseases" between the various forms of muscular atrophies; but it would be folly to lay stress on such unimportant matter in a book of uniform excellence. For the present, it is the best and most serviceable textbook on neurology in the English language, and as such may well be adopted in every American College.

WARWICK OF THE KNOBS. A Story of Stonington County, Kentucky. By JOHN URI LLOYD, Author of "Stonington on the Pike," "Etidorhpa," "The Right Side of the Car," etc. With photographic illustrations of Knob County. New York: Dodd, Mead & Co., 1901.

THIS is a tale of human interest in which is protrayed a character which we hope, for the good of mankind, is becoming extinct. Warwick was a man of absolute integrity, incapable of compromise, stern, cruel in his obstinacy, utterly devoid of charity, a fatalist in his belief in the predestination ordained by a God as stern, as cruel, and as hateful as himself. The way in which the perverted conscience of this unlovely creature, obstinate beyond belief in his adherence to a cruel creed, brought about the ruin of his entire family is thrillingly told by Mr. Lloyd. The scene is laid in Kentucky during the Civil War, when this State was a recruiting ground for both armies, and the book depicts a phase of American life that should not be lost. It shows the author at his best, and is a worthy companion, both as an entertaining tale and as a local character sketch, to "Stonington on the Pike," by the same writer.

FOODS FOR THE FAT. The Dietetic Cure of Obesity, with Chapters on the Treatment of Gout by Diet. By NATHANIEL EDWARD YORKE-DAVIS, Licentiate of the Royal College of Physicians of London. Twelfth edition, revised and enlarged. New York: Brentano's, 1901.

THIS is a good book on an interesting subject—for even to the most ascetic of us, when hungry, the question of eating is an interesting one—written by a sensible man. The author is not an extremist or a faddist, and one who is, will get little aid or comfort from reading his book. The system advocated by Mr. Yorke-Davis is similar to that of Oertel, but his dietary contains more energy-forming food than does Oertel's; it provides for the rapid decrease of fat, and prevents its reaccumulation afterward, and at the same time restores tone to the heart, muscular and nervous systems, which excessive corpulency much impairs." The book is well worth reading, not only for the many useful directions it contains for the reduction of corpulence and the cure of gout, but also for its hints and suggestions regarding the preservation of health and the prevention of these cognate evils.

"LA TUBERCULOSE EST CURABLE; MOYENS DE LA RECONNAÎTRE ET DE LA GUERIR; INSTRUCTIONS PRATIQUES A L'USAGE DES FAMILLES." Par le Dr. ELISÉE RIBARD, Membre du Conseil d'Hygiene du XVIe Arrondissement; Attaché au Service des Tuberculeux à l'Hôpital Boucicaut. Avec préface du Dr. MAURICE LETULLE, Professeur agrégé, Médecin en chef à l'hôpital Boucicaut. C. NAUD, Editeur, 3 rue Racine, Paris.

THIS little book, with its encouraging title, is one of the many popular essays written recently as a result of the congress to combat tuberculosis as a disease of the masses, which convened at Berlin two years ago. To educate families concerning the danger from infection of tuberculosis and the means to prevent it, and to give them also an idea how to recognize a tuberculous patient early enough for medical aid to be of value to him, is the object of the little volume before us.

Chapter one is devoted to proofs of the curability of tuberculosis, which in turn are divided in a rather peculiar way, namely, popular, anatomical, physiological, and clinical proofs. Chapter two speaks of infection; chapter three, of the duties of parents; chapters four, five, and six, of the duties of physicians, patients, and the public authorities, respectively. The concluding chapter is devoted to treatment. The only criticism we would wish to offer is that there are too many indications for patients to treat themselves, and in our opinion too many scientific terms have been used for a popular essay. Dr. Ribard's work will nevertheless help much in the anti-tuberculosis crusade now carried on by all civilized nations.

PHOTOGRAPHIC ATLAS OF THE DISEASES OF THE SKIN. By GEORGE HENRY FOX, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, N. Y., etc. Parts II, III, and IV. Philadelphia and London: J. B. Lippincott Co., 1901.

THIS "Physician's edition" of the author's series of eighty plates comprises over one hundred illustrations, reproduced from almost life-size hand-painted photographs.

There are five pictures in each fasciculus, and most of them are not only fine examples of photographic art, but accurate reproductions in colors approximating closely those seen in life. The plates illustrating pemphigus, lichen planus, psoriasis, lupus vulgaris, and variola are perhaps the most typical and natural.

The text, which is in large type and interspersed with formulæ, reflects the author's beliefs and teachings. It has evidently been prepared with much care and consideration for the needs of the student and practising physician.

There are three illustrations of pityriasis. One labeled pityriasis maculata, the other two pityriasis circinata.

In the descriptive text, opposite the latter, we read "To the circinate form of pityriasis a variety of names have been applied. When it occurs upon the anterior portion of the chest, it is often designated pityriasis rosea, lichen circinatus, or seborrhœa corporis. Upon the extremities and other portions of the trunk it is frequently called eczema seborrhoicum." This statement of the case is apt to mislead.

Circinate seborrhœal lesions, seborrhoic eczema, and pityriasis rosea are now generally considered to be pretty distinct clinical entities, and any attempt to bring them into one class under "pityriasis" would seem to tend toward confusion, rather than simplification. The atlas, when completed, will be a handsome addition to dermatological literature.

A TREATISE ON MEDICAL JURISPRUDENCE, Based on Lectures Delivered at University College, London. By GEORGE VIVIAN POORE, M.D. (Lond.), F.R.C.P., Professor of the Principles and Practice of Medicine, London. With Illustrations. 473 pages and appendices. New York: Longmans, Green, & Co., 1901.

THAT this book is not for experts its preface admits: "The selection of matter and the colloquial style are (*sic*) due to the fact that the chapters were to a large extent originally spoken and not written. The book is intended to place the ordinary practitioner of medicine and law in possession of those facts a knowledge of which is essential."

The style, unfortunately, lacks that precision desirable in scientific treatises. Thus it is said that "toxicology is the science of poisoning" (page 93); that "one or two drops of the tincture of opium seem to have been sufficient to *definitely* kill children" (page 239); and, of atropine, that, as "there is no chemical test for it which is of much value," we should, after ascertaining an alkaloid's presence, thus apply the physiological test: "Put some of the extract into the eye of an animal, and if you get dilatation of the pupil, that is more reliable than anything" (page 282). Nothing is said as to the duration of the dilatation, or of Vitali's or Wormley's tests.

The illustrations are photographs of abnormal mental

types, the author saying that in order to give a general idea of insanity, "apart from those which are dependent upon definite diagnosis of brain disease, the best method was to show you pictures without much comment of my own" (page 417). This comment we would not willingly have lost: "I sometimes tell ladies who nag at their semi-insane husbands, 'You have taken him for better or for worse, and you have put up with him, and if you worry him, he will be worse than he is now" (page 469).

Some extraordinary propositions of law are advanced, such as this attributed to Mr. Justice Hawkins: "If you, by your wilful act, accelerate the death even of a chronic invalid by a single day, let us say (there is no reason why we should not say a second) by administering that which is likely to do harm, you are guilty of murder" (page 260). If this were law, medical practice would be perilous. The case is mentioned of "a person" who "disappeared in America" and was identified—at least what was left of him, some bones and "a lump of gold"—by an assay showing the gold to be "of identical quality" with that used in "settings" of artificial teeth worn by the missing man (page 298). Apparently, the Webster-Parkman case is referred to; but if Webster had been convicted on no better proof of the *corpus delicti* than such an essay, Boston would have risen in riot. The statement that physicians may be compelled in law courts to reveal professional confidences (page 12) is true in England, but not in the majority of the United States.

The book will give undergraduates and ordinary practitioners a general impression of the subject, and should not be compared, perhaps, with treatises that aim to be authorities, to which, unfortunately, no bibliographical note guides the reader.

As usual in books on this subject, there is no table of law cases. The type and paper are very good, but the binding is for the eye, not the hand.

Infant Feeding in its Relation to Health and Disease. By Louis Fischer, M.D., Visiting Physician to the Willard Parker and Reception Hospitals, New York City. Second Edition. Philadelphia: F. A. Davis Co. 1901. 12mo, 343 pages.

The second edition of this work has undergone much revision and is somewhat enlarged. The notable features of improvement are new chapters on Infant Feeding in Summer Complaint, and an elaborate dietary table for the child after weaning.

The author's treatment of this part of the subject is eminently judicious, and the elaborate and detailed instructions, as to arrangement of diet, are calculated to fit the most rebellious cases of indigestion and malnutrition. The author believes in common-sense methods and very properly works on the principle that while science may explain, nature must direct. Nasal and rectal feeding also receive extra attention. The book is practical in every sense and the present edition is well up to the mark.

A Practical Treatise on Diseases of the Skin. By John N. Shoemaker, M.D., LL.D., Professor of Skin and Venereal Diseases in the Medico-Chirurgical College and Hospital of Philadelphia, etc. Fourth edition, revised and enlarged, with chromogravure plates and other illustrations. New York: D. Appleton & Co., 1901.

Those advances which dermatology has shown during the past three years are incorporated in these 892 octavo pages, while especial attention has been paid to improved methods of treatment; new points in symptomatology, pathology, pathogenesis, and diagnosis have, by no means, been neglected, and the author has called for the literature of the entire scientific world for his new material. The number of illustrations in the text is limited, and this is a weak feature of the work.

Advances are not so pronounced in the department of the skin that recent editions should be considered worthless the moment a new one appears.

Students who purchased this work in the original edition may indulge in the present issue if they can afford it; but, with few exceptions, the former will serve as a safe guide for the great majority of cutaneous disorders encountered.

Ready Reference Handbook of Diseases of the Skin. By George Thomas Jackson, M.D. (Col.), Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York, etc. With eighty illustrations and three plates. Fourth edition, thoroughly revised. New York and Philadelphia: Lea Brothers & Co., 1901.

This is one of the successful skin books, and each time a new edition is offered, sufficient changes and additions have been made to render it more complete than the last. The new features of this output are sections on acne keratosa, acne urticata, caraté, craw-craw, endothelioma, granuloma necrotica, lichen annularis, lichen pilaris, and some others. The size and shape of the volume remain about the same, due to expunging. The author is open to congratulations on the success of this publication.

A Laboratory Course in Bacteriology. For the Use of Medical, Agricultural, and Industrial Students. By Frederic P. Gorham, A.M., Professor of Biology, Brown University; Bacteriologist to the Health Department, Providence, R. I. Philadelphia and London: W. B. Saunders & Co., 1901.

This is a practical book written by a practical man, and will serve as a good manual for students of this interesting science. It is not for medical students alone, but for those interested in industrial and agricultural bacteriology as well, presenting the subject in a general way so as to lay the foundation for later specialization in any branch of bacteriology.

A Manual of Determinative Bacteriology. By Frederick D. Chester, Bacteriologist to the Delaware College Agricultural Experiment Station, and Director of the Laboratory of the State Board of Health of Delaware; Member of the Society of American Bacteriologists, of the Society for the Promotion of Agricultural Science, and of the American Public Health Association. New York: The Macmillan Company, 1901.

This is, so far as we know, the only available work on purely determinative bacteriology in the English language—it is certainly the most complete. The description of each microorganism is given in the fewest possible terms, yet with all necessary detail for easy identification, under the heads of morphology, behavior in different culture media, and habitat. These tables are preceded by brief chapters on the morphology, terminology, and cultural characters of bacteria. The author disclaims that the work is necessarily one on classification, but we are inclined to accord to it an authority in this respect that is equal at least to that of any other in use. But it is preeminently as a laboratory guide in the identification of the various forms of bacteria unknown to the student that the work is to be commended, and as such it is indispensable.

The Century Book for Mothers. A Practical Guide in the Rearing of Healthy Children. By Leroy Milton Yale, M.D., Formerly Lecturer on the Diseases of Children at Bellevue Hospital Medical College, New York, and Gustav Pollak, Editor of *Babyhood*. New York: The Century Co., 1901.

We have in this excellent book an example of a nearly perfect work on popular pediatrics. Writers of medical treatises intended for the laity usually err on one side or the other. Either they foster a habit of drug-taking and self-prescribing by giving a list of remedies for every ill, or they fall into the other extreme of indefiniteness and generalization which leaves the inquirer more mystified than he was before opening the book. The authors have proceeded on the theory that the mother "should understand matters of hygiene rather than the treatment of disease; that she should know the things which go to the establishing and preserving of healthful conditions; and that she should be aided in the recognition and avoidance of disease rather than its cure." The first part treats of what the intelligent mother ought to know, and includes chapters on the Preparation for Motherhood, the Nursery, the New Baby, Dress and Clothing, Food and Feeding, Evidences of Illness, Nursery Emergencies, etc. The second part, treating of what the mother would wish to know regarding the care of her child, is made up of a great number of questions concerning the many perplexities of daily nursery life, actual questions addressed to the editors of *Babyhood*, and of the editors' (mostly, we suppose, Dr. Yale's) answers to them. All this information is made available by a copious and well-arranged index. This book can be confidently recommended to every young (or old) mother as a safe and serviceable guide.

Anatomy, Descriptive and Surgical. By Henry Gray, F.R.S. Edited by T. Pickering Pick, F.R.C.S., and Robert Howden, M.A., M.B., C.M. Revised American from Fifteenth English Edition. Philadelphia and New York: Lea Brothers & Co., 1901. 8vo, pp. 1,256.

The present edition of this popular work has undergone a suitable revision, and some new illustrations have been added. The section of embryology has been somewhat amplified, and a number of new drawings have been incorporated with the text.

SYNOPSIS OF THE REQUIREMENTS FOR THE PRACTICE OF MEDICINE

IN THE VARIOUS STATES, TERRITORIES, AND ADJACENT PROVINCES, TOGETHER WITH THE NAMES OF THE SECRETARIES.

An inquiry was sent several weeks ago to a medical officer in each State and Territory, and also in each of the provinces of Canada, as to the medical regulations in their respective localities, and sincere thanks are tendered them for their prompt replies. Only one State did not respond, and in that case it is probable that either the inquiry or the answer was lost in transit.

An effort was also made to collect some information on the subject of reciprocity of licensure, a subject which resembles the ghost that will not down.

So long as the members of the bar have such freedom of movement in the practice of their profession, it is not probable that members of the medical profession will care to have themselves anchored to any one locality. Neither will they, in middle life, care to become schoolboys again, and be subjected to a quiz-master, to be interrogated as to the paths by which they climbed perhaps to an eminence which makes their services in demand.

It is notable what great progress has been made in the last few years in elevating the medical standard. Not a single State or Territory is now without a medical law, and, with one exception, very stringent ones. It is also to be noted that New Hampshire, which a few years ago had no medical law on its statute books, now has one of the most stringent laws of any State in the Union. Perhaps Arkansas will profit by its example. The more stringent the laws are made, however, the greater should be the care exercised that they be confined in their operation to curing the ills for which they were intended, that is, to protect the people from incompetent practitioners. If that is the object of a medical practice law, let it be confined to that object, and let the incidental inconveniences be removed whenever possible.

Alabama.—Examination before the State Board of Examiners, or before one of the county boards. The latter can examine only the graduates of medical colleges indorsed by the State Medical Association. No provision in the law for reciprocity of licensure with other States. W. H. SANDERS, Montgomery.

Arizona.—Examination before the Territorial Examining Board, and graduation from a lawfully organized medical college. No provision for reciprocity of licensure. Dr. WILLIAM L. WOODRUFF, *Sec.*, Phœnix.

Arkansas.—The applicant must present a medical diploma for registration, or pass an examination before the county board where he resides. No provision for reciprocity of licensure. Dr. R. B. CHRISTIAN, *Sec.*, Little Rock.

California.—Examination before the State Medical Board, and the candidate must have graduated from a medical college, the requirements of which equal those prescribed by the Association of American Medical Colleges. Reciprocity is provided for by law with the District of Columbia or any State or Territory, provided the legal requirements in such State or Territory are equal to those of California, and provided such State or Territory will recognize the certificate of California. No arrangements have yet been made under this provision with other States or Territories. Dr. C. C. WADSWORTH, *Sec.*, San Francisco.

Colorado.—Diploma of a recognized medical college or an examination is required. Only residents of Colorado are registered. Dr. S. D. VAN METER, *Sec.*, 1723 Tremont St., Denver.

Connecticut.—Examination and recognized diploma. No reciprocity provision. Dr. C. A. LINDSLEY, New Haven.

Delaware.—Examination and a medical diploma and a competent common school education. Reciprocity of licensure has been established with some States. Dr. P. W. TOMLINSON, *Sec.*, Wilmington.

District of Columbia.—Examination and medical diploma after study of medicine three years, if granted prior to June 30, 1898, or four years if after that date. Reciprocity of licensure provided for by law, but not yet carried into effect. Dr. WM. C. WOODWARD, Washington.

Florida.—Examination and diploma of recognized medical college. No reciprocity with other States. Dr. M. MCCREARY, Pensacola.

Georgia.—Examination and diploma of recognized medical college. No reciprocity with other States. Dr. J. B. S. HOLMES, Atlanta.

Idaho.—Examination and diploma of a reputable medical college. No reciprocity provisions. Dr. R. L. NOURSE, Hailey.

Illinois.—Examination and diploma of a recognized medical college. The law permits the granting of licenses to graduates of Illinois medical colleges, without examination, but the board requires all to pass the examination. The board will accept the license of other States under certain conditions. Dr. J. A. EGAN, Springfield.

Indiana.—Examination and diploma of a reputable medical college. Any one who matriculated in a recognized medical college in Indiana prior to January 1, 1901, and who with a diploma from such school makes application for a license prior to January 1, 1905, shall be granted a certificate without examination. The law provides for reciprocity, but arrangements have not yet been made for it. Dr. W. F. CURRYER, *Sec.*, Indianapolis.

Iowa.—Examination and graduation from a recognized medical college requiring four years of not less than twenty-six weeks each. No provision for reciprocity. Dr. J. F. KENNEDY, *Sec.*, Des Moines.

Kansas.—(1) Examination after study of medicine three terms of six months each, or after April 1, 1902, four terms of not less than six months each; or (2) A certificate may be granted by the board in its discretion to a graduate of a recognized medical college; or (3) The board may accept the license granted in any State or Territory, or foreign country, having a standard equal to that of Kansas. Dr. HENRY W. ROBY, *Sec.*, Topeka.

Kentucky.—Diploma from a reputable medical college of Kentucky, or from some reputable medical college of some other State or country and indorsed as such by the Medical Board of Kentucky. The secretary says the board has the right to examine applicants from schools not indorsed as reputable by the board. Dr. J. N. MCCORMACK, *Sec.*, Bowling Green.

Louisiana.—Examination and diploma of a recognized medical college, and a fair elementary education. No provision for reciprocity. Dr. F. A. LARUE, *Sec.*, 624 Gravier St., New Orleans.

Maine.—Examination and graduation from a recognized medical college. The law provides for reciprocity with other States having equal standards. Dr. A. K. P. MESERVE, Portland.

Maryland.—(1) Examination and (2) Diploma from an approved medical college, with four courses of study, and (3) Competent common school education. No provision for reciprocity. Dr. J. M. P. SCOTT, *Sec.*, Hagerstown.

Massachusetts.—Examination. The law does not provide for reciprocity of licensure with other States. Dr. EDWIN B. HARVEY, *Sec.*, State House, Boston.

Michigan.—Diploma of a recognized medical college, or examination. No provision by law for reciprocity. Dr. B. D. HARRISON, Sault Ste. Marie.

Minnesota.—Examination, and if graduated after January 1, 1899, must have attended four courses of twenty-six weeks each; if graduated in period of July 1, 1887, to January 1, 1899, three courses of twenty-six weeks each; if graduated prior to July 1, 1887, two courses. Non-graduates must establish their period of

attendance by showing their tickets. The law does not provide for reciprocity. Dr. C. J. RINGNELL, Minneapolis.

Mississippi.—Examination. The law does not provide for reciprocity of licensure. Dr. J. F. HUNTER, *Sec.*, Jackson.

Missouri.—Examination, and applicant must also furnish evidence of his preliminary qualifications. No provision in the law for reciprocity of licensure. Dr. WM. F. MORROW, *Sec.*, Kansas City.

Montana.—Examination and recognized medical diploma after attending four courses of six months each, if graduated since July 1, 1898. No provision for reciprocity. Dr. WM. C. RIDDLE, *Sec.*, Helena.

Nebraska.—Diploma of a recognized medical college. Dr. GEORGE H. BRASH, *Sec.*, Beatrice.

Nevada.—Diploma of a recognized medical school entitles to a license, but if the school is not recognized by the board, an examination will be required. No provision in the law for reciprocity of licensure. Dr. S. L. LEE, *Sec.*, Carson City.

New Hampshire.—Examination and preliminary education (completed course in high school or equivalent education), and applicant must have studied medicine four years of nine months each, and have attended four courses of six months each in a medical college registered as satisfactory by the board, and must have received a diploma from a registered medical college or have received a certificate or license giving the right to practise in some foreign country. The law allows reciprocity, but not yet arranged. CHANNING FOLSOM, Concord.

New Jersey.—Examination and high-school education and medical diploma after four years' study of medicine and three years in medical college of good standing. Graduates of foreign institutions must, in addition to above, show that they have full right to practise in the country where the diploma was granted. The law provides for reciprocity of licensure. Dr. E. L. B. GODFREY, *Sec.*, Camden.

New Mexico.—Diploma of recognized medical college (the board recognizes colleges requiring a high-school education and four years' attendance). Otherwise, an examination is required. No provision in the law for reciprocity. Dr. W. G. HOPE, *Sec.*, Albuquerque.

New York.—(1) Examination; (2) Diploma from a medical college registered by the Board of Regents, or a diploma or license conferring the right to practise in some foreign country; (3) The preliminary education required by the board; (4) Study of medicine four years of nine months each, including attendance at a registered medical college four years of six months each. The law provides for reciprocity of licensure with other States and Territories having equal standards. JAMES RUSSELL PARSONS, Regents' Office, Albany.

North Carolina.—Examination and recognized medical diploma. A license to practise in another State may be accepted in lieu of a diploma and entitle to an examination. Dr. J. HOWELL WAY, *Sec.*, Waynesville.

North Dakota.—Examination after attending three courses of six months each. The law has no provision for reciprocity of licensure. Dr. H. M. WHEELER, *Sec.*, Grand Forks.

Ohio.—Examination and diploma of recognized medical school and required preliminary education (practically equivalent to a high-school education). The preliminary requirement applies only to matriculates since January 1, 1900. Those who were matriculated in recognized Ohio medical colleges January 1, 1900, may receive certificates under the Act of February 27, 1896. The law makes provision for reciprocity of licensure, but arrangements not completed for it yet. Dr. FRANK WINDERS, *Sec.*, Columbus.

Oklahoma.—Diploma of a recognized medical college, or examination after having practised medicine five years. No provision for reciprocity. Dr. E. E. COWDRICK, *Sec.*, Enid.

Oregon.—Examination. No law for reciprocity of licensure. Dr. BYRON E. MILLER, *Sec.*, Portland.

Pennsylvania.—Examination, and applicant must have "competent common school education," medical diploma, or a license giving the right to practise in some foreign country. If graduated after July 1, 1894, he must have studied medicine three years, including three regular courses of lectures; if after July 1, 1895, he must have studied medicine four years, including three courses of lectures. The board may require proof of the above by affidavit. A fee of $25 must be paid when application is made. "Upon the making of said payment and proof, the medical council, if satisfied with the same, shall issue to said applicant an order for examination," and if the examination is satisfactory, a license is granted. There is reciprocity of licensure. JAMES W. LATTA, Harrisburg.

Rhode Island.—Diploma of recognized medical school, or examination. The board recognizes only those schools which have four courses of eight months each. No provision in the law for reciprocity. Dr. GARDNER T. SWARTS, *Sec.*, Providence.

South Carolina.—Examination and diploma of a recognized medical school. Graduates of a medical college in South Carolina having a course of four years are exempt from examination. No provision in the law for reciprocity. Dr. S. C. BAKER, *Sec.*, Sumter.

South Dakota.—Diploma of a recognized medical college and four courses of six months each, if not graduated prior to 1896. No provision in the law for reciprocity. Dr. A. H. ROGERS, *Sec.*, Canton.

Tennessee.—Examination, except as to matriculates in Tennessee medical colleges who graduate on or before June 1902. No provision for reciprocity. Dr. T. J. HAPPEL *Sec.*, Trenton.

Texas.—Examination. The law provides for reciprocity with other States or Territories with equal standards. Dr. M. M. SMITH, *Sec.*, Austin.

Utah.—Examination and diploma of medical college in good standing. No law for reciprocity of licensure. Dr. R. W. FISHER, *Sec.*, Salt Lake City.

Vermont.—Examination and medical diploma. No provision for reciprocity. Dr. C. W. STROBELL, *Sec.*, Rutland.

Virginia.—Examination and medical diploma. The law permits the examining board to grant certificates without examination to medical graduates who have been licensed by other States. The board requires that an applicant shall be a graduate of a reputable medical school and pass an oral examination.

Washington State.—Examination and "graduation from an institution having at least a three years' graded course." The board has not yet adopted rules for reciprocity. Dr. J. P. TURNEY, *Sec.*, Davenport.

West Virginia.—Examination. No provision for reciprocity. Dr. A. R. BARBEE, Point Pleasant.

Wisconsin.—Examination and diploma from a reputable medical college that requires at least four courses of not less than six months each, and after the year 1901 four courses of seven months each, and an elementary education equivalent to that of the junior class of an accredited high school in the State of Wisconsin, but any student matriculated May 6, 1901, in any medical college in the State of Wisconsin which requires attendance on four courses of six months each shall be granted a license without examination on presentation of his diploma. The law provides for reciprocity of licensure, but the board has not yet arranged for it. Dr. H. M. LUDWIG, *Sec.*, Richland Center.

Wyoming.—Diploma of recognized medical school, or if the diploma is not from a satisfactory school, an examination will be required. No provision of law for reciprocity of licensure. Dr. GEORGE P. JOHNSTON, *Sec.*, Cheyenne.

Cuba.—Graduates of foreign institutions must present degrees from legally authorized institutions to the Depart-

ment of Public Instruction, which degree must fully authorize practice in the country where they were issued, and they must then pass a professional examination.

Hawaii.—Examination and diploma from a recognized medical college. No provision for reciprocity of licensure. Dr. George P. Andrews, Honolulu.

British Columbia.—Examination, diploma from a recognized medical school after studying four years, and payment of a fee of $100. Dr. J. C. Fagan, Victoria.

Manitoba.—All Canadian graduates must pass an examination in the final subjects and pay $75. British licentiates pay the fee, but take no examination. For American graduates the cases are determined on their merits. If their course of study has not been sufficient, they are not admitted to examination; if sufficient, they may have to take both the primary and the final examination, or they may have to take the final alone. Dr. J. S. Gray, *Registrar*, Winnipeg.

New Brunswick.—The candidate for a license must have the required preliminary education, have been graduated from a recognized medical college after attendance of not less than four years of six months each, and pass a professional examination. Dr. Stewart Skinner, *Registrar*, St. John, New Brunswick.

Nova Scotia.—The requirements are: (1) Certificate of having passed the required preliminary education (or showing an equivalent) before entering upon professional study; (2) Certificate of attendance at a recognized college, during four years of six months each subsequent to the preliminary examination upon the courses of lectures, etc., prescribed in Section 9 of the Medical Act; (3) Evidence of having passed an examination in the subjects of the foregoing curriculum and of having obtained a diploma from a college which requires a four years' course; (4) Payment of the registration fee. If the applicant has not the necessary degree or diploma, he must pass an examination before examiners appointed by the Provincial Medical Board. Dr. A. W. H. Lindsay, *Registrar*, Halifax, Nova Scotia.

Ontario.—The candidate (1) Must have the required preliminary education (about equivalent to college entrance requirements); (2) Must have spent five years in professional studies, including four sessions of eight months in an approved college, and a fifth year in clinical work; (3) Must have passed all the examinations prescribed. Dr. R. A. Pyne, *Registrar*, Toronto.

Prince Edward Island.—(1) He must have the preliminary attainments required; (2) Must have studied medicine four years in an approved medical college; (3) Must pass a professional examination. All persons duly registered by the General Medical Council of Great Britain shall be admitted to registration upon payment of the regular fee. Dr. Richard Johnson, *Registrar*, Charlottetown.

Quebec.—Any one may be registered who (1) Possesses the required preliminary education; (2) Who shall have followed during four years regular medical lectures in one of the universities of Quebec; (3) Have passed a satisfactory examination in presence of the assessors of the college or before the board of examiners. Also, any one who, having followed a regular and complete course of medical study in any university of England or France, shall have obtained the diploma of Doctor in Medicine from said university. Also any one registered in the General Medical Council of Great Britain. Also any physician from any other province or foreign country who passes the preliminary examination, studies medicine one year in a university of Quebec, and then passes an examination before the board. Dr. J. P. Boulet, *Sec.*, Quebec.

Classification.—The States may be classed in five groups, according to the requirements for securing a license to practise. In the first group (I) may be named the States and Territories which require an examination, diploma of a recognized medical college, and a preliminary education.

In the second group (II) are placed those requiring an examination and a recognized diploma.

In the third group (III) are those requiring an examination only.

In the fourth group (IV) are those requiring a diploma of a recognized school or an examination.

In the fifth group (V) are those requiring a medical diploma of any incorporated medical school.

Requirements Classified According to States: *I. Diploma of recognized medical college and a preliminary education.*—New Hampshire, New York, New Jersey, Pennsylvania, Delaware, Maryland, Louisiana, Ohio.

II. *Examination and recognized diploma.*—Arizona, California, Connecticut, District of Columbia, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Maine, Minnesota, Montana, North Carolina, Utah, Vermont, Virginia, Washington, Wisconsin.

III. *Examination only.*—Alabama, Massachusetts, Mississippi, Missouri, North Dakota, Oregon, Tennessee, Texas, West Virginia.

IV. *Diploma of recognized school or examination.*—Colorado, Kansas, Kentucky, Michigan, Nebraska,* Nevada, New Mexico, Oklahoma, Rhode Island, South Carolina, South Dakota,* Wyoming.

V. *Medical diploma of any recognized school.*—Arkansas.

*Requires a recognized diploma only.

Society Reports.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 13, 1901.

Edward K. Dunham, M.D., President.

Post-Mortem Changes in the Pancreas Simulating Fat Necrosis.—Dr. O. H. Schultze presented a pancreas which had been taken from a male, thirty-eight years of age. The man had been found dead in the toilet. He was very obese, and the cause of death had been found to be a laceration of the omentum. The abdominal cavity was filled with blood. There was an enormous direct inguinal hernia, which was filled with both fluid and clotted blood. At the internal ring, immediately beneath the peritoneal coat, was considerable ecchymosis. Dr. Schultze was of the opinion that the hernia had contained a large amount of reducible omentum, and that in the effort of straining at stool the mass of omentum passing into the sac was torn, and the hemorrhage thus produced. The pancreas in this individual was the seat of a very large amount of fat invasion. The pancreas being fresh, it had occurred to him to place the organ directly in cold storage. It had been stated that after twenty-four or forty-eight hours under such circumstances a grayish color would appear wherever there was fat. The areas of pancreas in the fresh specimen had been pink; after twenty-four hours these areas were of a distinctly grayish-white color. This tissue, when examined under the microscope, exhibited all the appearances of fat necrosis. The differentiation from post-mortem fat necrosis could be easily made by the coincident occurrence of pancreatic digestion of the cells. In addition to the fat necrosis, there was in this specimen cirrhosis of the pancreas.

Extreme Hypertrophy of the Middle Lobe of the Prostate.—Dr. Schultze: It had been gained by autopsy from a negro, aged fifty-two years, and was presented on account of the large size of the middle lobe. The lateral lobes were also enlarged, chiefly anterior to the urethra, each measuring 3x4 cm. on section. The transverse measurement of both together was 7 cm.; the antero-posterior, 5 cm. The third lobe is pear-shaped, symmetrical, and extended into the cavity of the bladder. Near its fundus it was 7 cm. in width and 5 cm. in antero-posterior measurement. The summit of its fundus

was 8 cm. above the caput gallinaginis, and 5 cm. above the junction of middle lobe with the base of the bladder. The wall of the bladder was 1 cm. in thickness throughout, the trabeculæ markedly hypertrophied. The mucosa over the middle lobe presented a number of papillæ, varying from 1 mm. to 1 cm. in length.

The ureters were markedly dilated, being 15 cm. in diameter. Both kidneys presented markedly dilated pelves and calyces. Their parenchyma was atrophied and fibrous, and in the left kidney was infiltrated with pus in places. Microscopical examination showed marked hyperplasia of the stroma of the prostate.

Adeno-Carcinoma of the Kidney.—Dr. SCHULTZE also presented a kidney which had been removed from a woman twenty-nine years of age. Almost all of the parenchyma had been occupied by a tumor, which presented on section a number of lobules. Here and there, between these lobules some kidney tissue could be seen. Microscopical examination showed the tumor to be of the alveolar type of adeno-carcinoma. This kidney presented practically the same appearance as some cases of carcinoma of the pancreas, namely, an almost insensible change from normal epithelial structure to that of carcinomatous tissue. Here and there, the kidney was infiltrated with polynuclear leucocytes. The specimen also showed fuchsin bodies, varying in size from one-fourth the size of a red blood cell to ten times that size. Some of them presented a small atrophied nucleus, others no nucleus whatever. These bodies were probably the result of a degenerative change in the epithelial cells themselves, since distinct inclusion in epithelial cells could not be made out, and they were found in greater number in the compressed areas of parenchyma between the lobules of the tumor. In volume, the kidney, which maintained to a great extent the normal form, was four times that of a normal kidney.

A Case of Ruptured Abdominal Aneurysm Simulating Hemorrhagic Pancreatitis.—Dr. L. A. CONNER presented, in connection with Dr. Schultze's specimen, a fresh specimen of clinical interest. The case was one of large ruptured abdominal aneurysm simulating clinically and on post-mortem a hemorrhagic pancreatitis. The specimen had been taken from a male Japanese, thirty-eight years of age, a steward on one of the warships in the harbor. According to the history, the man had been in good health, and while on shore-leave had been suddenly seized in the middle of the night with intense abdominal pain. He had been brought to the hospital within an hour or two, and on admission there had been excruciating paroxysmal pain referred to the left hypogastrium. When seen by the speaker, a few hours later, the man was having attacks of intense pain, with periods of remission. There was constant retching, although very little vomiting. The pulse was rapid and feeble and indicated marked shock. The abdomen was distended and tympanitic, moderately tender and very rigid all over the left side. There was good diaphragmatic breathing. The temperature was 99° F., and the pulse 124. The leucocyte count was 21,000, curiously enough. The case had been a puzzling one, and in making the diagnosis he had inclined to hemorrhagic pancreatitis. In the left flank, one could make out indistinctly a mass like a greatly enlarged spleen. His appearance had not been that of a man who was bleeding profusely, but later in the day he had become markedly anæmic, and he had died about fourteen hours after the attack. Although there was no syphilitic history, there was a well-marked scar on the penis. At the autopsy the peritoneum contained only a little blood-stained fluid, but behind the peritoneum, and pushing all the viscera forward, was an enormous mass of blood, chiefly on the left side, extending down to the margin of the pelvis and infiltrating the mesentery, the mesocolon, and the mesentery of the spleen, and entirely surrounding both kidneys. The pancreas lay in the mass. On removing the aorta, an aneurysm was found presenting just above and to the right of the pancreas. The aorta was the seat of extensive atheromatous degeneration, and this degeneration became extreme near the diaphragm.

A Parasite in the Heart of an Elk.—Dr. HARLOW BROOKS presented this specimen. He said this innocent form of infection might be easily mistaken for trichinosis. The specimen had been taken from an elk belonging to the New York Zoological Society. It had been sick for a long time. The specimen had been removed post-mortem and sent to him Beneath the endocardium, and all through the muscles, were to be seen small white foci resembling closely those of trichinosis. In this specimen they were not calcified, but they are frequently so. Examination showed the presence of the Miescherschen Schläuche. This parasite is a member of the sarcosporidia, and had been found a half-dozen times in the human subject, but not in this country or in England. Its presence in the laryngeal muscles had been reported. The parasite is a falciform body, and is found within the muscle fiber. It proliferates in the muscle fiber. The spore itself is curved and has a double contour. The chromatin is usually arranged in two distinct masses, but the whole parasite will take a sufficiently active chromatic stain. It reacts to the Gram stain. It varies in size from one-third to twice the length of the hay bacillus. Its presence in the tissues gives rise to very little local reaction, differing in this respect greatly from trichinæ. A deposition of lime salts eventually, thus giving rise to granules very closely resembling the masses found in cases of trichinosis. The specimen is much more distinctly seen in fresh than in hardened or stained specimens. A specimen of this parasite was shown under the microscope.

Dr. MILLER was invited to take part in the discussion. He said that the specimen was interesting to veterinarians because it was so widespread among the lower animals. This particular case was interesting from the fact that the disease had proved fatal. German authorities claim that very few sheep are found in the slaughter-houses of Germany without these parasites in the diaphragm, and it is even more common in the swine of that country. It was not always easy to differentiate it from the trichina. As a rule, the muscle fiber up to the parasite itself is free, while in trichinæ back from the poles in each direction, there is always a line of demarkation of broken-down muscle. By applying a weak solution of acetic acid, one can, as a rule, bring out a membrane, which is not the case with calcified trichinæ. Experiments on feeding healthy animals with the meat of other animals containing these parasites had given only negative results, and if it were transmissible there should be a vast number of such cases. The muscle is obliterated by pressure, but the parasite does not invade the muscle. The heart of this elk was flabby and very pale.

A Case of Glanders in the Human Subject.—Dr. N. B. POTTER said that he had seen this case while an interne of the Massachusetts General Hospital, upon Dr. F. C. Shattuck's service. The patient was a male, thirty years of age, who had entered the outdoor department with a story of having had pleurisy in the left side for four days. There had been some pain in the abdomen, and he had been feverish and chilly, but had had no distinct chill. There was nothing else of importance in the history except that he was a hostler. Physical examination showed a large, soft spleen, and a few fine moist râles at the end of the inspiration at the base of the left lung, and in the left axilla. The patient had an irregular septic temperature. At first, he was thought to be suffering from a rheumatic pleurisy. After having been in the hospital for about four days, a red spot developed in the bend of the left elbow, but did not go on to suppuration. Other spots formed on the lower extremity, and these sup-

purated. One of these was opened and the pus examined, but no organism found. After he had been in the hospital for three weeks, a culture was made from the median vein, but it proved negative. The blood failed to give any Widal reaction, and the blood examination was negative, except for the presence of a polynuclear leucocytosis, which increased as the disease progressed. The spots of inflammation spread and became more numerous. The man was then transferred to the surgical side, and several abscesses operated upon. Although some of the abscesses appeared small, on incising them it was found that the pus had burrowed very deeply. No bacilli were found, but some of the pus was injected into the peritoneum of a guinea-pig, and the animal promptly developed a characteristic swelling of the testicle. The man died about five weeks after admission. There was a purulent infiltration of the right forearm near the elbow, near the left ankle joint, on the second toe of one foot, together with an osteomyelitis and numerous pustules in other situations, a purulent synovitis of the right knee-joint; glanders of the nasal mucosa and of the epiglottis; also a chronic pachymeningitis together with acute degeneration of the liver and spleen.

A Case of Pernicious Malarial Fever.—Dr. L. T. LeWald reported this case. The patient was a man, twenty-three years of age, who had entered Bellevue Hospital on October 19 with a history of having been ill for about two weeks with prostration and moderate diarrhœa. On admission, the temperature had been 98.4° F., the pulse 100, and the respirations 27, but the temperature had very soon risen to 104°. The physical examination showed slight enlargement of the liver and distinct enlargement of the spleen. The diagnosis at first had been typhoid fever, but the Widal reaction was negative. The blood had been examined by one of the hospital internes, but the plasmodia had not been detected. Five days later, the blood had been examined at the laboratory and numerous æstivo-autumnal parasites found, about 5 per cent. of the red cells containing the parasites. There were no crescents. The patient had then been put upon large doses of quinine, but had died suddenly within twenty-four hours. The autopsy had revealed extreme congestion of the brain and what appeared to be punctate hemorrhages in the pons and cerebellum. Microscopical examination of these portions of the brain had, however, failed to show any extravasations—only extreme congestion. There was parenchymatous degeneration of the heart muscle and of the liver, and the latter also showed some pigmentation. The kidneys showed a rather acute parenchymatous degeneration, together with a chronic diffuse nephritis. Microscopical examination showed a large number of malarial parasites in the capillaries of the kidney. The spleen was about three and a half times the normal size, and was exceedingly soft and deeply pigmented. The pancreas was congested and somewhat enlarged. The stomach presented a small ulcer on the posterior wall. The intestine showed marked congestion of its mucous membrane. The pia mater of the spinal cord was congested. The retroperitoneal glands were greatly enlarged and softened.

Specimen of Hour-Glass Contraction of the Stomach.—Dr. LeWald also presented this specimen, which had been taken from a woman, sixty years of age, who had died as a result of thrombosis of the longitudinal and lateral sinuses of the brain, and embolus of the pulmonary artery. The contraction was at the junction of the middle and distal third of the stomach. The contracted portion would just admit the index finger. As there were a number of adhesions between this part of the stomach and surrounding organs, it was probable that this contraction had resulted from an ulcer. Dr. LeWald also exhibited a very similar specimen obtained from the dissecting room.

Dr. James Ewing asked if the urine had been examined in the case of malaria, especially with reference to parasites.

Dr. LeWald replied that the hospital records did not state that any pigment had been found in the urine, but he did not think the examination had been made with this object in view.

Intramedullary Degenerations of the Central Nervous System Secondary to Brain Tumor.—Dr. Schlapp presented microscopical sections and drawings showing different parts of the nervous system in a case of glioma with cystic degenerations, involving almost the entire right cerebellar hemisphere. The sections were presented in order to show (which they did) the secondary degenerations that take place in the nervous system in cases of brain tumor. These degenerations are not due to injury of the neuron involved directly by the growth, but indirectly by the effect which the growth has upon the whole nervous system.

Transverse sections through different parts of the spinal chord treated by the Marchi method showed that the posterior columns and posterior nerve roots were alone involved. The degeneration was confined almost entirely to fibers within the spinal chord (intramedullary fibers), and the degeneration extended just to a point where the nerve fibers take their exit from the spinal cord. This fact has been pointed out by other authors (Mayer, Pick, Hoch, and others).

Throughout the whole spinal cord, the columns of Burdock were more involved by the degeneration than the columns of Goll. Many degeneration fibers could be traced into the gray matter of the posterior horns, intermediate gray matter, and into the anterior horns of the spinal cord. The degeneration was most marked in the cervical region, less so in lumbar, and least in the dorsal region. It was found in the lemniscus throughout its course, from the nuclei of Goll and Burdock up to the thalamus. In the cranial nerves, here as in the spinal cord, the sensory nerves only were involved with the exception of the oculomotorius. The trigeminus nerve shows very marked degenerations, which only extend to the point of exit of the nerve from the central nervous system. The fasciculus longitudinalis posterior was also very much degenerated. The right cerebellar superior peduncle was almost entirely degenerated. This degeneration is due to the destruction of the dentate body in the right cerebellar hemisphere, which is the trophic center for the right superior cerebellar peduncle. So, in this case manifestly, the degeneration is attributable directly to the destruction of the trophic center of the neuron degenerated by the tumor.

The tract of Marchi and Loewenthal in the spinal cord shows no degeneration, so that this tract has not its origin in the cerebellum, as these authors thought, but very probably has its trophic center in Deiters' nucleus, which was not injured. Dr. Schlapp says these intermedullary degenerations in the posterior columns of the spinal cord and in the intercranial nerves are analogous to the changes in the optic nerve in brain-tumor cases.

The specimens were treated by the Marchi method and counterstained by acid rubin, which stains the nucleated sheath of Schwann a deep red. This combined staining method served to show clearly that the degeneration in the posterior roots of the spinal cord, as well as in the cranial nerves, extended exactly to where the nucleated sheath of Schwann begins to cover the extra medullary nerve fiber. Hence the speaker concludes that the sheath of Schwann acts in some way as a protection to the myelin substance, or myelin substance and neuraxon.

Degenerations very similar to the above are found in Addison's disease, diabetes mellitus, diphtheria, alcoholism, etc. In a crushed cord case (the cord being entirely severed in cervical region, and patient living eleven days after injury), the speaker found degenerations in posterior roots, in lower dorsal, lumbar, and sacral regions.

similar to the degenerations in the tumor case. These degenerations were intermedullary, that is, not extending beyond the point where the sheath of Schwann begins to cover the nerve fibers. They were not descending degenerations, but evidently caused indirectly by the lesion.

A Simple Apparatus for the Anaerobic Cultivation of Bacteria.—Dr. E. K. Dunham exhibited this apparatus. The method is based upon the well-known property of an alkaline solution of pyrogallic acid to absorb oxygen. The apparatus which he now employs allows of an anaerobic condition being rapidly established, and its maintenance verified. It consists of a battery-jar in which the cultures are placed on a suitable support. Over them is placed an inverted tin can or a sheet of tin foil, and over this some absorbent gauze and an inverted battery-jar. Water is poured into the outer jar so as to form a water-seal. A mixture of pyrogallic acid and caustic potash is introduced through a bent tube passing under the edge of the inner inverted jar and opening within the apparatus above the gauze, so that the latter is kept moistened by fresh absorbent solution falling upon it drop by drop. The outer end of the tube is connected with rubber tubing to a separatory funnel placed at a higher level than the jars. The solutions of pyrogallic acid (20 per cent.) and caustic potash (30 per cent.) are mixed in this funnel under a layer of paraffin oil, to prevent oxidation of the mixture. At first the gauze is stained dark brown ; when absorption is complete, a white spot appears where the absorbent solution falls upon the gauze. The rubber connection, with the separatory funnel, can then be broken, and the absorbent solution in the bent tube acts as a water seal. The oxygen is removed from the jar in about thirty minutes, and an anaerobic condition can be maintained for at least five days. The whiteness of the gauze is the guarantee that oxygen is excluded.

Dr. W. H. Park presented a modification of this apparatus. The water-seal and the gauze indicator are employed, but instead of the U-tube a rubber cork is passed through a hole in the inverted jar, and through this two glass tubes, tipped with rubber tubing carrying pinch-cocks, are passed. The pyrogallic-acid solution drops directly through one upon the gauze. Dr. Park said that he was accustomed to make use of hydrogen for the purpose of displacing the greater part of the oxygen in the apparatus, and the pyrogallic-acid solution only to remove the final portions of oxygen. The tubes passed through the rubber cock allow this to be done with the Dunham apparatus. The drop of pyrogallic solution adhering to the tube outlet suffices to make an indicator almost as good as the gauze.

Dr. Dunham, in response to questions, said that anaerobic bacteria, *e. g.* tetanus bacilli, or the bacillus aerogenes capsulatus, grow perfectly well in the top of a pile of Petri dishes, covered over completely with tin-foil, within the apparatus described. The foil acts as a metal bell, and it appears that the diffusion of gases is sufficient to remove all but, perhaps, the barest possible trace of oxygen.

The Production of Coma in Monkeys from Intravenous Infusions of Beta-Oxybutyric Acid.—Dr. C. A. Herter made some remarks on this subject. He said that some observers had been inclined to attribute the coma not so much to the acid as to the presence of toxins. Klemperer of Berlin was one of those who takes this view. It was, therefore, interesting to know whether the mere introduction of an acid into the circulation was capable of bringing about anything comparable to the coma found in man. The experiments conducted with the object of testing this point could hardly be made very satisfactorily on other animals than monkeys. He had used 5-per-cent. acid solutions of oxybutyric acid in two experiments on monkeys. The first case had failed through imperfect technique, but the second experiment had been strikingly successful. In the first experiment, after the injection of 30 c.c. of the acid solution, the animal yawned continually and became very drowsy. After the injection of 60 c.c., the animal gave a few short gasps and died. The heart-beat could not be felt during the last few minutes of life. No urine was passed during the infusion. The autopsy was entirely negative. There were 6 c.c. of urine in the bladder, and it gave a distinct reaction with ferric chloride, but ceased to give this after boiling. The urine before the injection had not given this reaction. The urine contained a small quantity of albumin. In the second experiment, after 33 c.c. had been injected, the animal rather suddenly became stuporous, and it became impossible to arouse it by pricking the skin. For two hours and a half the animal lay in a stupor, but two hours later it appeared entirely normal, and by the next day seemed as well as usual. There was complete absence of cyanosis throughout the experiment. Somewhat less than half a gram of oxybutyric acid per gram of weight of the animal was used. These experiments strengthen the view that the coma seen in the human subject is referable to the oxybutyric acid in the blood, yet he was inclined to believe that there were contributing causes, such as infections, in some instances.

Dr. A. Mayer said that he thought Dr. Herter had been the first to make these experiments on monkeys, though similar experiments had been made on other animals, and not with the success achieved by Dr. Herter. The opinion to-day was rather prevalent that diabetic coma is produced by oxybutyric acid principally. It had been claimed that with the sugar burned up in the body, other less oxidizable substances were also consumed, such as B-oxybutyric acid (and its derivatives, diacetic acid and acetone), and that in the healthy subject these substances do not appear in the urine. When, for some reason, as in diabetes, the sugar is not burned up, these substances appear in the urine. It was claimed that this could be produced artificially by withdrawing the carbohydrates from healthy individuals. Apparently, to strengthen this view, Schwarz* had made some observations on the diminution of diacetic acid and acetone in diabetic subjects. These two bodies are the derivatives of the oxybutyric acid. He had given glyconic acid and sugar acid to diabetics, and had marveled at the rapid diminution of the diacetic acid and the acetone in the urine in diabetic subjects. The following year† he had experimented upon a case of diabetic coma under his observation. A large quantity of Beta-oxybutyric acid was found in the urine, and on a certain date, symptoms of coma had developed—dyspnœa, rapid increase of respiration and pulse, along with vomiting. The symptoms had been allowed to progress until coma had developed, and then the patient had been given some glyconic acid—the equivalent of 70 grams, neutralized by bicarbonate of soda. The success of this experiment had been simply marvelous, as the patient in a short time came out of his comatose state and remained so for about three weeks. The patient had then become comatose, and had again improved under the use of the glyconic acid. A third time, two or three weeks later, coma had appeared, but the supply of glyconic acid had been exhausted. The patient died. This experiment of Schwarz would seem to prove that Beta-oxybutyric acid or its derivatives were really the cause of diabetic coma, and that perhaps we had found some substance to prevent its development, or coma having appeared, some substance which would bring the patient out of this state. Dr. Mayer said that he would suggest that glyconic acid should be given to a monkey previous to the infusion of oxybutyric acid, and then note whether

*Leo Schwarz, "Ueber Aceton-Ausscheidung," im Congress für Innere Medicin, 1900.

†*Prager med. Wochenschrift*, Juli und August, 1901.

it is possible to produce coma by such an injection. Dr. Mayer said that he had been the first one in this country to indorse the theory of the bacterial origin of diabetes, although he had not published his writings until 1898. Although the disease may be of bacterial origin, he was inclined to think that the coma itself is the result of the oxybutyric acid in the blood.

NEW YORK ACADEMY OF MEDICINE.

Anniversary Meeting, December 5, 1901.

HERMAN KNAPP, M.D., VICE-PRESIDENT, in the Chair.

Portrait of Dr. Edward G. Janeway.—Dr. J. E. JANVRIN said that two years ago he had suggested that a portrait of Dr. Janeway be procured by subscription and presented to the Academy, but Dr. Janeway had met this proposition with the promise that if the subscribers would secure a portrait of the late Dr. Austin Flint, after it had been presented, he would give to the Academy a portrait of himself. In accordance with that promise, the speaker said, he had the pleasure on this occasion of presenting to the Academy the portrait of Dr. Janeway.

Some Surgical Tendencies from a Medical Point of View.—Dr. REGINALD H. FITZ of Boston delivered the anniversary discourse, taking the above for his theme. He said that physicians had been duly impressed with the diminution in the mortality rate of surgical operations, but they were deeply concerned with the ultimate results of these operations. Experience had shown that cases formerly considered to be very dangerous, if not fatal, had been relieved, or even cured, by surgical means. The surgeon of the present day was apt to demand that cases be turned over to him at so early a stage that it is impossible for the physician to make the diagnosis, the surgeon assuming that it is better for him to do an exploratory laparotomy and thus make the diagnosis. Sometimes an early operation done for a supposed appendicitis shows no inflammation of the appendix, or an operation undertaken for an intraabdominal growth, shows only a phantom abdominal tumor. Dr. Fitz says that he had had the records of the Massachusetts General Hospital searched from 1890 to 1900 to obtain statistics concerning the results of the surgical operations done there by the several general surgeons connected with that institution. From a study of these statistics it seemed apparent that except in specially selected cases exploratory laparotomy is attended by considerable risk to life and considerable doubt as to the degree of relief attained. Operations sometimes prolong life, but one should consider whether this added life is worth the living. The surgeon was apt to raise the hopes of the sufferer too high by the citation of statistics of operations which hardly represent average results. Dr. Fitz said that he had made a special effort to determine the ultimate results of operations done at the Massachusetts General Hospital on diagnosticated and demonstrated cancer of the stomach and intestine. Replies had been received from nearly three-fourths of these cases, and the pathos of some of them was very impressive. There had been twelve operations for cancer of the stomach. In most of these life had been prolonged only a short time, and had been full of suffering. There had been nine cases of intestinal resection, of which eight had died within one month after operation, while one was enjoying good health two years and a half afterward. There had been forty-nine inguinal colostomies, thirty-seven of which had been followed. Less than one-fifth of the cases heard from had been living one year after operation. Of the seventeen Kraske operations for rectal cancer, six had not been heard from; but of the other eleven, seven had died within a year following the operation. One patient had remained in the hospital for two months, had then returned home, and lived four weeks suffering all the time. Of the seventy-seven cases of cancer of the alimentary canal, whose subsequent history had been learned, 21 per cent. had died within one week, 54 per cent. had died within one month, and 73 per cent. within six months after operation. Of fifteen cases of intracranial tumor, the subsequent history had been obtained from only ten. Four had died on the day of the operation, and others a varying number of days thereafter, so that eight out of the ten had died in the month following the operation. The treatment of tumors of the kidney, the speaker said, also occupied debatable ground. There had been eleven nephrectomies for malignant disease of the kidneys, and replies had been received from eight cases. Four had died within a fortnight, one after two months, one at the end of three months, one after five months, while one was living and practically well three years after the operation. In the last case, the growth, which was said to be a sarcoma, originated in the suprarenal capsule. The operative treatment of goiter was now known to be demanded only for such cases of goiter as have undergone secondary changes. We also knew now that the treatment of such cases by iodine, and perhaps also by phosphorus, was successful in all but a very small percentage. While the removal of a portion of a sporadic goiter might effect a cure, it by no means followed that a similar operation in Graves' disease would give a like result—indeed, very disastrous results were apt to follow in this variety of enlarged thyroid. The surgical treatment of malignant lymphoma was another subject of dispute. The very significance of the term "malignant lymphoma" was disputed. The uselessness of extirpation of the tumor in leukæmic lymphoma seemed to be pretty generally recognized; nevertheless, operations for this condition were remarkably frequent.

In conclusion, the speaker said that he had not presented the foregoing facts to oppose the beneficent work of the surgeon, but simply to emphasize the shortcomings of his art, and the need for a careful and conscientious selection of cases. He recognized and appreciated fully the great advances made in recent years in the field of surgery, yet it could not be denied that its blessings to mankind had not always been unalloyed.

Natural Method of Draining the Peritoneal Cavity.—John G. Clark says that in many cases drainage, as ordinarily employed, is superfluous or even dangerous, and the rational method is to remove all possible débris and infectious matter by thorough irrigation, and then leave one liter of salt solution (0.6 per cent.) in the abdominal cavity, and in order to promote and hasten natural drainage, supplement this by an enema of a liter of salt solution, given while the patient is well under anæsthesia, and in the Trendelenburg posture. Under this plan the patient is greatly stimulated, shock is minimized or averted, urinary excretion is increased, toxic matters are more easily eliminated without irritation to kidneys or bladder, peritoneal infection is quickly eliminated, thirst is alleviated, and intestinal peristalsis is promoted—all of these factors combining to reduce mortality after abdominal sections, to decrease the pain, discomforts, and complications of the first forty-eight hours, and to hasten recovery.—*University of Pennsylvania Medical Bulletin.*

The Insurability of People Who Have Lived in Tropical Countries.—C. L. Van Der Burg reaches the following conclusions from his study of the subject: (1) The insurance of people returning from hot countries needs a special examination: (*a*) We must find out how the change of climate has been borne; (*b*) We must look for the symptoms of tropical diseases, such as elephantiasis, leprosy, aneurysm of the aorta, beriberi, chronic dysentery, psilosis, renal and vesical calculi (which are often observed immediately after the return to Europe), and malaria. (2) The insurance companies should intrust the examination of such people to physicians who have lived in the tropics, and preferably to those who are acquainted with the region these applicants inhabited.—*The Medical Examiner and Practitioner.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 14, 1901.

	Cases.	Deaths.
Measles	596	23
Diphtheria and croup	234	43
Scarlet fever	230	11
Smallpox	10	2
Chickenpox	51	..
Tuberculosis	231	141
Typhoid fever	64	19
Cerebrospinal meningitis	..	3

The Fee and the Show.—Recently one of the best-known physicians in New York died, a man with a reputation on two continents, who reached the acme of his fame early and had far more than the average years of extreme prosperity. Yet, when his estate was computed, great surprise was expressed on every hand at finding that he had managed to save during a long and busy life only the earnings of two or three years. The same occurrence can be noted every day. A supposedly prosperous physician dies leaving nothing, while his son gives up his college education and his daughters are compelled to eke out an uncongenial existence as teachers or stenographers.

No doubt, the incomes of most physicians are greatly exaggerated. The average income of the well-established city physicians is probably nearer twenty-five hundred than five thousand dollars, while the general average is said to be far below one thousand. But physicians apparently leave much less behind than other men with similar incomes.

The business training of physicians is to quite an extent responsible for this. Each one does a vast amount of charity work for which he gets little credit, and this is especially true of the men who have an appearance of prosperity from the relative size of the fees they do collect. He is a poor collector, sending out his accounts at infrequent and irregular intervals and creating the not unnatural impression that he does not need the money. Small wonder then that the family medical bill is paid only after all other reasonable family desires have been satisfied.

We do not suppose it is possible to suggest any satisfactory fee scale, but it is self-evident that the scale which taxes the clerk a day's wages for consultation while his employer escapes with the income of a minute is, to say the least, not an equitable one. Neither can the system be defended as businesslike by which the physician treats for nothing a multitude of patients who would willingly pay a small fee for the same service, if the fee were in proportion to their means. And if the fees at one end of the scale are too high, those at the other end are certainly too low, as compared to other professions. The man who does not begrudge his pastor a handsome fee for a ten minutes' wedding ceremony, very often thinks the same fee too much for as many hours' work in facilitating the advent of his first born. The business man pays his attorney a large fee for drawing his will in an emergency, and then disputes the account of the surgeon who obviated the immediate necessity of that will.

This inferior business instinct also shows itself in a false professional pride. The laity generally rank a physician according to the location and beauty of his office and the size of his consultation fee, and very many members of the profession are unable to get rid of the same pernicious idea. As a consequence, the aspirant invests his income in an expensive office, charges an exclusive fee, and fritters away hours in idleness rather than accept the smaller sums which he might have. Such policy is good business for a few, but there are not rich patients enough for all, and if one adopts the plan he should do it with the clear understanding that the chances are distinctly against him. After all, the ones who lead the busiest, happiest professional lives, who do the most good in the world, and who leave the most behind are the ones who have the least of this false professional pride.

While it may be good business policy to have an office in an exclusive neighborhood, by it insuring larger fees and a more exclusive practice, the same reasoning does not often apply to a residence in the same neighborhood unless it be amply within one's means. Of course, the physician likes to have his family live well and enjoy the society of many of the people who are his patients; but when, on an income of five thousand, he tries to live next to and like the banker on a hundred thousand, he pays a ruinous price.

Certain portions of our large cities are crowded with physicians attempting just this thing. They have the superficial appearance of prosperity; their families are apparently perfectly secured against want and live in style only justified by quadruple the income. After the funeral it transpires that the utmost endeavor has paid the rent or kept up the interest, while the family living has been made from the renting of furnished rooms.—*N. Y. State Jour. of Med.*

Origin of Absinthe.—The New York *Herald* says: "Temperance people in Europe were recently much surprised at the discovery that the deadly absinthe was originally an extremely harmless medical remedy. It was a French physician who first used it. His name was Ordinaire, and he was living as a refugee at Couvet, in Switzerland, at the close of the eighteenth century. Like many other country doctors at that time, he was also a druggist, and his favorite remedy was a certain elixir of absinthe, of which he alone had the secret. At his death he bequeathed the formula to his housekeeper, Mlle. Grandpierre, and she sold it to the daughters of Lieutenant Henriod. They cultivated in their little garden the herbs necessary for concocting it, and after they had distilled a certain quantity of the liquid they sold it on commission to itinerant pedlers, who quickly disposed of it in the adjacent towns and villages. Finally during the first decade of the nineteenth century, a wealthy distiller purchased the formula, and very soon afterward he placed on the market the modern absinthe, which differs greatly from the old medical remedy, since the latter contained no alcohol and very little absinthe."

Statistics of Negro Illiteracy.—Taking the negro males in the Southern States of voting age, the illiterates are: 61.3 per cent. in Louisiana, 59.5 in Alabama, 56.4 in Georgia, 54.7 in South Carolina, 53.2 in Mississippi, 53.1 in North Carolina, 52.5 in Virginia, 49.5 in Kentucky, 47.6 in Tennessee, 45.1 in Texas, 44.8 in Arkansas, 42.7 in Delaware, 40.5 in Maryland, 39.4 in Florida, 37.8 in West Virginia, and 31.9 in Missouri. In New York, on the other hand, where there are a great many negro men of voting age, the percentage of illiteracy among them is only 11.3, while in Pennsylvania it is 17.5. In Kansas, whither a great many negroes have gone, the percentage among them of adult male illiteracy is 28.1. In the District of Columbia, which has a large negro population in fairly good economic circumstances, the percentage of male illiteracy is 26.1. The negro colony of Massachusetts numbers 40,000 souls, and only about 10 per cent. are unable to read and write. —*Review of Reviews.*

Immigration by Nationalities.—*The National Geographic Magazine* for November has an article on "Immigration and the Census" and in it are noted the nationalities that make up our total immigration, amounting to 19,115,221 in eighty years. Germany has contributed over one-fourth, 5,009,280; Ireland slightly more than one-fifth, 3,869,268; Great Britain one-fifth, 3,026,207;

Norway and Sweden nearly one-fifteenth, 1,246,312; Canada and Newfoundland 1,049,939; Italy, 1,040,457; Austria-Hungary, 1,027,195; and all other countries about one-tenth, 1,919,661. Probably one-fourth of our immigrants have during the past ten years returned to their old homes. Three and one-half millions are recorded as having entered the country, but there is an increase in our foreign-born population of only about one million, conclusive proof that many remain in America for only a short period.

World's Tobacco Users.—According to recent statistics, the average consumption of tobacco by each person in the various countries of the world is as follows: Netherlands, 3,400 grams; United States, 2,110; Belgium, 1,552; Germany, 1,485; Australia, 1,400; Austria and Hungary, 1,330; Norway, 1,333; Denmark, 1,125; Canada, 1,050; Sweden, 940; France, 933. Russia, 910; Portugal, 850; England, 680; Italy, 635; Switzerland, 610; and Spain, 550.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended December 14, 1901:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Clifornia, Los Angeles	Dec. 3,	1	
Illinois, Chicago	Nov. 30-Dec. 7,	2	
Peoria	Nov. 1-30,	41	
Indiana, Evansville,	Nov. 23-Dec. 7,	5	
Iowa, Ottumwa	Nov. 2-Dec. 9,	63	
Kansas, Wichita	Nov. 30-Dec. 7,	4	
Louisiana, New Orleans	Nov. 30-Dec. 7,	3	
Massachusetts, Boston	Nov. 30-Dec. 7,	59	14
Brockton	Nov. 30-Dec. 7,	2	1
Cambridge	Nov. 30-Dec. 7,	5	1
Chelsea	Nov. 30-Dec. 7,	2	
Gloucester	Nov. 30-Dec. 7.	1	
New Bedford	Nov. 30-Dec. 7,	2	
Somerville	Nov. 23-30,	2	
Michigan, Grand Rapids	Nov. 16-30,	3	
Minnesota, Minneapolis,	Nov. 30-Dec. 7,	1	
Winona,	Nov. 30-Dec. 7,	1	
Nebraska, Omaha	Nov. 30-Dec. 7,	14	
New Jersey, Camden	Nov. 30-Dec. 7,	6	
Newark	Nov. 30-Dec. 7,	14	7
New York, Buffalo	Nov. 23-Dec. 4,	39	
New York	Nov. 30-Dec. 7,	17	2
Ohio, Cincinnati	Nov. 30-Dec. 7,	6	
Pennsylvania, Lebanon	Dec. 2-9,	3	
Norristown	Nov. 23-Dec. 7,	11	
Philadelphia	Nov. 23-Dec 7,	185	22
Tennessee, Memphis	Nov. 30-Dec. 7,	2	
Texas, San Antonio	Nov. 1-30,	3	
Vermont, Burlington	Nov. 30-Dec. 7,	3	
Washington, Tacoma	Nov. 19-26,	4	
Wisconsin, Greenbay	Dec. 1-8,	9	

SMALLPOX—FOREIGN.

Belgium, Antwerp	Nov. 16-23,	7	
Brazil, Rio de Janeiro	Oct. 20-Nov 3,		153
Canada, Manitoba, Winnipeg	Nov. 16-23,	5	
New Brunswick, St. John	Nov. 30-Dec. 7,	17	2
Nova Scotia, Halifax	Nov. 30-Dec. 7,	8	
Windsor	Nov. 30-Dec. 7,	1	
Quebec, Quebec	Nov. 30-Dec. 7,	30	
Colombia, Cartagena	Nov. 18-24,	5	
Panama	Nov. 23-Dec. 2,	100	
France, Paris	Nov. 16-23,	9	9
Great Britain, Glasgow	Nov. 22-29,	1	
London	Nov. 9-23,	764	44
Cuba, Havana,	Dec. 4,	1 case from S.S. Alfonso XIII.	
India, Bombay	Nov. 5-12,		1
Calcutta	Nov. 2-9,		2
Madras	Nov. 2-9,		2
Italy, Naples	Nov. 16-23,	25	6
Russia, Moscow	Nov. 9-16,	6	
St. Petersburg	Nov. 9-16,	6	1
Odessa	Nov. 16-23,	5	1
Warsaw	Nov. 9-16,	3	
Spain, Barcelona	Nov. 16-30,		5

YELLOW FEVER.

Brazil, Rio de Janeiro	Oct. 20-Nov. 10,		3
Cuba, Havana	Nov. 20-Dec. 3,	1 case from Br. S.S. Ardanmohr. 1 death from Sp. S.S Buenos Ayres.	
Mexico, Merida	Nov. 9-16,		3
Vera Cruz	Nov. 23-Dec 1,	20	8

CHOLERA.

India, Bombay	Nov. 5-12,		3
Calcutta	Nov. 2-9,		3
Madras	Nov. 2-9,		18
Japan, Yokohama	Nov. 2-9,		1

PLAGUE—INSULAR.

Hawaiian Islands, Honolulu	Nov. 27-Dec. 10,	2	1
Philippine Islands, Manila	Oct. 12,	1	

PLAGUE—FOREIGN.

Brazil, Rio de Janeiro	Oct. 20-Nov 3,		42
India, Bombay	Nov. 5-12,		189
Calcutta	Nov. 2-9,		14

The Criminal Negro.—In the *Arena*, November, Miss Frances Keller concludes her series of articles on the above subject. The result of her investigations goes to show that, with reference to climate, soil, food, and economic and social conditions in general, the negro compares to disadvantage with any other class in America, that Southern prisons are rather conducted with a view to profit than to a suppression of crime, that the physical and mental status of the race should not discourage educational efforts, and that the environment in the South is favorable to the commission of crime by negroes.

New Seasickness Remedy.—Professor Heinz of the University of Erlangen claims to have discovered an infallible and very simple antidote against seasickness. "Draw a long and vigorous breath at frequent intervals," he says, "and you will never suffer from this malady." The reason, he explains, is because the initial cause of seasickness is to be found in a lobe of the brain, the sensitiveness of which reacts on the stomach, and that when fresh air is breathed at frequent intervals the blood becomes charged with oxygen and thus the offending lobe loses its sensitiveness.—*New York Herald.*

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

HANDBUCH DER PHYSIKALISCHEN THERAPIE. By GOLDSCHEIDER und JACOB. Royal octavo, 535 pages, illustrated. George Thieme, Leipzig, Germany.

THE FOUR EPOCHS OF WOMAN'S LIFE. By ANNA M. GALBRAITH. 8vo, 200 pages. W. B. Saunders & Co. Philadelphia. Price, cloth $1.25 net.

ESSENTIALS OF PHYSIOLOGY. By S. P. BUDGETT, M.D. 12mo, 233 pages. W. B. Saunders & Co., Philadelphia. Price, cloth $1.00 net.

TRANSACTIONS OF THE AMERICAN OTOLOGICAL SOCIETY. 8vo, Vol. VII., Part IV. Published by the Society.

MEDICAL AND SURGICAL REPORTS OF THE BOSTON CITY HOSPITAL. 12th series, 8vo, 199 pages, illustrated. Published by the Trustees.

A MANUAL OF CLINICAL LABORATORY METHODS. By J. B. NICHOLS. 8vo, 303 pages, illustrated. William Wood & Co., New York. Price, $2.50 net.

GYNECOLOGICAL PATHOLOGY. By CARL ABBL, M.D. 8vo, 237 pages, illustrated. William Wood & Co., New York. Extra muslin, $2.50 net.

ETUDES SUR LA TUBERCULOSE ET SON TRAITEMENT. By Dr. G. P. COROMILAS. 8vo, 218 pages. A. Maloine. Paris, France. Price, Fr. 8.

PARASITOLOGIE ANIMALE. By Dr. MAURICE NEVEU-LEMAIRE. 12mo, 212 pages, illustrated. Paris, France. Price, Fr. 4.

THE SURGICAL AND MEDICAL HISTORY OF THE NAVAL WAR BETWEEN JAPAN AND CHINA, 1894–95. By S. SUZUKI. Royal octavo, 544 pages, illustrated. Tokio Printing Co., Tokio, Japan.

ETUDES ANATOMIQUES SUR LES GROSSESSES TUBAIRES. By LE D'A. COUVELAIRE. Royal octavo, 160 pages, illustrated. G. Steinheil, Paris, France.

YEARBOOK OF THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK, 1901. 8vo, 103 pages.

TRANSACTIONS OF THE TWENTY-THIRD MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION. 8vo, 274 pages, illustrated. Rooney & Otten Printing Co., New York.

RATIONAL HYDROTHERAPY. By J. H. KELLOGG, M.D. 8vo, 1,103 pages, illustrated. The F. A. Davis Co., Philadelphia, Pa.

PROBLEMS RELATING TO SURGICAL OPERATIONS. By G. W. CRILE, M.D. 8vo, 200 pages, illustrated. J. B. Lippincott Co., Philadelphia, Pa.

THE BABY, HIS CARE AND TRAINING. By MARIANNA WHEELER. 12mo, 180 pages, illustrated. Harper & Brothers, New York, Price, $1.0.

THE PHYSICIAN'S VISITING LIST FOR 1902 (LINDSAY & BLAKISTON'S). P. Blakiston's Son & Co., Philadelphia.

THE PRINCIPLES OF PATHOLOGICAL HISTOLOGY. By GAYLOR & ASCHOFF. Royal octavo, 350 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa. Price, cloth, $7.50 net.

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THE NEUROTIC INDICATIONS OF PRE-SENILITY.

By ALLAN McLANE HAMILTON, M.D., F.R.S.E.,
CLINICAL PROFESSOR OF MENTAL DISEASES IN CORNELL UNIVERSITY MEDICAL COLLEGE,
NEW YORK.

THE old saying that "a man is as old as he feels," is only in part true. It is sometimes claimed that "a man is as old as his arteries," which is the pathological and more exact way of putting it. Both these statements are correct, for many of the first warnings of "break-down" are subjective, and are connected with the nervous system, and depend more especially upon easily aroused variations of the cerebral circulation due to an impaired tonicity of the vessels. Such instability, though scarcely beyond the physiological standard, is apt to be followed by warning symptoms which betoken commencing involution of the human apparatus, and are often made light of by the individual himself, or by the physician to whom he may be urged to go.

Our national characteristics are notably such as to invite a premature decline in force and energy through over-use of our nervous systems; but possibly after several generations we may cultivate the same stability which is characteristic of older peoples. While it is almost an affectation to adopt the terms "Americanism," "American neurosis," or "American neurasthenia," as some of our Teutonic critics are disposed to do, I think I may safely say that many of us do break down at an earlier age than our foreign neighbors, and this is largely because our struggle for the rapid accumulation of wealth, for the gratification of an ambition, which is due to competition, and not in a small measure to the stimulation of our newspapers.

Many commence business life in their teens, taking little or no exercise of a beneficial kind and insufficient mental exercise of a recreative order, readily adopting the luxurious life of continental Europe, and in our unrest carrying everything to extremes. A pernicious influence of a part of the press fosters in young people the ambition to "hustle," and to select careers for which they are unfitted. Men who should be behind the plough, or in the counting-house, adopt professions for which they are not adapted, and often break down through attrition or thwarted ambition. The necessity of keeping up a certain appearance implies a constant and fagging use of brain power, which is accompanied by worry, and anxiety of the kind that makes men prematurely old. And what injury such strife does not bring about, is wrought by the stock market.

Our physical health is, on the other hand, impaired by overeating and insufficient exercise, and we ordinarily use too little judgment in the selection and taking of food, so that gastric and intestinal complaints, among which are distention of the stomach, chronic catarrh of the mucous membrane of the stomach and intestines, defective metabolism, and diarrhœa are not infrequent. Various toxic conditions are an accompaniment of this state of affairs, so that the nervous system is supplied with vitiated blood, and arterial disease is invited.

It should be unnecessary in this connection to refer to the familiar dangers of alcohol and tobacco, both of which are usually indulged in in an irrational way, or to the taking of medicines and drugs. There are now many accommodating manufacturers who supply tablets representing attractive formulæ that are within the reach of the amateur physician who has himself for a patient. Perhaps more harm has been done by such indiscriminate taking of the coal-tar preparations, which are easily obtainable, than by any other remedy.

Such standard and conventional tests of senility, as hardened and tortuous vessels, premature baldness, the arcus senilis, and other appearances are usually regarded as danger signals, and indicate the approach of senility; but, after all, these suggest an advanced condition of degeneration, and, when present, it is too late to do much. Even the occasional presence of albumin and casts in the urine is not regarded nowadays as having the importance that it formerly had; but, as a rule, when urinary changes, sufficient to cause these manifestations, exist, a great deal of mischief has been done, and especially is this the case when our patient is a man still under fifty, who has led a "strenuous life" of the kind I have described.*

It is difficult to fix a standard of mental vigor, or to say when true senility should show itself. Clouston says:

"Physiological senility means no reproductive power; greatly lessened affection faculty, diminished power of attention and memory, diminished desire and power to energize mentally and bodily, lowered imagination and enthusiasm; lessened adaptability to change, greater slowness of mental action; slower and less vigorous speech as well as ideation; fewer blood corpuscles, red and white; lessened power of nutrition in all the tissues; a tendency to disease of the arteries; a lessening in bulk of the whole body, but notably of the brain, which alters structurally and chemically in its most essential elements, the cellular action and the nerve currents being slower, and there being more resistance along the conducting fibers. In the young man there is organic craving for action, which, not being gratified, results in organic discomfort. In the old man there is an organic craving for rest, and not to gratify that which causes organic uneasiness."†

These changes, of course, correspond to the normal weakening of age; but, whenever they begin to appear before fifty, there can be little doubt that pre-senility exists, and they become pathological, instead of physiological.

A study of a large number of cases of pre-senility has convinced the writer that there are many symptoms, especially of disturbance of the nervous system,

* *Vide* "On the Advantage of a Trace of Albumin and a Few Tube Casts in the Urine of Certain Men About Fifty Years of Age." Wm. Osler, M.D., LL.D., *Medical Journal*, New York, November 23, 1901, page 949.

† *Vide* "Lectures on Mental Diseases," by T. S. Clouston, M.D., Edin., F.R.C.P.E., etc. American edition: H. C. Lea's Son & Co., 1884, p. 395.

which are not taken into account as often as they should be, and these invariably indicate commencing disturbances due to vascular degeneration. While the study of the pulse and heart in arterio-sclerosis has been quite extensive, the writer does not think that its connection with mental variations and deterioration has been fully described. The pulse has a certain instability in subjects of this kind which can be determined only with difficulty, unless the subject is under daily observation. If sphygmograph tracings are taken *at different times in the day*, a wide variation is presented as the mental equilibrium of the individual is disturbed by changes in blood tension; and it will be found that the elevation of the first line and the character of the tidal-wave line will vary with the hyperæmia of the brain and the associated cardiac muscular instability; or, if the vascular tension has endured for some time, there will be found an appearance presenting the slanting up-stroke, and the long receding stroke, interrupted by numerous indentations, which is so characteristic of general paresis.

That condition of cerebral irritation so well described by Fothergill many years ago, when in an ordinary anæmic brain flushes of hyperæmia occur, is an evidence of pre-senility, as well as earlier ischemic states. The mental impairment attendant upon altered blood pressure and consequent malnutrition of the cortical elements are recognized by the patient himself as well as by others. In ordinary men under good self-control, there is a stability which is quite altered in the pre-senile state. Under slight emotional stimulation they become flushed and irascible, or lose the patience and ability to throw off care which may have been characteristic of former years. Hypochondriasis, too, is a development of that introspection which accompanies a limitation of mental power and easily produced brain fag. Among other early indications of mental failure is the indisposition to make intellectual exertion, and a tendency to avoid anything that may be regarded as complex reasoning. The association of ideas is weakened. He will be indisposed to indulge in contrasts of ideas with the same vigor that he had in previous years. As a rule, he tries to arrive at the result desired with the least effort and in the quickest way, and much of his mental activity is automatic. His weakness is especially shown in following out new channels of thought, or accepting and storing away fresh impressions. We find him, therefore, indisposed for exertion. If he be a professional man, he creates little or no new work, and under all circumstances he seeks the broad road of colloquialism and thoughtless speech; and old mental habits become stronger than ever, and he is relieved when he accomplishes what is required of him. While he is conscious of his failing power, he accepts the failure with resignation; or, on the other hand, chafes at the success of others. An early impairment of memory, especially of substantives, annoys the subject, and this keeps pace with a kind of apathy and dulness. Little mistakes are made in calculations, letters are misdirected, and checks unsigned. These may be insignificant omissions, but they may grow to be evidence of pathological weakness.

Many men between thirty and forty, who have enjoyed good health and have clear brains, are apt, under the stress of hard work, to suffer from headache of a peculiar kind, and these are undoubtedly connected with sudden change in the diameter of the cerebral vessels. In some respects, they resemble the angiospastic form of migraine—but the pain is sub-occipital or frontal, and usually bilateral. Such attacks nearly always follow fatigue, and occur after a particularly trying day in court, a night without rest, or the execution of a laborious literary task. There is pallor, small pulse, subjective coldness, loss of appetite, emotional depression, and the copious discharge of large quantities of limpid urine of clear color and low specific gravity. There is reactionary dulness and fatigue, and a disinclination to repeat the work. During the attack, hemiopia is an occasional feature. Dysæsthesia and paræsthesia often annoy him, so that he complains of undue discomfort produced by the contact of his clothing, or of vague sensations and feelings of weight and tiredness, especially in the lower extremities. Abnormal exhaustion after no apparently sufficient effort is referred to "malaria," or some other vague cause. Certain additional perverted sensations lead to a condition of hypochondriasis, which often causes the patient to think he has appendicitis; or annoying sensations in the legs and feet suggest locomotor ataxia. In the large number of individuals aggravating joint pains of an irregular nature are taken for rheumatism or gout, and there may be urinary indications of the same.

Many have first complained of what the writer believes is an early symptom of cerebro-spinal ischemia—cramps in the lower extremities. In some, this painful manifestation often occurred at night, after the slightest daily fatigue. The posterior leg muscles seem to be the favorite locality.

While much has been written about vertigo, I do not think its importance as an indication of progressive arterial occlusion has received due attention.

For a long time before troublesome, or even incapacitating, symptoms have developed, the pre-senile individual is apt, under unusual cardiac stimulation, to become giddy; and this often has no other origin than an excited dispute, attendance at an absorbing play, or the temporary effects of extreme heat or cold; a sudden glance forward, or the act of bending over to tie one's shoe, may too easily cause confusion and slight tottering. Vertigo of this kind is always subjective, and may be termed *postural*, that is to say, it is present even when the individual closes his eyes or suddenly changes his position, and is not of the kind which may be said to be external, and so often associated with Ménière's disease. While it is undoubtedly at times aggravated by gastrointestinal disorders, in which intestinal autointoxication and constipation occur, it exists long after these conditions have been removed.

A large number of men present a constant vertigo which may be recognized as an antero-posterior variety; that is to say, it is always induced when the patient lays his head upon the pillow, or when he looks at an object above him, or when he bends over.

The initial disturbance has been ascribed by patients to "the blood flowing from the front to the back part of the brain"; and there has been a sort of culmination, and afterward a subsidence, when the individual became adapted to his new position. Consciousness is never lost, and the state is not a persistent one, except in the matter of its frequent and annoying recurrence. Attempts at adjustment are attended by more or less cardiac activity, but there is little or no change in color.

Pre-senile insomnia is usually that dependent upon an irritable brain. The patient is exhausted toward the latter part of the day and seeks his bed soon after dinner, and after a short period of sleep awakens, or else does so at a very early hour of the morning. In both cases, the awakening is sudden

and complete, and he is tortured by a veritable kaleidoscope of active thoughts.

There can be no question but that a pre-senile person, so far as the matter of nervous disturbances are concerned, is likely to be influenced greatly by excesses in diet, or by the indulgence in alcohol, tobacco, or venery. The indications to be borne in mind are the avoidance of agents that produce rapid and repeated determination of blood to the brain, and which put too much work upon the heart. For this reason, alcohol, which is taken regularly, is much worse than where the drinking is occasional. The use of "pick-me-ups" or "cocktails" is especially injurious, for this kind of tippling induces not only gastric disturbances, but repeated cerebral flushes, which do more harm than the ingestion of a considerable amount of alcohol at a time.

The rôle played by tobacco in the causation of a pre-senile state is an important one, and while small or moderate quantities of nicotine stimulate the heart, excessive amounts not only affect the circulation detrimentally, but undoubtedly induce a paresis of the cerebral arteries with resultant degeneration. While many of the narcotic effects of tobacco poisoning occur in men of all ages, there seem to be certain specific symptoms associated with the so-called "tobacco heart" and with undoubted pre-senile tissue change, and these are other than circulatory.

Vertigo of the kind described which persists for a long time, even after tobacco has been given up, is but a suggestion of how deep the mischief may be. The confirmed smoker is too apt to resume the habit, and degeneration is sooner or later the only ending. While, of course, the capacity for venery is, in large measure, in some individuals self-limiting, if abused it may result in so frequent a spasm of the entire vascular system of the brain as occasionally to induce an almost epileptiform state. This repeated strain upon the cerebral arteries of course induces further organic disease.

So far as the treatment and antagonism of presenility is concerned, the cutting off of all possible bad habits will, of course, suggest itself. Absolute abstinence, though, is sometimes as bad as excessive indulgence in men who are habituated, and it cannot be denied that the lack of the customary stimulants has precipitated a condition of affairs which might have been delayed by less radical measures.

The taking of alcohol, in any form, must then be regular, after eating, and always well diluted.

While the medical management of this condition is one about which there is little to be said, each individual case needing different care, reference may be made to the advantages of a modified Nauheim treatment. A decidedly beneficial result is apt to follow the judicious use of a hot saline bath, the effect upon the circulation being quite as prompt and serviceable as that obtained by the expensive and troublesome effervescing bath.

Many cases of natural breakdown and enfeebled volition are undoubtedly regarded and treated as examples of neurasthenia (that most protean and elastic of all terms) whose symptoms express a large number of pathological conditions. It is quite probable that the pre-senile change and its nervous disturbances are like the disease with the pedantic name, nothing more than the [illegible] of [illegible]lt of a number of enfeebling factors. [illegible]

44 East Twenty-ninth Street.

Cocoanut Butter.—Cocoanut butter is now produced in Mannheim, Germany, at the rate of ten tons a day. It contains 99 per cent. of fat, while ordinary butter has only 85 per cent. It is said that it will keep for three months.

CLINICAL REPORT OF A SECOND SERIES OF TWELVE CASES BENEFITED BY BOTTINI'S PROSTATOTOMY.

By RAMON GUITÉRAS, M.D.,
NEW YORK.

Since the publication of a previous series of twelve cases operated upon by Bottini's method, I have been surprised to see the good and permanent results that have been obtained by this method, and the freedom of this operation from danger, when performed in selected cases, with due care as to the details of the technique.

It is easy to see that considerable improvement may follow prostatotomy in cases in which there is no marked enlargement of the prostate as felt by rectum, and in which the floor of the prostatic urethra is but slightly elevated, and the bladder in good condition. On the other hand, it is surprising how great the improvement has been in cases in which the gland was very markedly enlarged, as testified by rectal palpation, in which the posterior urethra was elongated and distended, and the bladder badly diseased.

It is difficult to conceive why an operation consisting simply in burning linear scars in the floor and sides of the prostate gland, and followed by the casting off of sloughs from the edges of the furrows thus made, should cause such a reduction of the urinary obstruction, and such a contraction of the gland. Clinical evidence, however, supports the truth of this statement. It is possible that the cutting off of the blood supply of the prostate by this measure tends to cause an atrophy of the gland, although on examining prostates removed by prostatectomy or at post-mortems we are struck by their slight vascularity, the blood supply being principally outside of the gland. When we see cases, however, in which the amount of residual urine was from six to nine ounces before the operation, and but half an ounce after it, while in cases of complete retention the residuum is often reduced to from one to four ounces after Bottini's operation, we must acknowledge that the obstruction is considerably reduced by this procedure.

One may think, *a priori*, that the contractile power of the vesical sphincters is reduced by the Bottini operation, but I have found, on the contrary, that it seems to be improved after prostatotomy; for in many cases incontinence is cured by this operation, and I know of but one case in which incontinence appeared for the first time after the prostatotomy.

It is an acknowledged fact, therefore, that Bottini's operation improves the urinary function, as evidenced by the reduction in the amount of residual urine, and by the increased tone of the vesical sphincter; but it may be well to say a few words concerning the sexual function after prostatotomy. It has been supposed that the sexual function is destroyed by the operation, but this drawback was considered as of but little consequence, on account of the advanced age of most patients operated upon. Besides, the urinary symptoms are so distressing in these cases that the surgeon thinks more of the urinary than of the genital tract, in considering the advisability of an operation of the sexual organs.

It may be well to state, therefore, that patients are not always incapacitated for sexual life by the Bottini operation. This was shown in one of my cases of the first group, a man aged sixty-seven years, who from [illegible] operated upon two years ago. He was then suffering [illegible] intensely from urinary symptoms, and had six ounces of residual urine. Recently he presented himself at my office to be treated for a venereal disease that he had contracted during intercourse. This man considered himself cured of his prostatic trouble.

The patients in the first series of cases were operated upon under a local anæsthetic, eucaine or cocaine, or else under nitrous-oxide gas. Ether was used in most cases in the second set, although I still advocate the use of nitrous-oxide gas as the best anæsthetic in these operations. Most of the patients whose histories have been reported in the first group are still alive and well. The others have passed from my observation, but I have not heard of any death among them.

The following are, in brief, the histories of the second series of twelve cases operated upon by Bottini's method. I have been obliged to condense the histories from my records, in order to make the articles of moderate length, but I have endeavored to give all the essential features of each case.

Case I.—Farmer, aged seventy-five years, family history negative, except rheumatism. No venereal history. For twelve years past he has had difficulty in urinating, with tardy, weak stream, and sometimes pain. Two years ago he had an attack of acute retention, lasting for two weeks and requiring catheter four times a day. Then he began to urinate spontaneously, and the catheter was discontinued, although the stream remained small and there was considerable pain and tenesmus. Six weeks before admission, he had another attack of acute retention lasting for two weeks, necessitating catheterization every four hours. Spontaneous urination was again possible, but since then the frequency has increased, the stream become smaller, and there was more pain and tenesmus than ever before. During his attacks of retention he suffered considerably from urethral fever, accompanied by chills and a rise of temperature.

The kidneys were found normal on palpation. The prostate was enlarged laterally to the size of a hen's egg. There was a stricture of the meatus and a marked impediment in the prostatic urethra. The residual urine was six ounces. There were traces of albumin, some pus, some bladder epithelium, and some hyaline and granular casts in the urine. The operation consisted of a posterior incision, 4 cm. long. The battery gave out during the operation, causing a twist of the blade during the extraction of the instrument. The post-operative period was characterized by a reaction on the second day, with a temperature going up to 104° and a pulse of 128; but these symptoms subsided, and the remainder of the convalescence was uneventful. The patient left the hospital, and in a letter eighteen months later stated that he was perfectly well, and that he did not have any more attacks of retention. His prostate was large, but his kidneys were in a fair condition, and if he should have any further trouble, I should recommend enucleation. I am sorry not to be able to report the decrease in the amount of residual urine since the operation.

Case II.—Merchant, aged seventy years, without any venereal history. Three months before examination his bladder began to trouble him, the frequency of urination gradually increased, and there were occasionally pain and tenesmus. Three weeks before examination he had considerable difficulty in passing urine, but this improved somewhat, until three days ago, when he had an attack of acute retention, and was catheterized. At the end of twenty-four hours, not having passed any more urine, he was sent to me for operation. I catheterized him, and drew off sixteen ounces of urine. On the following day he entered the hospital, still suffering from acute retention. On examination his kidneys were normal, the right lobe of the prostate was enlarged twice its ordinary size, the left not so markedly. The bladder was found to be full of urine, of which sixteen ounces were withdrawn. The urine was free from albumin and contained pus and bladder epithelium. The patient was allowed to remain in the hospital for nearly three weeks, and was treated for his acute retention and cystitis. He was catheterized every six hours, his bladder was washed out with boric-acid solution twice daily, and he was given lithia water and benzoate of soda and belladonna. In addition, he received bladder irrigations every other day with silver-nitrate solution and rectal douches of salt solution night and morning. At the end of three weeks he passed from one to three ounces of urine spontaneously, and secreted about fifty or sixty ounces daily. The residual urine varied from fourteen to twenty-two ounces. Bottini's operation was performed under ether, using three incisions, one posterior 4 cm. long, the other lateral on the right side 3.5 cm., on the left 3 cm. The after-treatment included the use of the catheter permanently, until he urinated spontaneously; urotropin, 10 grains three times a day, and water *ad libitum*. The reaction, with a temperature of 103, a pulse of 138, and a respiration of 30, took place on the second day. The convalescence was marked on the third day by a pulmonary congestion. On the evening of that day he passed fourteen ounces of urine spontaneously at one time. On the sixth day he showed a residuum of but two ounces, and from this time on his recovery went on uneventfully. The patient continued to drink large quantities of water, and to pass large quantities of urine. Two weeks later the use of the catheter was omitted, and on leaving the hospital he had less than an ounce of residual urine. It is almost incredible that a patient who entered the hospital with complete retention, and who, after three weeks' treatment could only pass two or three ounces spontaneously, was so improved after Bottini's operation that he could pass sixteen ounces at a time spontaneously in less than a week after the prostatotomy, and his residual urine was reduced to less than two ounces.

Case III.—Painter, aged seventy years, without any venereal history. Had been suffering for four years from frequency of urination, tardiness of stream, and some heaviness and pain in the hypogastric and lumbar regions. He had been troubled with a certain degree of incontinence, and had been passing his urine from six to eight times during the day, and about six times at night, before he applied for relief. The urine was passed with difficulty, and the stream was small. When he presented himself, he was suffering from overflow incontinence, following an attack of retention. His physician had told him that the retention was due to a stricture.

On examination, the bladder was found distended, and could be felt as a tumor in the pelvis. The prostate by rectum was felt to be enlarged to about one and one-third its normal size, and firm in consistency. The urethra was of normal caliber until the prostatic portion was reached, where an obstruction admitting only a No. 8 French olive-tipped, elastic-gum catheter was found to be present. Sixteen ounces of urine were withdrawn at the time, the patient was put to bed, and given hot rectal douches twice daily, a[illegible] hot sitz-bath daily. Urotropine [illegible] were also prescribed. At the [illegible] able to pass one and one-[illegible] urine spontaneously, but still had some [illegible]ence. He complained of pain, and twelve ounces of urine were withdrawn. During the night there was some incontinence and two or three ounces of urine were passed. There was a great deal of pain and tenesmus, for which symptoms an opium and belladonna suppository was given. In the morning

twelve more ounces were withdrawn. He was then kept on the same treatment and was catheterized every six hours for a week. His urine had a specific gravity of 1,026, showed some shreds, and a small amount of albumin and of pus, but no casts and no bladder epithelium.

Although the tenesmus and spasm were much reduced during the week, it was difficult to introduce a catheter larger than No. 14 French.

At the expiration of the preparatory week, the Bottini operation was performed under ether. The instrument encountered resistance at 7 inches beyond the meatus, but on elevating the hips and depressing the handle of the instrument well, it entered the bladder, after some force had been used. A posterior incision 3½ cm. long, one through the right lobe 2½ cm., and through the left lobe 2 cm. long were made, and a catheter tied in after the operation.

The post-operative period was characterized on the first day by a reaction, with rise of temperature to 103°, and later to 104°, with a pulse varying from 110 to 115. Toward the evening of the second day the alarming symptoms subsided, but there were considerable pain and spasm, while the catheter *à demeure* was *in situ*. On the fifth day there was a slight rise in temperature, and the catheter was removed; but the urine was passed with great difficulty and with much spasm and pain. During all this time the patient had been passing a sufficient quantity of urine. On the sixth day the catheter was introduced once more and retained, No. 14 French being passed. An attempt at catheterization on the sixth day, before the introduction of the permanent catheter, resulted in pain, hemorrhage, and great spasm. The temperature and pulse, and the tenesmus and pain, gradually improved for a week after that, and the patient left the hospital at the end of four weeks very much improved. He urinated four times a day, and twice at night; his pulse and temperature were normal, and three weeks later, when seen for the last time, his residual urine measured two and one-half ounces. Since then he has been on a mixture containing tincture of belladonna and sodium benzoate.

Case IV.—Printer, aged sixty-seven (City Hospital.) There was a past history of rheumatism and of syphilis, and for the past two years the patient had had a sense of weight in the pelvis, as well as occasionally attacks of frequent urination. Micturition was accompanied by some burning. Three months ago, however, the symptoms became fixed, and gave him more trouble than before. The frequency did not abate as usually, and he presented himself for relief. He said that he had no control over his stream, passed urine very frequently, and with some difficulty, every hour during the day, and about ten times at night. There was no pain, but some burning. On examination there was pain on pressure over the right kidney, a varicocele was found on the left side, the prostate enlarged to one and one-half its size, equally on both sides, and a No. 18 French sound encountered obstruction at the prostatic urethra, but passed into the bladder. The residual urine measured three ounces. The urine showed some pus and bladder epithelia, but no kidney lesions.

The Bottini operation was performed under ether. The incisor entered quite easily, and three cuts were made. A posterior cut 3¼ cm., an anterior cut 2½ cm., and two lateral cuts 2¾ cm. each. The post-operative reaction was almost absent, the temperature and pulse not being over 100, and he passed urine without any difficulty on the second day. The recovery was uneventful. He passed sloughs for four weeks after the operation. At the end of three weeks he had three drachms of residual urine. Rest in bed, urinary antiseptics, and anodynes, and later bladder irrigations were used, and he was very markedly improved. This was an ideal case for the Bottini operation.

Case V.—Cuban planter, aged fifty-eight, without any venereal history. For seven years he had gradually increasing frequency in urination, pain and difficulty in passing urine. In addition, he had been suffering for some time from chronic gastritis. He was losing flesh and had a slight rise of temperature. A consultation among the physicians of his city resulted in a diagnosis of malignant abdominal tumor. When he consulted the writer, the patient stated that he passed his urine every half-hour during the day, and frequently at night. He had also some incontinence, and his urine was passed with a great deal of difficulty, straining, and tenesmus. He never passed more than two ounces at a time.

On examination, he was found to be cachectic, with a temperature of 102° and a pulse of 100, some tenderness over the kidney, a distended bladder, a prostate which was enlarged to about one and a half its normal size, and a urethra that admitted a No. 12 French catheter with great difficulty. Twenty-four ounces of the residual urine were withdrawn, and the total residuum was estimated to be about twice this quantity. The bladder was emptied by catheter gradually at intervals in the usual manner, removing a portion of the urine each time. The difficulty in passing the catheter was probably caused by urethral spasm. When the bladder had been emptied, a second examination of the prostate showed this organ's outlines more clearly. It was found that the urethra was elongated to the extent of one inch. The urine contained albumin, pus, and granular and hyaline casts.

Preparatory palliative treatment was used for two weeks. He was catheterized three times a day, and his bladder was washed out every other day with nitrate of silver. In addition he received hot rectal douches and urotropin. Under this treatment he began to pass small quantities of urine. On one occasion, however, he failed to appear at the office at the regular catheterization, his bladder filled up, and his temperature rose to 103°, his pulse to 110. He attempted to catheterize himself with the result of producing considerable hemorrhage from his urethra. His bladder was found dilated above the umbilicus, sixteen ounces were drawn, and he was sent to the hospital, where he was treated for two weeks longer by palliative methods. During this time the symptoms of cystitis improved somewhat, but the catheter had to be retained and plugged, the plug being drawn out every two or three hours.

Cystoscopy before the operation showed a well-defined rounded and elevated prostatic base, a markedly trabeculated and congested bladder, with considerable detritus hanging from the walls and some large slugs emerging from the mouth of the right ureter indicating a pyelitis. Bottini's operation was performed. Three cuts were made, the posterior one through the middle lobe being 3¾ cm. in length, and the lateral ones through the right and left lobe respectively 3¼ cm. each. After the operation a No. 18 French catheter was passed to be retained, and plugged. There was practically no post-operative reaction. A sufficient amount of urine was passed from the first, and the patient passed the danger point on the third day without any marked rise of temperature or frequent pulse. On the fifth day the urine was bloody, and there was frequent desire to urinate and a great deal of spasm. Later the urine became clear and a large slough was found in it, showing that the bleeding had been due to its separation.

On the sixth day the catheter was removed, to be passed every three hours, and irrigations with boric acid twice a day and of nitrate of silver every other day were ordered. The remainder of the recovery was uneventful. During the second and third week at the hospital he was catheterized five or six times a day, and passed from 75 to 90 ounces daily with and without catheter. On leaving, he was told to catheterize himself twice daily, as his residual urine was but four ounces at that time. It is probable that in six weeks longer the residuum will have still more diminished, and it is to be regretted that the patient would not consent to intravesical enucleation as he was undoubtedly more suited for this operation than for the Bottini.

Case VI.—Machinist, aged sixty-five years, single, German. No venereal history. Has always been a hard-working man. For the past few years he has had frequency of urination, gradually increasing, and most severe in the spring and the fall of the year. He was obliged to get up once and sometimes twice during the night to pass his urine.

Six weeks ago the frequency of urination became more marked than ever, and was accompanied with a good deal of pain and burning. He noticed at that time that his urine smelled badly. Three weeks later after exposure to wet and cold, the frequency increased still more, and there was considerable difficulty in passing the urine, which was sometimes bloody. The stream seemed to lack in force. These symptoms increased until four days before admission, when he could not pass any urine. He seemed to have lost control of it and it dribbled away. He complained of pain in the rectum and at the end of the penis, and of a sense of fulness in the lower part of the abdomen.

On examining him, he was found to be a tall, well-built man. His temperature was 100°, his pulse 88. The kidneys were not tender to palpation, the bladder was markedly distended half-way up to the umbilicus. The prostate was found by rectal palpation to be enlarged about one and two-thirds its original size, and the bladder to be tender over the trigone. The urine was alkaline, of foul odor, contained 1 per cent. of albumin, and a large amount of pus, together with some few granular and hyaline casts. A No. 26 French sound entered the urethra for six and one-half inches. No stone was found with a Thomson searcher. All his urine was residual, as at the time he was suffering from an attack of retention. A No. 12 French catheter was introduced and sixteen ounces of the residuum withdrawn. He was then catheterized at intervals of three hours, and twelve ounces of urine were withdrawn each time, until his bladder was emptied. Then the catheter was used every six hours. He was given salol, water *ad libitum*, and milk diet. His bladder was washed out, as in the other cases, with boric-acid and silver-nitrate solutions, and hot rectal saline douches were given to reduce the prostatic congestion. This general and local treatment was continued for one month, at the end of which time he was passing from 20 to 30 ounces of urine spontaneously in twenty-four hours, and the amount of residual urine was nine ounces. The quality of the urine had also improved very much, as there was scarcely any albumin, no casts, and much less pus.

Bottini's operation was performed under ether anæsthesia. Three cuts were made, a strength of 45 ampères being used. The posterior cut was 4 cm. long, the two lateral ones 4 cm. each. A retained catheter was introduced. The reaction came on the next day at 6 P.M., with a chill and a rise of temperature to 103°. On the following morning these alarming symptoms had subsided. The permanent catheter was removed on the fifth day, and the further recovery was uneventful. The patient remained in bed for three weeks, at the end of which time he had but one and one-half ounces of residual urine. Two weeks later, after leaving the hospital, the residual urine was still one and one-half ounces. This case shows how a patient with complete retention can in a short time, after an operation, pass his urine spontaneously, discarding the catheter. Enucleation, which was indicated in this case from the size of the prostate, might have been fatal owing to the bad condition of the kidneys and bladder. Possibly later a prostatectomy could be successfully performed upon this patient.

Case VII.—Manufacturer, aged sixty-seven years. Family history negative. For ten years past he has had difficult and frequent micturition, with some retention. Four and a half years ago he became worse, requiring frequent catheterization. At the same time he was suffering from attacks of so-called malaria, which were probably urinary fever, lasting one or two weeks at a time, and completely prostrating him. These attacks became so severe that he had to remain in bed for two months with a retained catheter. Since then he has had complete retention and has been living a catheter life. He washed out his bladder four times daily with solution of nitrate of silver. Four months ago he has had an attack of orchitis, which has since then subsided, but he still complains of heaviness in his testicle. At the time of admission he had overflow incontinence, passed his catheter five or six times a day, whenever he had a desire to urinate, and found usually about twelve ounces in his bladder.

On examination, his kidneys were not sensitive to pressure. A 16 F. sound passed into the bladder caused some bleeding; the prostate was found to be twice its normal size, and the urine contained slight amount of albumin, a great deal of pus, and some hyaline and granular casts. On introducing the cystoscope under nitrous-oxide gas, it was found that the instrument did not enter the bladder, but that it had passed what seemed to be the prostatic base in the rectum. The instrument rotated in what probably was the prostatic chamber.

The bladder was washed out through a 16 F. soft-rubber catheter, and the Bottini incisor was introduced. It stuck in the posterior urethra, but on depressing the handle, and on pushing the beak into the bladder with some force, it entered, was turned downward, and caught behind the vesical base. It was evident on rectal palpation, then, that the vesical base was considerably farther up than the rectal. A posterior incision 4 cm. long and two lateral ones of the same length were made. It was difficult to rotate the instrument, and after the operation the catheter that had been previously used to wash out the bladder could not be introduced. Accordingly, ether was given, a tunneled sound introduced into the urethra, and a perineal urethrotomy was performed. The forefinger introduced into the prostatic urethra showed an enormous right lobe converging beyond the middle line of the urethra, while the left lobe was concave and overlapped the right lobe above and below. The bladder was so far up that the tip of the finger could not be made to enter, for it came into contact with the middle lobe. A perineal drainage tube, 38 F., was introduced through the tortuous posterior urethra into the bladder, but did not drain well. It was left *in situ*, however. The tube had to be pushed in for eight inches beyond the surface of the perineum before the urine would flow. The 38 F. catheter had not entered easily on account of the curve, and not as much water came away through it as was put in, which led me to think

that the left lobe had been cut in its most shallow part, the cut going through the cellular tissues.

Strychnine, atropine, hot rectal douches, water to be drunk in small quantities, and urotropin were ordered. The post-operative reaction came rapidly on the evening of the day of the operation, the temperature rising to 103°, the pulse to 112. The patient did not seem to be draining well, and had some pain in the region of the prostate. After some fluctuations in temperature and pulse, he passed the danger point on the third day, when he passed eighty-six ounces of urine in twenty-four hours, as compared to twenty-five ounces for the previous day. The former amount diminished somewhat on the next day, and a diuretic mixture containing niter and potash was given. He also had opium and belladonna suppositories for spasm. The temperature continued between 98° and 100°, the amount of urine between eighty and ninety ounces in the twenty-four hours. Urotropin and salol were continued, and the perineal tube was removed and a retained catheter introduced at the end of a week. At the end of four weeks the patient was able to pass large amounts of urine spontaneously in amounts of two to ten ounces at a time, passing sometimes twenty or thirty ounces at night. His last letter, after leaving the hospital, showed that he had only four and a half ounces of residual urine when he catheterized himself night and morning.

This is another remarkable result after a Bottini operation in a case where there had been complete retention for four years, and where a prostatectomy should have been performed had the patient's condition warranted it.

Case VIII.—Teacher, aged fifty-five years, without any venereal history. For two or three years he had suffered from frequency of urination, six to nine times during the day, and two or three times at night; occasional attacks of cystitis. Six weeks ago he began to have dribbling, and could not empty his bladder completely, but passed small quantities, with some burning.

On examination, his left kidney proved tender to the touch. The bladder was distended to above the umbilicus; the prostate was uniformly increased in size to about one and one-half. A 26 F. sound passed into the urethra for six and one-half inches. A Thomson searcher passed into the bladder, riding over an impediment at the prostatic urethra. A 15 F. catheter passed into the bladder and drew urine at nine inches from the meatus. Sixteen ounces were withdrawn, and the bladder tumor did not decrease much in size. The same preparatory treatment as had been used in the other cases was given, including gradual emptying of the bladder at intervals, bladder lavage, and salol.

The urine showed no albumin, a few casts, but was foul smelling. The palliative measures were used for a week, the patient being kept in bed. At the end of that time he could pass from two to four ounces of urine, but had still twenty-four ounces of residual urine.

Bottini's operation was performed under ether anæsthesia. The incisor was introduced, and three incisions were made. A posterior one 3½ cm. long, and two lateral ones, each 3 cm. A 15 F. catheter was inserted to be retained. The reaction came in the evening of the day after the operation, and was fairly mild in character. The danger point was passed at the end of the second day. The amount of urine passed gradually increased, and the remainder of the convalescence was uneventful. For two weeks he passed sloughs of various sizes. There was no high temperature, and the catheter was removed. He could then pass from four to six ounces of urine spontaneously at a time. Two months after the operation he had nine ounces of residual urine. He was suffering then from interstitial nephritis. I have not seen the patient since, but know that he has died from his kidney trouble. This operation was performed two years ago. His bladder was atonic, and the decrease of the residual urine to nine ounces showed a considerable gain. He was a subject for a second operation, but on my last visit I did not dare to operate on account of his nephritis.

Case IX.—Merchant, aged seventy-two years. Difficult and painful micturition for several years; treated by a number of physicians with palliative measures. Has had attacks of epididymitis, and was usually better in summer than in winter. Principal symptoms: Difficulty in urination, pain in the pubic region and occasionally in the perineum, and tenesmus. He passed his urine every few minutes, day and night, and the act was accompanied with a great deal of pain and tenesmus. He felt that something radical must be done.

On examination his kidneys were slightly tender on pressure; both lateral lobes of the prostate were found enlarged, the right being the larger one. The bladder was tender on pressure over the trigone. The urine showed traces of albumin, pus, and casts. The urethra was of good caliber, 29 F. A stone searcher passed the prostate and detected no stone. The amount of residual urine was nine ounces.

The patient was given a mixture of belladonna and sodium benzoate, and a 12 F. catheter was introduced and retained. The patient was operated under ether anæsthesia. The bladder was washed out through a 16 F. catheter, the Bottini instrument entered with difficulty, the patient's hips having been raised while the instrument was pushed forward through the prostatic urethra. A cauterization 4 cm. in length was made through the floor, one 3½ cm. long through the left lateral lobe, and one of 3 cm. through the right. The instrument seemed to catch in the posterior urethra, and was withdrawn with some difficulty.

After the operation the catheter that had been passed before could not be reintroduced, and a smaller one was passed and tied in. This is explained by the fact that the urethra was tortuous, and the prostate had been split in cutting from the lowest point. The reaction, in the shape of a chill, a temperature of 101° and a pulse of 100, came during the first day, and subsided on the second. On the third day he had passed the danger point and had secreted eighty ounces of urine in twenty-four hours. On the fourth day the catheter was plugged, the plug being withdrawn at intervals for urination. The catheter was removed on the sixth day. On the seventh he passed eighty-eight ounces of urine spontaneously. The same after-treatment was used as in the other cases. For two weeks longer he remained in bed, and for some time afterward complained of pain, frequency, and tenesmus. He was really a case for prostatectomy, but this operation was contraindicated at the time by his condition, as his urine showed the presence of pyelitis and nephritis. He still has cystitis, is a most marked type of neurasthenic, and will probably be a candidate for another operation—a prostatectomy if he gains sufficient strength, a Bottini if otherwise. A perineal section after this operation would have given him freer drainage and would have diminished the amount of anxiety. From the surgeon's viewpoint this case has shown marked improvement after operation, as the catheter now enters more freely, and the amount of residual urine has been reduced to half an ounce from nine ounces, and I think that the patient will continue to improve even if not operated upon again.

Case X.—Painter, sixty-eight years, without any venereal history. Well until nine years ago, when he noticed difficulty and frequency in urination. For the past few weeks he has had considerable difficulty in passing his urine, and his stream has been small, weak, and at times there has been dribbling and pain in the perineum and neck of the bladder. He never has had retention. On admission his principal symptoms were difficult and painful urination, half a dozen times during the day and as many at night.

On examination, his kidneys showed no tenderness, and suprapubic percussion and palpation were negative. The right testis was softer than the left, the prostate increased to one and one-third its original size, and the urethra offered obstruction at six inches to a 19 F. bougie à boule. A 16 F. sound passed into the bladder, going over the impediment in the prostate. He had four and one-half ounces of residual urine, which showed a trace of albumin, no casts, and a small amount of pus.

This appeared to be an ideal case for a Bottini operation. The kidneys were normal, the bladder in good condition, and the prostate not greatly enlarged, principally in the floor of the prostatic urethra. The patient had not reached the point when the bladder begins to give out and the kidneys begin to be involved. The patient was given the usual preparatory treatment for a week before the operation, including urotropin, water *ad libitum*, and bladder injections.

A Bottini operation was then performed. The incisor was easily introduced under ether anæsthesia. Three incisions were made through the gland, the strength of the current being 45 ampères. The first incision, through the floor of the urethra, measured 3 cm., the other two, through the lateral lobes, 2½ cm. each. No retained catheter was employed. Urotropin and large amounts of water were ordered. There was no reaction, and the patient did well from the time that the effects of the ether passed away. On the second day an attempt to pass a catheter was without success on account of spasm of the sphincter muscle. The urine was passed spontaneously from the first day, and the bladder was left alone, but urinary antiseptics were given internally. During the weeks after the operation, the temperature ranged from 98° to 99°, the pulse from 64 to 74. He passed a few large shreds during the first, second, and third weeks. At the end of that time the residual urine measured only two ounces, and when I saw him last, it was only one and a half ounces. His symptoms were all relieved by the operation, but he has now some urethral insufficiency, showing itself by dribbling independently of micturition—the first case of the kind that has come under my observation.

Case XI.—Journalist, aged sixty-four years, with a history of urethritis when young, accompanied by a cystitis. Had had gradually increasing frequency of urination for five years. This was especially marked for the past two months, and was associated with burning. He was passing urine every two hours during the day and about every hour at night.

On examination, his kidneys were negative, and suprapubic percussion and palpation showed nothing. The prostate proved to be slightly enlarged, by rectal palpation, as though it had been the seat of a prostatic abscess. A 28 F. sound entered the bladder, but a catheter introduced found four and a half ounces of residual urine. When the end of the sound was caught behind the vesical base of the gland, and its tip palpated by rectum, it was noted that the rectal and vesical bases were about the same distance back. It was therefore probable that we had to deal with a prostatic bar—a most favorable case for a Bottini operation. The urine showed a small amount of pus, a trace of albumin, and no casts.

A Bottini operation was performed. Under ether narcosis the incisor entered easily. Only one cut was made, and that went through the floor of the prostate, as the gland was not enlarged, and the impediment seemed to be posteriorly. The incision was 3 cm. long. No catheter *à demeure* was introduced.

During the first and the second day he passed but little urine, and was given a mixture containing niter and potash, with the expected effect. There was no reaction, and the patient improved very rapidly. On the third day he was put on the regular diet, and his further recovery was uneventful.

Two weeks after the operation, he had but three ounces of residual urine, and the bladder was washed out every day with boric-acid solution and every other day with silver nitrate. A tonic of strychnine and iron was given, and rectal douches of hot salt solution were used every night. A month after the operation he had but two ounces of residual urine and declared that he felt better than at any other time in ten years. Two months after the operation he had one ounce of residual urine. This was a most satisfactory case of the type that could only be benefited by a Bottini prostatotomy.

Case XII.—Organist, aged sixty-two years. For four years he has had frequency of urination, gradually increasing and accompanied at times by tenesmus and burning. He has had two attacks of retention, one two years ago, and one three months ago, relieved by catheterization. At present he urinates nine times during the day, and five or six times during the night. He complains of pain in the suprapubic and perineal regions, and of ardor urinæ.

On examination his kidneys proved negative on palpation. The prostate as felt by rectum was slightly enlarged and indurated. The vesicles could not be felt. The urine was cloudy, slightly alkaline, contained a trace of albumin, considerable pus, some epithelium, but no casts. His urethra was not much elongated, but there was an impediment in the posterior portion. He had three ounces of residual urine. He was put on the usual preparatory treatment for one week, at the end of which time the Bottini operation was performed.

Three incisions were made, the posterior one 3 cm. long, the two lateral ones 2½ cm. each. No catheter was retained after the operation. There was no reaction to speak of, the temperature not rising above 99°, the pulse not above 90. The after-treatment was the same as in the other cases. On the fifth day, he began to pass sloughs in large quantities, and continued this during the next week. He remained at the hospital two weeks, at the end of which time he had one and one-half ounces of residual urine. One year later he said that he was perfectly well, and the probabilities are that at that time he did not have more than half an ounce of residual urine. This was a case peculiarly suited for a Bottini operation.

Summary.—In looking over the histories of these cases, we see that the patients were all workingmen of good habits from fifty-five to seventy-five years of age. One of them had had urethritis, and two had syphilis many years ago. They all complained of frequency of urination and some pain. Six of them had retention of urine when they applied for operation; two others had had attacks of retention. Five had had incontinence depending upon retention (overflow and incontinence). Three ran a temperature. One suffered from urethral fever. Two suffered from attacks of a epididymitis during the prostatic trouble.

The operation was followed by a reaction in eight of the twelve patients, five of whom had nephritis. This would tend to show that the reaction is more frequent and more severe in patients suffering from

nephritis, and not so frequent or severe when no nephritis is present.

All the patients operated upon, with one exception, said that they felt better, and in all cases the amount of residual urine was diminished by quantities varying from two to seven ounces. Patients who could not pass urine at all, having suffered from complete chronic retention, were able to empty their bladders with the exception of a few ounces.

In the patient who said he was not improved, his frequency of urination was much reduced, and the amount of residual urine reduced from four and one-half to one and one-half ounces in a few weeks. He complained of incontinence due to the operation.

In closing these remarks on the Bottini operation, it will be seen that in these patients, many of whom were operated upon two years ago, there were two classes. The first class had suffered for a long time, they had considerable retention when they applied for treatment, and examination showed their prostates to be remarkably enlarged. In the second class of cases, some of them had had attacks of retention, but the prostate was not much enlarged, as felt by rectal touch, and the urethra not much elongated, although there was an impediment in the posterior portion.

The first class of patients should really have been operated upon by enucleation, but either they feared the operation, or the operator feared that they would not survive it on account of the condition of their kidneys; therefore a Bottini prostatotomy was performed.

The second class of patients was suitable for a Bottini prostatotomy and were properly operated upon by it. All of them were benefited but one, and although he had been thoroughly operated upon, and there was no reaction and a very marked decrease in the residual urine, he afterward complained of feeling worse than before the operation. In performing an operation of this kind, the estimation of the result is different as viewed by the surgeon or the patient. All of these cases were benefited according to the surgeon's idea, in that the amount of the residual urine was greatly diminished. They were all able to urinate spontaneously, and the cystitis had been benefited. Some of the patients, while acknowledging they had better control of their bladders, did not feel they had been benefited much, as they still had frequency of urination and burning, due probably to the cystitis which had not been cured.

The practitioner is apt to think that, the obstruction having been removed, all will go well; but such is not the case. A chronic cystitis which has gone farther than the superficial layer, and has become interstitial in a trabeculated bladder containing diverticula, cannot be brought to the condition of a youthful viscus; and this is not hard to realize when we consider that in women with no obstruction and a urethra but one and one-half inches long, rebellious forms of chronic cystitis occasionally exist which defy all treatment.

75 West Fifty-fifth Street.

Injections of Creosote and Guaiacol in Pulmonary Tuberculosis.—G. Jucci and G. Bazzicalupo combined guaiacol with creosote, in order to render the injections of the former less painful and to make the drug better tolerated. As a result of their experiments, they found that the two substances, united in an oleaginous mixture, could be given in much larger doses than either drug alone. They were well tolerated, had no topical action, were promptly assimilated, and were eliminated through the respiratory tract. The authors do not consider this method a cure for tuberculosis, but they do think that it arrests the progress of the disease, and brings much relief to the patient.—*Gazetta Internazionale di Medicina Practica.*

ON THE TRANSMISSION OF YELLOW FEVER BY VESSELS, AND ITS BEARING UPON QUARANTINE REGULATIONS.*

By EDMOND SOUCHON, M.D.,
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PRESIDENT LOUISIANA STATE BOARD OF HEALTH.

In a remarkable article, with a somewhat similar heading, by Dr. Alvah H. Doty, Health Officer of the Port of New York, published in the Medical Record of October 26, 1901, the writer, after making many statements, concludes as follows: "In accordance with the above views, the treatment of incoming vessels from ports infected with yellow fever becomes very simple; if they are five days or more in transit, and all on board are found to be well after a careful inspection and the use of the clinical thermometer, the vessel, its passengers, and crew shall be released without further detention or treatment. If the vessel has been less than five days in transit, all on board who cannot present satisfactory evidence of immunity should be removed and held for observation until the completion of a period of five days from the time of departure from the infected port, and then released only after a careful inspection, When yellow fever is found on incoming vessels, the procedure should differ only so far as it concerns the removal of the patient to a properly constructed hospital or apartment for treatment."

I will not here take up all the points raised by the eminent sanitarian, but will simply present in rebuttal the following cases, which speak eloquently and incontrovertibly for themselves. They are clinical facts which theories, past or present, will or will not explain; but as facts they stand in all their might and brightness and must always be reckoned with under most fearful penalty.

This array of cases was gathered to demonstrate the danger resulting from vessels from infected ports which, although having developed no yellow fever in transit for many days, yet, at the last moment and after disinfection, have developed infection. The cases were gathered on the axiomatic ground that one positive is better than a million of negatives. They bring the demonstration of the danger much nearer home even than do Dr. Doty's negations.

Few of the vessels were less than five days out when they developed yellow fever, but on several the last case on board developed while still in quarantine, and when more than five days had elapsed from the date of departure. Many of the vessels were more than five days out when they developed yellow fever. All the vessels herein mentioned, if treated according to Dr. Doty's theory, would have carried infection, at least in Southern ports.

Seven such vessels were stopped at the Mississippi River Quarantine Station in very recent years, not to speak of remote years—the *Denia* in 1892; the *Tampican* in 1896; the *William Cliff* in 1898; the *Whitney* in 1899; the *Sardinia* in 1899; the *Hugin* in 1900; the *Electrician* in 1900. Two such vessels were stopped at Mobile—the *Lombard* in 1899 and the *Bodo* in 1900.

We must not lose sight of the fact that yellow fever develops and spreads with difficulty in Northern climates, whereas in the South the least spark that may pass harmless through a Northern port will set the Southern country on fire. What is true and harmless for New York in Dr. Doty's statements may not be, and I do not believe is, true for New Orleans, Mobile, and Galveston.

If I could gather some thirteen cases in the meager

*Read at a meeting of the Louisiana State Board of Health, November 29, 1901, and officially approved by resolution of the board.

literature of the day on the subject, I am satisfied that if proper records were kept at all quarantine stations, quite a respectable number of cases would be found in a run of five or ten years. I have made no search for cases of vessels which developed infection in transit, because I consider the demonstration by clinical facts that non-infected vessels from yellow-fever ports could develop infection after disinfection, and at the port of arrival, was proving a much greater danger than the others and was showing conclusively the importance of detaining five days after disinfection, at Northern ports, passengers who are not bona-fide residents of the North and who might come South and infect it.

NON-INFECTED VESSELS FROM PORTS QUARANTINED AGAINST YELLOW FEVER, WHICH DEVELOPED YELLOW FEVER AFTER DISINFECTION AT QUARANTINE STATION.

1880—Bark *Excelsior*. Sailed from London February 17, 1880; arrived at Rio April 13; left Rio May 10; arrived at Mississippi Quarantine Station, June 25 (Wilkinson), having been on the voyage forty-five days; no case of sickness occurred at Rio or on the voyage; she was disinfected on June 26, and following (Wilkinson). She was detained twelve days altogether, up to about July 4. (?) Arrived at New Orleans on July 5; on July 7, at 8.30 P.M., John Kinney was taken sick; on July 10, in the morning, he was removed to Touro Infirmary; he developed a genuine case of yellow fever; he died; the bark was returned to the Quarantine Station on July 10; three more cases developed after the return at the Quarantine Station; two died. (Report of Louisiana State Board of Health, 1880.)

1890—British steamer *Curlew*, from Rio, with rock ballast; sixty-eight days out from Rio; no sickness was reported at port, *en route*, or on arrival; cleaned July 22 to July 23; disinfection completed July 25, in the afternoon; one and one-half days after completion of disinfection, one case of yellow fever developed July 27, in the early morning, before day; the disease was probably contracted between July 22 and July 25; incubation between five days and one and one-half days. (H. R. Carter, United States Quarantine Officer, Chandeleur Island in MEDICAL RECORD, March 9, 1901.)

1892—Steamer *Denia*, from Havana, arrived at Mississippi River Quarantine Station August 26, in the forenoon; no record of sickness in port or *en route;* disinfection same afternoon; eight hours after, two men were attacked with yellow fever. (See Report of Louisiana State Board of Health, 1894–95.

—British ship *Chippewa*, from Rio, with rock ballast; sixty-four days from Rio; no sickness was reported in port, *en route*, or on arrival; cleaned July 26 and 27; disinfection completed July 28; one day after, one man, the quartermaster, developed yellow fever at night; he probably contracted the disease between July 26 and 28; incubation three and a half to one day. (H. R. Carter, United States Quarantine Officer, Chandeleur Island, in MEDICAL RECORD, March 9, 1901.)

1898—*Tampican*, from Vera Cruz; developed yellow fever thirty-six hours subsequent to disinfection. (Report Louisiana State Board of Health, 1898–99, p. 73.)

1898—*William Cliff*, from Vera Cruz; developed yellow fever thirty-six hours subsequent to disinfection. (Report Louisiana State Board of Health, 1898–99, p. 73.)

1899—Schooner *R. D. Spear*, from New York to Key West, where she lay unloading during the epidemic of 1899; the crew were not allowed to go ashore, but the captain went ashore every night; she left Key West September 15; arrived at Mullet Key Quarantine September 20; disinfection was completed September 20, at 4 P.M.; three days and ten hours after, on September 24, at 2 P.M., the captain sickened and had a chill; incubation not less than three days and ten hours. (D. M. Echemendia, Quarantine Officer, Tampa Bay Quarantine, Florida Board of Health, in MEDICAL RECORD, March 9, 1901.)

1899—Steamer *Whitney*, from Havana; arrived at Mississippi River Quarantine Station on October 11; disinfection; two days later a case developed, but presented no symptoms of suspicious character until the third day of illness. (Report Louisiana State Board of Health, 1898–99, p. 74.)

1899—Steamer *Sardinia*, from Vera Cruz; developed yellow fever thirty-six hours subsequent to disinfection. (Report Louisiana State Board of Health, 1898–99, p. 74.)

1899—Non-infected British steamer *Lombard*, from Vera Cruz; six and a half days out; just after completion of disinfection was called to see the second engineer; diagnosis of yellow fever; held twelve hours for observation; diagnosis confirmed; vessel remanded to Ship Island Quarantine Station; patient died three days later. (Letter from Dr. Goldthwaite, Quarantine Board of Mobile Bay.)

1900—Non-infected Norwegian steamer *Bodo*, from Bocas del Toro; five days out; cargo, fruit; living quarters and effects disinfected and vessel allowed to proceed to Middle Bay Light, six miles below Mobile, to discharge cargo into lighters; vessel returned to station in forty-eight hours with one case of yellow fever; remanded to Ship Island Quarantine, where two additional cases developed later; no deaths. (Letter from Dr. Goldthwaite, Quarantine Board of Mobile Bay.)

1900—Steamer *Hugin*, Vera Cruz via Tampico; three and one-half days out; arrived at Mississippi River Quarantine Station June 25; disinfected same day; inspection preliminary to release of vessel on morning of 30th revealed case fever; was taken ill evening previous, four and one-half days after disinfection; case sent to Lazaretto; recovered. (Records, Mississippi River Quarantine Station, 1900.)

1900—Steamer *Electrician*, Belize, via Colon, Vera Cruz and Tampico; three days out from Belize; arrived at Mississippi River Quarantine Station October 7; disinfected same day; on the 8th three cases of fever developed; on the 11th three cases, and on 12th one case, seven in all; cases were all well marked, but all recovered; a convalescent second-class passenger taken on board at Colon was the probable cause of infection. This vessel may be considered an infected vessel and may not be counted. (Records, Mississippi River Quarantine Station, 1900.)

Kahler's Disease.—E. Donetti reports a case of this disease, which is so rare that only sixteen cases of it have so far been reported. The chief symptoms are emaciation, weakness, grave anæmia, pains, softening, fracture of the bones, and deformities. Heteroalbumose is found in the urine, sometimes preceding and sometimes following the period of pain and deformity. At autopsy the ribs, sternum, and bodies of the vertebræ have been found to be affected by a sarcoma-like new growth, which first destroys the marrow and then invades the bone tissue. Lesions of kidneys, liver, and spleen have been found. It is evident that, the bone marrow being unable to continue its functions, a special substance, albumose, is formed, which circulating in the blood causes a true intoxication.—*Rivista Critica di Clinica Medica.*

Catheterization of the Ureters in Renal Tuberculosis.—J. E. Hagen-Thorn concludes that: (1) Tuberculosis of the kidneys occurs more frequently than is generally believed. (2) It is often overlooked, for the first signs of the disease—the appearance of cloudy urine and disordered micturition—are mistaken for cystitis, or, if there is pain in the region of the kidneys, for pyelitis. (3) The appearance of blood in the urine, together with other symptoms, is a pathognomonic sign, though not a certain one. (4) The same may be said of palpation of the affected kidney. (5) Very frequently tubercle bacilli are not found in the urine of the bladder, and the urine seems to be free from microorganisms. (6) According to Israel, Albarron, Koenig, Tuffier, and others, primary tuberculosis of the kidneys occurs not infrequently, and very often only one kidney is affected. (7) The removal of the affected kidney is an eminently justifiable operation. (8) In view of the possibility of both kidneys being affected simultaneously, it is necessary before the operation to ascertain the functional activity of the other kidney. (9) To do this with exactitude, it is necessary, in any mode of procedure, to get the urine from each kidney separately. (10) Of all the methods of getting the urine from each kidney separately, catheterization of the ureters alone achieves this end. (11) Catheterization of the ureters is used for diagnostic, as well as for curative, purposes; it enables the physician to make a diagnosis when the disease of another organ conceals the affection of the kidneys, and *vice versa*. (12) By means of catheterization of the ureters it becomes possible, in doubtful cases, to ascertain the character of the renal affection. (13) It has been used with success in cases in which it was necessary to prevent wounding the ureter. (14) For curative purposes, it has been used in cases of retention of urine within the pelvis of the kidney, for removal of occlusions of the ureter by renal calculi, during operations on the ureter, in the first stages of pyelitis for the purpose of washing out the pelvis of the kidney, for the cure of renal fistulæ by means of prolonged drainage with the urethral catheter.

Bacteria in the Nose.—S. Iglauer finds that the weight of evidence is strongly to the effect that the normal nasal mucus contains bacteria. However, the flora of the nose cannot be as abundant as would be supposed from the number of bacteria inspired; for the following reasons: 1. The surface over which the bacteria are scattered is rather large, about 154 sq. cm. in the nose, and 25 sq. cm. in the nasopharynx. 2. A certain number of bacteria must reach the nasopharynx, from which they are swallowed and digested. 3. The flow of mucus and serum together with gravity tends to carry away the germs. 4. The nasal mucus is not a good culture medium. 5. And most important: The organisms which have lodged in the nose are expelled by the ciliated epithelium with great rapidity. This action has been measured in the frog as at the rate of one inch per minute. 6. A recent work seems to show that the nasal epithelium has bactericidal power. The practical conclusions to be drawn are: 1. It is advisable to sterilize the vestibule of the nose before operating. 2. After operations, the nostril on the operated side should be closed with a piece of cotton to act as a filter. 3. Plugging of the nasal cavity after operations is, as a rule, inadvisable, as it tends to retain the nasal secretions. 4. Nasal wounds do not heal by first intention, owing to the presence of bacteria. This also explains the occurrence of secondary hemorrhage. 5. Fever after operations and the few deaths recorded have probably been due to the presence of pathogenic microorganisms in the nose.—*The Laryngoscope.*

Vocal Nodules.—Commenting on the fact that anatomists have found that the thyro-arytenoid muscle distributes to the margin of the vocal cords fibers which act in a manner analogous to that of the stop-finger on a violin string, limiting vibration to one portion of the cord, C. H. Knight asks if it is not conceivable that contraction of certain bundles of these fibers with too much vigor or excessive frequency may lead to hyperæmia, tissue building, hyperplasia at their point of attachment on the surface of the band. Or possibly a minute localized hemorrhage may take place, and subsequently undergo organization. It would seem reasonable to suppose that the constant tugging upon these fibers in the production of a certain tone might induce an effort of nature to fortify the region of their insertion by throwing out new tissue, or that an effusion of blood might follow a rupture due to sudden and violent muscular contraction. The idea that attrition of the vocal bands might be held accountable as an exciting cause has always seemed to the author untenable for the reason that during phonation space must remain between the bands, in order to permit the blast of air to escape, and hence there can be no friction. Moreover, the node often has its origin, as in a case of Knight's, not on the margin, but on the upper surface of the band.—*The Laryngoscope.*

The Effect of Alcohol on Digestion.—J. A. Storck concludes from his experimental studies that small quantities of alcohol favor salivary and gastric digestion; large quantities inhibit salivary, gastric, and pancreatic digestion. Alcohol, whiskey, gin, and brandy are less harmful to the digestive processes than are malt liquors and wines. The continuous use of alcohol, even in small amounts, is liable to prove detrimental to the digestive process. In persons of weak digestion, alcohol, as a rule, is harmful, unless given well diluted. Strong alcoholics should never be given when the stomach is free of food. Alcohol is a valuable food in disease; requiring no primary assimilation, it yields force rapidly to an exhausted system, and, in small quantities, it promotes appetite. It is well to bear in mind that the purer the whiskey or the brandy, the less liable it is to produce digestive disturbances. According to Dujardin-Beaumetz, the toxic effects of the alcohols increase with the sum of their atomic weights, with the exception of the highest and the lowest. Finally, it is true as Wood says that: "Science in no way contradicts the experience of every *bon vivant* that the small doses of alcohol increase, and larger amounts interfere, with the activity of digestion."—*New Orleans Medical and Surgical Journal.*

Use of Creosote in Pneumonia.—I. L. Van Zandt highly commends the use of creosote carbonate. From his own experience, extending through seven years, he concludes that with it a large percentage of pneumonic cases are cut short or aborted, almost all the rest are mitigated, and the remainder, a very small number, are not at all affected by the remedy. The author prefers the carbonate as the most agreeable form in which to give the remedy. It is almost devoid of taste and odor, and may be given in an emulsion or stirred in hot sweetened water to be taken during agitation, as it does not dissolve. It should not be combined with alcohol or acids, as there will develop the taste and odor of creosote. To an adult seven and a half minims may be given every three hours. —*Southern Practitioner.*

Paralysis in Infants Due to Syphilitic Disease of the Spinal Cord.—The investigations of Jürgens, Zappert, Gilles de la Tourette, P. A. Peters, and others, as well as his own observations, have convinced A. M. Levin that paralysis of the extremities in the new-born and in infants affected with hereditary syphilis is a true paralysis due to disease of the spinal cord, and not a pseudo-paralysis due to local affection of the corresponding muscles or bones. The most characteristic, though not pathognomonic, sign of this disease, according to Peters, is the so-called floating position of the hand. There is great pronation of the fore-arm and the wrist, the palm being turned outward and backward.—*Meditsinskoe Obozrenie.*

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THE MEDICINE AND SURGERY OF 1901.

THE year that has gone by has not been conspicuous for any especially great events in the fields of medicine, surgery, or hygiene. Much progress, however, has been made in the elaboration and perfection of detail, and in proving the stability of old principles and paving the way for new ones.

The confirmation of the theory, first suggested by Finlay of Havana, that the mosquito stegomyia fasciata is the principal, if not the sole, agency by which yellow fever is conveyed to man, was the most satisfactory work done. Major Reed and the other members of the Army Commission, who came to these conclusions after long and painstaking research, are to be congratulated upon the result of their labors.

The investigations of this commission, however, were made in 1900, and the results were chiefly published in that year; but as a full account of the proceedings was not issued until the meeting of the Pan-American Medical Congress in Havana, in February, 1901, it may be said that the verification of the theory in all its details was made public during the past year. The matter has been dealt with at length by Dr. Finlay and Major Reed in the MEDICAL RECORD as well as in its editorial columns.

The next most important occurrence in medicine in 1901 was the Congress on Tuberculosis in London, in July. The announcement by Koch was one of the most sensational of its kind which has ever taken place at a medical meeting, and the excitement occasioned by the eminent German's attitude has not yet subsided. Its unexpectedness staggered physicians and sanitarians everywhere, but reflection has convinced many of them that the question as to whether bovine and human tuberculoses are intercommunicable will now be probably decided once and for all; and that thus from what at first seemed to be an ill-judged expression of opinion, nothing but good may come.

Of all the diseases which affect the human race, none promise to exceed in interest that of cancer; its increase, its loathsome and deadly nature, and the careful researches at present being conducted with regard to its origin, combine to invest this malady with a surpassing importance. Slight progress has been made during the year 1901 toward the solution of the problem of its causation, and although the investigations of Drs. Harvey R. Gaylord and Roswell Park, at the New York State Pathological Laboratory, did not altogether meet the expectations aroused by the preliminary notices, yet their work and that of their colleagues has not been in vain. Their investigations will be continued steadily under more favorable conditions than heretofore, and it is to be hoped that to American scientists will fall the honor of discovering the origin of a disease which has mystified students for generations. This, with other subjects of current interest, has received special attention at the hands of contributors to the MEDICAL RECORD in 1901.

The treatment of this disease has not materially advanced beyond the employment of the usually recognized surgical procedures of early and radical extirpation. There has been some favorable experience in the use of the *x*-ray, but unfortunately the latter has a very restrictive range of usefulness in consequence of its many liabilities to produce deep necrosis of tissue from the present inability to fix its degrees of relative dosage. Much is yet to be learned in the latter direction, and for the present everything must be left in a purely empirical way to the judgment and experience of the operator. The reason for these lesions is not satisfactorily understood, as yet. The change is evidently not only a chemical one, due to a peculiar action of the rays on the tissues, but also to the extreme vibration and penetrability of the ultra violet or actinic region of the spectrum.

The plague continues its ravages in many parts of the world, its scope has even extended, but unfortunately no remedies of a therapeutic or antitoxic character would appear to exert much influence in checking its spread. The only efficient method of successfully fighting this pest is by proper sanitation.

In San Francisco, the malady, although not entirely extinct, is at a standstill. The proposal utterly to destroy Chinatown has much to be urged in its favor from a strictly hygienic standpoint.

Spinal anæsthesia, according to Corning's method, has had wide recognition by different operators in America and Europe, and by the large number of reported successful cases has seemingly established its claim as a valuable surgical procedure in a certain class of cases in which it would be inadvisable to resort to ether or chloroform.

Public health has always occupied a proper consideration in the columns of the MEDICAL RECORD. The fact is well appreciated that for a community to be healthy—and especially in large cities—strictest regard should be had to matters sanitary. The argument has been advanced by Dr. Knopf and others that tuberculosis might be almost wholly banished if the dwellings of the poor were constructed upon sound sanitary principles. The same writer has contended—with which opinion this journal agrees—that it is the duty of municipal authorities to insist that the houses of the poorer citizens are healthy, and further, that it is for the State to provide sanatoriums for indigent consumptives, and for those suffering from incipient tuberculosis who are unable to pay for such care.

The treatment of appendicitis is a subject that will seemingly not wear out, at least not for some time to come. There is no doubting the fact, however, that so far the surgeons have altogether the best of the argument in favor of early operation, and to all appearances are likely to hold their own in the controversy. The discussion of the question has occupied many columns of the MEDICAL RECORD during the past year, and there has been no lack of warmth on either side.

Much attention has also been given to the operative

measures for prostatic disease, and the papers on that subject during the past year are of the utmost value to the earnest student who is seeking for the best methods of managing that intractable and distressful ailment. The antitoxin treatment for diphtheria still holds its own, although the serum-treatment in other diseases has utterly failed to fulfill the promises of its various advocates.

The new interest manifested in the pathology and treatment of pneumonia is one of the most hopeful signs of the times, and will certainly tend to give the general practitioner new confidence in his expansive therapeutic resources.

So far, however, surgery has not offered any suggestion to medicine regarding improved methods of treatment for this common malady. Not so, however, with Bright's disease, which, according to Edebohls, may now be cured by the knife, and new hope be given to otherwise doomed sufferers.

THE STATE OF THE BLOOD IN CASES OF APPENDICITIS.

There has been not a little discussion as to the changes that take place in the blood in connection with attacks of appendicitis, and it cannot be said that there is, as yet, universal agreement upon this subject. It certainly would be a great advance to be able to determine from the condition of the blood the type of appendicular inflammation present, and the stage to which it has progressed. A position of such diagnostic security is to be gained only from persistent and painstaking investigation by many observers.

A valuable and important contribution to this department of knowledge has recently been made by Dr. John C. Da Costa, Jr. (*American Journal of the Medical Sciences*, November, 1901, p. 645), who reports the results of examination of the blood in 118 cases of appendicitis operated upon at the German Hospital of Philadelphia in the service of Dr. John B. Deaver. As a result of this study, it was found that the average case of appendicitis presents before operation a loss of about 30 per cent. of hæmoglobin and of more than half a million of erythrocytes in the cubic millimeter. Occasionally the anæmia is of a grade so high that it appears to constitute in itself a serious complication and to raise a doubt as to the safety of surgical interference, should the latter otherwise be indicated.

Moderate leukocytosis may occur both in the absence and in the presence of an abscess and its consequences. It is present in about 35 per cent. of non-purulent and 90 per cent. of purulent cases. Leukocyte counts ranging between 10,000 and 15,000 or 17,000 in the cubic millimeter cannot be depended upon to reflect the nature of the local lesion, as this degree of increase may be found both in mild catarrhal and in purulent cases. Counts of 20,000 or more are almost invariably indicative of the presence of pus, gangrene, or general peritonitis, one or all. Leukocytosis may be absent both in trivial catarrhal and in fulminant cases, as well as in forms of circumscribed abscess.

In operative cases, thorough evacuation of the abscess is followed within a few days by a decline to normal in the number of leukocytes, provided that the recovery of the patient is uneventful. Persistence of a leukocytosis after the third or the fourth day following the operation may be attributed either to undrained pus pockets, to general peritonitis, or to both of these factors.

From all of the evidence, it is clear that the range of the leukocytes, if correlated with other clinical symptoms, may serve as a diagnostic sign of definite value. On the other hand, absence of leukocytosis, except in conspicuously septic patients, has no definite significance.

A leukocytosis of 20,000 or more is almost a certain indication of suppuration, while a lower figure cannot be relied upon as a trustworthy sign of the presence of pus, although suppuration may be associated with a much lower degree of leukocytosis. In a patient unmistakably septic, absence of leukocytosis is to be considered a sign of intense infection and of grave prognostic significance. A high leukocytosis in such instances does not necessarily indicate a favorable prognosis, but simply represents an intense infection, coupled with normally active resisting powers on the part of the patient. Absence of leukocytosis in a patient with mild, indefinite symptoms is a clinical sign of no tangible value in so far as it may serve in detecting the presence of pus, as a large abscess, if thoroughly circumscribed, may exist without causing the slightest increase in the number of leukocytes.

In cases treated surgically, the adoption of a daily leukocyte count as a routine procedure during the first week after operation furnishes the surgeon with definite information regarding the progress of the case, as the advent of complications or the failure to secure complete evacuation of pus-foci may be detected by the persistence of or an increase in the leukocytosis. Unfortunately, it is just those conditions that bear the greatest resemblance to appendicitis that give rise, as a rule, to blood changes identical with those found in this disease; so that the value of the blood count as a means of differential diagnosis is greatly limited. Thus, leukocytosis is the rule in the presence of such condi ions as ovarian abscess, pyosalpinx, ectopic pregnancy, perinephric abscess, hepatic abscess, empyema of the gall-bladder, and malignant disease of the cæcum, all of which have been confused with appendicitis.

Such a large proportion of cases of renal and hepatic colic are associated with inflammatory complications that excite leukocytosis that neither of these conditions can be distinguished with any degree of confidence from appendicitis simply by examination of the blood. Acute gastritis is sometimes accompanied by well-marked leukocytosis and sometimes by none at all, so that the blood count cannot be relied upon in the differential diagnosis from appendicitis. The same statement is applicable also to dysmenorrhœa. the uterine inflammatory changes attending which may cause an increase in the number of leukocytes. Should the diagnosis lie between appendicitis and enteric fever, the former will be suggested by the presence of leukocytosis, which does not occur in the course of typhoid fever, except as a result of some complication such as hemorrhage from the bowel or perforation.

In doubtful cases the presence of leukocytosis is sufficient to exclude such non-inflammatory disorders as simple enteralgia, lead colic, ovarian neuralgia. ovarian cyst, and movable kidney

A plea is made for the more frequent examination

of the blood, not only for the light that it throws upon the coexistent anæmia present in some cases, but also for the purpose of differentiating with certainty a purulent from a nonpurulent appendicular lesion in a fairly large percentage of cases. There is, besides, a limited number of non-inflammatory conditions from which appendicitis may be distinguished by the number of leukocytes. The blood count in cases of appendicitis is to be regarded only as a symptom, invariably to be correlated with other equally if not more important clinical manifestations, and thus used, it will prove of signal value in routine clinical surgery.

THE PAST AND FUTURE OF THE MEDICAL RECORD.

The completion of the sixtieth volume of the Medical Record, with its present issue, is in many respects a subject for congratulation, as during a period of thirty-five years it has maintained a continuous course of prosperity, still holding the premium amongst medical journals in the confidence and support of the profession.

In the first number published, March 1, 1866, the following announcement was made:

"The current medical topics of the day will be freely and independently discussed, and no effort on our part will be spared to render ourselves well informed with reference to them, in order that we may be able to present such views to the profession as shall be considered worthy of its serious attention. In all this our simple aim shall be after truth. Impartial to all and unjust to none, it is our purpose, so far as we are able to understand the right, not to hesitate, on the one hand, to point out the way which, by the correction of certain abuses, may lead to a still higher development of professional excellence; nor to be backward in upholding the claims and discussing the merits of the various vexed questions which are ever arising to claim attention. Committed to the interests of the profession as a whole, it shall be our constant endeavor to keep the columns of the Medical Record free from any element that may savor of cliqueism or party spirit, and in the discussion of all subjects, great and small, to exercise that spirit of charity and honesty which must always attach itself to the side of truth and commend itself to the sanction of every independent thinker."

In the same prospectus it is also stated that "The news of the day will be given as completely as our means for receiving information from the different medical centers will allow; and in managing this department no opportunity will be lost for affording full reports upon all matters which are of general interest to the profession."

Since that time many important details have been elaborated in keeping with progressive journalism, but it is interesting to note that the fundamental policy of the Medical Record, consistently followed for thirty-five years, is as sound to-day as when the above lines were written.

The Medical Record to-day, with special correspondents in every portion of the world, is enabled promptly to inform its readers on all matters of importance from direct sources. The cable and telegraph have largely taken the place of the mail, and frequently even the great dailies are thus anticipated in the publication of interesting scientific news.

In fulfilling its purpose to chronicle its history of progressive medicine, its aim has been to give each branch its due attention, in the hope that no man, whether he be in the most obscure country town or in any of the metropolitan centers, can fail to find in the Medical Record something that may interest and instruct him, and make it worth while to read and profit by a professedly cosmopolitan journal.

It may be noted that, no matter how many other journals are taken, the Medical Record is one that is always read and preserved as a record of medical progress, and storehouse of practical information. A grand audience, scattered in every portion of the civilized world, relies upon the Medical Record for its weekly visits and its satisfying ministrations. All this encourages the Medical Record to go on as it began, in the hope that its thousands of readers here and everywhere, and its famous contributors the world over, may still crown with their indorsement its successful efforts to keep advancing with the times, and give it continued opportunities for meriting that cordial support which is so legitimately the reward of demonstrated success.

Smallpox in London.

The epidemic of smallpox in London is assuming very serious proportions, and the advent of cold weather is anticipated with a good deal of dread by its inhabitants. The type of the disease—judging by the mortality therefrom—is much more severe than that of the same affection which has been so prevalent in the United States during the past two or three years. Up to midnight on Friday, November 29, 413 patients suffering from smallpox had been admitted to the wards of the several hospitals under the control of the Asylums' Board of London.

An average it is said of about twenty-five cases of smallpox are being reported daily in London, most of which come from the poorer districts.

The statistics thus far afford further remarkable evidence of the efficacy of vaccination, both in checking the disease, and in diminishing its virulence.

Mr. Jonathan Hutchinson and Leprosy.

The London *Hospital*, December 7, announces that Mr. Jonathan Hutchinson is about to proceed to South Africa in order to study leprosy, a malady which is prevalent in certain parts of that country. Mr. Hutchinson has always paid much attention to leprosy, and has views concerning the causation of which, more or less peculiar to himself and a small band of followers.

The well-known British dermatologist is, and has been for long, a consistent upholder of the theory that the primary origin of leprosy is due to the eating of uncooked fish. This belief has been in existence for a considerable period, and the geographical distribution of the disease gives a large amount of weight to the theory.

Hansen's discovery, however, of the bacillus of leprosy, was a severe blow to those who held the view that it originated from eating uncooked fish. Nevertheless, Mr. Hutchinson was in no wise discouraged, and is as strong an advocate of these opinions as he ever was, and stoutly contends that race and climate have nothing whatever to do with the incidence of leprosy. It may be anticipated that the results of Mr. Hutchinson's investigations in South Africa will tend to elucidate some of the disputed points as regards the origin of leprosy.

THE MORTON CURRENT.

In view of the fact that so much, both of a general scientific and of a controversial nature, has been published in the Medical Record on this subject, we note with interest the final authoritative and judicial statement made by a special "Committee on the Static Induced Current," appointed by the American Electrotherapeutic Association, September 27, 1900, and adopted by a unanimous vote of the association at its recent annual meeting. The committee consisted of William J. Herdman, M.D., Professor in the University of Michigan, Ann Arbor, and of William J. Jenks, member of the American Institute of Electrical Engineers.

The question of priority raised was not one between contemporary practitioners, but one claimed to lie between Dr. Morton and the printed records of experimenters and physicians not now living.

The committee consulted exhaustively the literature upon the subject and analyzed carefully the methods of Cavallo, Wilkinson, Mauduyt, Duchenne, and others, claimed to be in conflict with the method of Dr. Morton. It sums up the latter's claims to consist in (1) The first intermittent and graduated flow from a static machine, in which the pulses are so frequent that their aggregate may be classed as a current. (2) The first apparatus to make effective a static machine having the advantages of very high frequency and oscillatory or alternating characteristics, without the disadvantages of subjecting the patient to the direct action of the primary or interrupted current. It is then pointed out by carefully constructed diagrams that Dr. Morton's method is essentially different and constituted a new form of undulatory or oscillatory current.

The committee next takes up and analyzes a series of letters published in the Medical Record in its issues of December 23, 1899, and January 20 and March 3, 1900, questioning the novelty of Dr. Morton's claims, and in this respect says, "the committee expresses their belief that if the author of the above-quoted emphatic assertions would review the above prior publications in the light of the diagrams already given in this report, the errors of his observation, which led to his erroneous assertions, would be plain."

The report quotes extensively the opinions of many foreign observers crediting Dr. Morton with the introduction of this form of current into medical practice in 1880, and indicating their opinion also, that the high frequency currents which Hertz secured and described several years later were developed by Dr. Morton and medically applied in 1880. The committee considers the fact has no force that Dr. Morton did not, at the time of his discovery or invention of the static induced arrangement and method, fully appreciate the nature of the electric pulses which he secured, or all the accompanying phenomena, or foresee all of their features of utility, for it is rare that the originator of a machine or combination sees the end from the beginning of its use. It is sufficient that the devices and methods be clearly described, in the best form and mode of application which the experimenter may have worked out (so that others, skilled in the same art, may follow him), to entitle him to the credit of their discovery and reduction to practice, and to a claim to the foundation on which others may subsequently build structures of which he has or may have no conception. The conclusions presented in this exhaustive report are as follows:

"The evidence before your committee indicates that in 1880 or thereabouts, Dr. William J. Morton devised and used an arrangement of previously existing static electrical apparatus, and in its use practised a method of producing currents which have been widely adopted and recognized as useful in subsequent medical work; that the arrangement and method had not theretofore been known or practised, and were not evident to those skilled in the art as a result of their prior knowledge and experience; and that the claims of priority we have detailed as being made by him are entitled to recognition by this association." We congratulate our fellow townsman upon the handsome and thoroughgoing recognition and vindication embodied in the conclusions of this report, and upon the general recognition which is now accorded to him of being the originator of the high-potential, high-frequency current, and of its introduction into medical practice.

The Bland Diet.

The so-called "bland diet" has been the subject of discussion recently, says the *Sanitarian*, December, in the European press. According to the Hanover *Courier*, physicians generally understand by a "bland diet" food that is free from the ingredients which excite heat, but contains or can contain all the nutrients—albumen, carbohydrates, and fat—necessary for the maintenance of man. Wholly different districts of the nervous system are affected by stimulation and excitement.

The usual effect of the substances in which these properties reside is quicker and stronger activity of the heart, accompanied by a sense of palpitation, heat, and so-called ebullition.

Sometimes the effect is a series of acute phenomena, such as headache, etc. When such stimulating and exciting substances are considered, we think naturally of alcoholic beverages, also of coffee, tea, sharp spices, and the like; but food does not always receive all its exciting and healing ingredients in the course of preparation in the kitchen. In many victuals these ingredients are already present, as the result of the origin, manipulation, storage, etc., of the food.

Chief consideration must be here given to meat, in consequence of the amount of extractive substances.

The writer of the article then proceeds to consider meat which has been kept sufficiently long for ptomains to appear, which have a keen and exciting effect.

A "bland diet," one that does not excite, must contain nothing or very little of this. It is common knowledge that milk affords such a nutrient, and passes therefore, justly enough, as the true type of "bland diet." Whoever seeks to spare his nerves should drink milk, and be in all respects a vegetarian. Fat, however, when untainted and fresh is recommended, as are the various kinds of sugar.

The writer does not always advise the avoidance of all foods and drinks of an exciting nature, but a bland mode of living altogether.

The adjective bland, which we take to mean soft or smooth—when used to characterize quality—would imply an easily digested, sustaining, and fattening diet, but one lacking in invigorating properties. Such a diet would probably produce healthy persons, although it would be wanting in those qualities which give one resistance to strain.

It is true that too much meat is eaten and too much alcohol is imbibed by the ordinary individual, but entirely to discard meat as an article of diet, in

the opinion of the majority of scientists, would not be in the interests of health.

Vegetarianism does not suit every one, and each person, if he be wise, will learn by experience what he should eat and what he should drink.

The Determination of Genius.

Professor Cesare Lombroso, who is perhaps the greatest living anthropologist, albeit he holds some peculiar views, and is inclined to be at times too emphatically dogmatic, has been recently writing in the *Monist* on the above subject.

In a former article, he had illustrated, according to his ideas, the nature of genius, and now supplements this by explaining the existence of its varieties. He says: "There is another factor of utmost importance, to which belongs the principal part in this determination, and with which heredity, environment. and the peculiar nature of genius are co-operators; that is, according to my opinion, a strong impression received at puberty. He who analyzes biographies of great men will find that in most cases the determining cause of creative direction lies in the combination of individual tendencies with a very strong sensorial impression made at a time not far from puberty."

After giving a number of instances in support of this theory, he goes on to say: "The great essential in these instances is that they all belong to childhood or pubescence. Now, men are undergoing external influences and strong sensations at any time, but without such reaction as they show at puberty. Puberty has a tremendous importance for one's mental development, on account of its greatest impressionability to external causes. Youth is then in a condition of latent explosibility, ready to burst out under the pressure of every influence, whether of scientific theories or of artistic enthusiasm, or of misfortune, or of strife."

This may be all true, and undoubtedly the age of puberty has a remarkable effect on the development of one's mind. To steer over the quicksands of this period successfully is no easy task for any person, and doubly difficult for a person who possesses those qualities of brain and mind termed genius, but it would seem as if the Professor has somewhat overestimated the force of influence received at puberty, and fails clearly to explain those very numerous examples in which genius has received decisive impulse at an earlier or a later age.

Native Troops for our Colonial Possessions.

Major Louis Livingston Seaman, Medical Department, U. S. A., who has become well known by his fearless championship of the Maligned Army Canteen, and by his views on "The Soldier's Tropical Ration," contributes to the *Journal of the Association of Military Surgeons* a strong plea for native troops for our colonial possessions.

This is a matter which will certainly call for the earnest attention of our government in the early future. If the Philippines are retained—as at least one or two of the islands will be—a somewhat large force must be maintained there for a considerable period. The conditions of life are not favorable to white men, and the expense of keeping up an army wholly composed of Americans would be very large.

Major Seaman points to the policy of Great Britain, in drilling and maintaining armies of natives for the defense of her tropical territories, as an example of what can be accomplished by such means.

Major Seaman appears to have been much impressed by the manner in which the British in Hong-Kong and Wei-Hai-Wei had availed themselves of the native material, and the success which had attended their efforts to convert the Chinese into soldiers. There is no doubt that, when officered by white men, the yellow and black races make capital fighters. The conduct of our black troops at San Juan Hill is but one of many instances in proof.

The cost of the Chinese troops to the British Government for pay and subsistence is $5.00 a month.

Spain, when owner of the Philippines, relied to a large extent upon her native Filipino troops, of whom she had about five thousand. Major Seaman insists that this urgent military question must be met and solved by the United States, and suggests that in the Philippines the material is ready at hand.

War Surgery, Old and New.

One of the last important public utterances of the recently deceased Sir William MacCormac was a paper on the above subject, which he read before the British Medical Association last summer.

No one was better qualified than the great surgeon to speak with authority on the matter, for his experience of military surgery was wide and unique. He acted in his professional capacity through the Franco-German War, saw service during a part of the Russo-Turkish campaign, and as is well known did good work with the British Army in South Africa.

Sir William MacCormac in the course of his remarks said that he would seek to indicate in a general way some of the improved conditions of modern warfare as exemplified in South Africa.

The limited amount of local damage produced in most instances by the comparatively small and very swift Lee, Metford, and Mauser bullets have impressed all observers. The normal external wound is circular and quite small, like the end of an ordinary pencil, and it soon becomes sealed with a black scab of dried blood. The exit wound is often quite similar, or like a small slit, and closes the same way. The soft parts and bone are damaged as a rule in a limited degree, and recovery generally took place rapidly and without complications.

The bullet seems to be itself aseptic; clothing is very seldom carried in with it; the bullet track behaves more like an incised wound than a contused one; the rapid manner in which the small external wounds seal up reduces the injury to the subcutaneous form, and the frequency of recovery is proportionately great.

Sir William MacCormac said that he was much impressed with the small number of cases of primary fatal hemorrhage, and the large number of traumatic aneurysms.

Fatal wounds, contrary to general expectation, are less frequently caused by the modern bullet, than by the bullets fired from the older rifles with low velocity.

In the American Civil War one man was killed for every four and one-half wounded, while with the Mauser bullet the proportion of killed to wounded is one to seven and one-half. Only 6 to 7 per cent. of those wounded now die, whereas in the Civil War the percentage was 14½.

The Röntgen rays were of great Service in South Africa; they localize the foreign body when lodged, and determine the extent and direction of a fracture.

A well-deserved meed of praise was given to hospital ships and trains. The Princess Christian train had in June, 1900, made 102 journeys, carried 7,000 patients, and traversed over 30,000 miles.

The conclusions reached by Sir William MacCormac agree in the main with those come to by Dr. Nicolas Senn, and the United States Army Surgeons during the Spanish-American War. Fighting under exist-

ing conditions between civilized countries is much more merciful than ever before.

It is fitting here to add expressions of sympathy to the medical profession of Great Britain for the loss it has sustained by the death of the late President of the Royal College of Surgeons. The esteem in which he was held by scientific and medical men in all parts of the world was sufficiently demonstrated by the honors and decorations bestowed upon him by the rulers and learned societies of many countries. It is said that Sir William MacCormac was the possessor of more of these testimonials to his ability as a surgeon than any other British medical man. In addition to his preëminent surgical knowledge and skill, Sir William MacCormac was cherished by his many friends for his no less enviable qualities of the heart. His death will leave a gap in the British medical profession which it will be hard to fill.

Domestic Medicine Among the Boers.

The excessive death rate in the concentration camps of South Africa—as was mentioned in the Medical Record, December 7—has aroused public attention and indignation in Great Britain. These feelings of anger, however, have been somewhat tempered by the accounts of the manner in which the Boers treat their sick. There has always existed with them a profound distrust of doctors. The Boer preferred to drench himself with all kinds of patent medicines and domestic remedies, and only applied to a medical man as a last resource.

The British doctors in the concentration camps of South Africa are unable to fight against the impenetrable ignorance and prejudice of the Boer women, who will insist upon treating their sick children with domestic medicines.

The Hospital, November 23, has an article which describes in detail some of the therapeutic measures used by the Boers.

For instance, children are coated over with arsenical green paint, and are given internally a compound containing ether, opium, tartar emetic, ginger, and other undisclosed ingredients. A girl with renal dropsy was enveloped from her waist downward in horse dung in order to take the swelling from her face. Cooling drinks are administered to children, prepared from goat's dung variously cooked in oil or in water.

Of course, such methods of treatment do not wholly account for the great mortality in the concentration camps, but they certainly must be a factor in increasing the death rate, and add to the difficulties of the medical men in facing the situation.

Young Men of the United States.

Statistics are gathered, and by some eagerly read, concerning almost everything that takes place here below:

Association Men for November has an article by Mr. C. C. Michener, based on figures furnished by Chief Statistician Hunt of the Census Bureau, relating to the life led by young men in this country.

It appears that 66 per cent. of the young men are unmarried, 34 per cent. being married.

"Fifty-five per cent. of the young men live at home, while 45 per cent. are boarding."

"Forty-six per cent. of the young men in cities of 3,000 or over were born in the country or in towns of 3,000 or less. Three out of seven young men in the country and towns of 3,000 or less look forward to living in the city. Of the population in towns of 3,000 or less, one in seven is a young man. Of the population in cities of 25,000 and over, one in four is a young man. Various other data are presented in the article dealing with the religion, habits, and manner of living of these young men, which would not interest readers of medical journals.

The large percentage of unmarried young men is a salient feature of these statistics, and is of import in the consideration of a serious social problem.

Another instructive point in the data is the exodus of young men to large cities. Whether this be for good or evil, it is hard to determine. Unless there is a constant supply of fresh blood in the cities, the inhabitants will fail mentally and physically, but at the same time it is an open question if this rush to towns is not being overdone. In some countries, notably in Great Britain, the vitality of the population is being sapped by the comparatively unhealthy lives led by the majority of its inhabitants who are dwellers in cities. This probably too is the case, to a lesser extent, in all the countries of the civilized world.

Another Indictment of the Corset.

Many physicians have from time to time protested against the use of the modern corset, and have inveighed against the injury to health of women produced thereby.

It has been left to a slightly fanatic French medical man to suggest a remedy so severe that its application would certainly end the use of the corset entirely. Dr. Marechal asserts that out of a hundred young women who wear corsets only thirty retain perfect health, and proposes that the following stringent measures be enacted to prevent the wearing of these enemies to health:

The first article of the law which the doctor is desirous of having passed forbids any woman under thirty to wear a corset of any kind. Any woman offending in this respect to be punished by three months of imprisonment, or if a minor, her parents or guardians to be condemned to pay a fine of from 100 to 1,000 francs.

Article II permits any woman over thirty to wear any corset she may wish.

Article III provides for the most rigorous formalities surrounding the manufacture and sale of corsets. Every one licensed to sell corsets shall be obliged to take the name, address, and age of every buyer, and shall be subject to fine and confiscation of business in case of an illegal sale.

The French doctor is either a faddist or a wag, and of course the measures proposed by him stand no likelihood of becoming law. The Parisian woman, in particular, is much too careful of her appearance to permit the enactment of legislation which might tend to detract from the beauty of her form, however much it might benefit her health.

A Note on the Treatment of Diphtheria.—John M. Swan reports his management of several cases in a home for colored children. At the first appearance of sore throat, in the first case, he made an inoculation and sent the culture to the board of health laboratory. On receiving word that there were diphtheria bacilli, he made cultures from all the other people in the house and found three positive and two doubtful cultures. Antidiphtheritic serum was given in positive cases with symptoms, 2,000 units, while 500 units were given to positive cases without symptoms and to doubtful cases. As soon as the membrane disappeared from the throats of the patients he applied a sixty-grain to the ounce solution of silver nitrate to tonsils and pharynx after an inoculation; twenty-four hours later this was repeated, and the system was continued until a negative culture was obtained. The patients were, of course, isolated, and an epidemic was averted.—*Proceedings of the Philadelphia County Medical Society.*

News of the Week.

The Boer Reconcentrado Camps.—Another blue book was issued by the Colonial Office in London last Saturday containing a detailed return of the deaths of Boers in the concentration camps in South Africa in the months of October and November, and also during the six months from June to November, inclusive. The deaths of whites in the six months numbered 12,441, including 10,113 children. The death rate per 1,000 per annum for the entire mortality in all the camps increased from 109 in June to 338 in October, and sank to 284 in November. The death rate per 1,000 per annum for children in the month of September was 433, in October 572, and in November 469.

Responsibility for the Camp Mortality in the Spanish War.—At a dinner of the Marion County (Ohio) Medical Society last week, Dr. C. A. L. Reed of Cincinnati spoke of the great mortality in the military camps during the late war with Spain, and accused General Brooke of responsibility in the matter. He said that the commander disregarded the directions and warnings of the surgeons, and so caused a great number of unnecessary deaths. He said that, if General Brooke had disobeyed the scouts and led his men into a trap with as many slain as died in Florida, he would have been court-martialed and shot, but he disobeyed his army physicians, and, in spite of the dire consequences of his disobedience and obstinacy, was allowed to go scot free.

The Stillman Hospital at Harvard.—A correspondent of the New York *Times* announces that the new infirmary for Harvard undergraduates, the gift of Mr. James Stillman of this city, will be opened by the end of the year. The building is a four-story structure of brick and limestone, and suggests in style the Georgian period of architecture. Although smaller than the hospitals in large cities, it is as complete and serviceable in every way, a model of the best in hospital architecture. It is to contain about thirty beds—two wards of eight or ten beds each and twelve private rooms. It is hoped that endowments for free beds will follow, and toward this end a beginning has already been made by the class of '68, which has collected about $3,500. On the first floor of the structure are the office, dining room, matrons' and physicians' rooms, bedrooms, the dispensary, sterilizing and bath rooms, all ranged about an entrance hall finished in quartered oak and floored with marble. Two other floors are given over to the various wards and private rooms, and the fourth floor is devoted to quarters for the nurses. The kitchen is in the basement, and there, too, are the dining rooms for the servants, the laundry, and the heating and elevator apparatus.

Immunizing Cattle Against Tuberculosis.—Professor Behring, a recipient of one of the Nobel prizes, in a lecture delivered in Stockholm on December 13, said that he had experimentally demonstrated the possibility of rendering cattle immune from tuberculosis by inoculation. He added that he proposed to employ the Nobel prize money in combating cattle tuberculosis.

Last Summer's Campaign Against Mosquitos in New Jersey.—The mosquito exterminating committee of the South Orange Village Improvement Society issued its first annual report a few days ago. The committee declares that the work done the past summer was a success. The report says that during the past season there was furnished "ample ocular proof that standing water is the source of the local supply of mosquitos; also, that mosquitos and mosquito larvæ are killed by contact with oil. The real remedy is the removal of water itself, and that is merely a question of drainage. It is reasonable to expect that the present universal agitation of this question may bring the general public to the belief, already expressed by scientists, that mosquitos are no more a necessary evil than smallpox or yellow fever."

Indictment Against a Healer.—The Grand Jury, in the United States Court at Jacksonville, has returned a true bill against a "healer" named Helen Post, or Williams, of Sea Breeze, Fla. The indictment charges that the defendant was guilty of fraud in representing that she possessed the power of mental science, or mind cure, to cure disease. The case promises to become celebrated, as the Mental Scientists, at their recent national convention in Sea Breeze, voted to help in the defense of the accused woman and her associates. Mrs. Post was arrested last August, and has been under $5,000 bail. Her husband and her son-in-law were indicted in Macon, Ga., last month.

A Medical Club in Paris.—A medical club has recently been founded in Paris at No. 5 Avenue de l'Opéra, in premises belonging to the Cercle National. Its object is to promote friendly relations among its members, to form a professional center for the medical practitioners of Paris, and to provide the advantage of a club for provincial and foreign doctors visiting Paris. Visitors will be able to obtain at the club all the information they may require as to lectures, hospital visits, scientific and medical societies, etc. Professor Pozzi is the president, and Dr. Doléris the secretary general of the club.—*British Medical Journal.*

Baked Beans and Accident Insurance.—A Philadelphia widow is suing an accident insurance company for $5,000 damages, the amount of an accident policy she held on the life of her late husband. He had been suddenly taken ill with what was supposed to be either typhoid fever or appendicitis, and lay at death's door for several days. Then his condition began to mend, and with the improvement came a strong desire for more substantial food, so he asked his wife to prepare some baked beans, of which he ate a great quantity. Soon afterward he was taken with severe pains and died. The post-mortem examination showed that the beans had perforated the man's intestines. The widow holds that the fatal result may properly be termed an accident. Hence the suit.—*Medical Examiner.*

The Stony Wold Sanatorium.—Several lots of land in Township Ten of the old military tract in Franklin County have been purchased by the Stony Wold Sanatorium as a site for its institution. The project for the establishment of this sanatorium is one in which many people in New York are interested, and has for its object the furnishing of a temporary home for dependent young women who are threatened with pulmonary diseases. The property was purchased from Arthur G. Leonard and Benton Turner of Plattsburg. A nominal consideration only was paid to Mr. Turner, he virtually donating the property owned by him. The tract is about 1,000 acres in extent, and includes the Kushaqua Hotel property, which will possibly be utilized for the present for the sanatorium. It also includes Round Lake, a small body of water well known for its beauty.

The Prospects of Medical Union in New York State.—The New York County Medical Association, in its reply to the recently published resolutions of the Medical Society of the County of New York, concerning a union of the two societies says that the

charter and by-laws of the New York State Medical Association do not allow its county associations to act independently on State questions. It has passed resolutions, however, in favor of a union of the profession in one State medical body, and suggests that the Medical Society of the County of New York request the Medical Society of the State of New York to appoint a committee to consider this question. The association has also requested the New York State Medical Association to appoint a committee of conference in case the Medical Society of the State of New York shall appoint a similar committee.

A Slow Diagnosis of Smallpox.—A man with high temperature and a rash spent three days last week in the Fordham Hospital in a general ward with twenty other patients. For some reason, which the published reports do not give, the nature of the disease was not suspected during this time. As soon as the diagnosis was finally made, the man was removed to North Brothers Island, and such of his fellow patients as still remained in the hospital were vaccinated.

The Late Dr. Thomas M. Markoe.—At the first autumn meeting of the Medical Board of Mount Sinai Hospital a committee of three members was appointed to take action upon the death of Dr. Thomas M. Markoe, and the following resolutions were subsequently adopted by it:

Whereas, Dr. Thomas M. Markoe has been for a period of forty-six years a Consulting Surgeon of Mount Sinai Hospital, and

Whereas, Death has removed him from the profession in which he labored faithfully as a teacher of medical students, and as an adviser of his colleagues; therefore

Be it Resolved, That the Medical Board of Mount Sinai Hospital places upon its minutes this expression of its pride in his long and honorable career, and of sorrow at his loss; and furthermore,

Be it Resolved, That a copy of these resolutions be forwarded to the family of the deceased, and be published in the medical press.

ARPAD G. GERSTER,
HOWARD LILIENTHAL,
ALFRED MEYER,
December 14, 1901. *Committee.*

The Declining Birthrate in France.—The statistics just published by the government concerning the population of France in 1900 are less satisfactory than those of the preceding year. In 1899 the excess of births over deaths was 31,394, giving the hope that France was slowly rebuilding its population, but in 1900, there was an excess of 25,988 deaths over births. In only two departments, the excess of births over deaths in 1900 was greater than in 1899. In thirty other departments the number of births in 1900 was greater than that of deaths, but that excess of births was inferior to that of 1899.

A New Intestinal Antiseptic?—A newspaper report from Ann Arbor says that experiments by Dr. Frederick Novy and Prof. Paul C. Freer, a chemist, have produced what is believed to be an efficient antiseptic for such specific diseases with intestinal lesions as cholera, typhoid fever, and dysentery. The preparation has been tried with success in experiments on small animals previously inoculated with these diseases, and in the last week five medical students have been undergoing experiments with the preparation.

The Eastern Medical Society of New York City held its annual meeting December 14. The following officers were elected for the ensuing year: *President*, Dr. A. Abrahams; *First Vice-President*, Dr. Joseph Barsky; *Second Vice-President*, Dr. E. K. Browd; *Secretary*, Dr. Maurice Fishberg; *Treasurer*, Dr. B. Gordon; *Chairman of Ways and Means Committee*, Dr. A. Hymanson; *Chairman of Committee on Ethics*, Dr. A. A. Himovitch; *Trustees*, Drs. A. Brothers and William S. Gottheil.

Tri-State Medical Association of the Carolinas and Virginia.—The fourth annual meeting of this society will be called to order in Asheville, N. C., February 25, 1902. All Fellows intending to read papers are requested to communicate with the secretary, Dr. H. A. Royster, Tucker Building, Raleigh, N. C., giving title, not later than January 15, 1902.

Conference for Union of New York County Societies.—The suggestion of Dr. Frank van Fleet, President of the Medical Society of the County of New York, that committees from the two county medical organizations meet and confer with reference to a union of the two organizations, was very cordially received by the New York County Medical Association, and in response thereto the following preamble and resolutions were unanimously adopted at the stated meeting of the association on December 16:

"Whereas, the following resolution has been received from the Medical Society of the County of New York: 'Resolved, That the President of the Medical Society of the County of New York appoint a committee of five, of which he shall be chairman, provided a similar committee be named by the New York County Medical Association, to confer with that body with reference to a union of the two organizations; and that this committee be requested to report to the society at the stated meeting in January, 1902, or sooner, in order that this society may, if desirable, make a recommendation to the Medical Society of the State of New York at its next annual meeting;' and

"Whereas, the subject of union of the medical profession in this State, as expressed in the foregoing resolution, as presented by the Medical Society of the County of New York, is wholly a State question; and

"Whereas, the published charter and by-laws of the New York State Medical Association do not allow its county associations to act independently on State questions;

Be it Resolved, That we heartily favor a union of the profession in one State medical body, and respectfully suggest that the Medical Society of the County of New York request the Medical Society of the State of New York to appoint a committee to consider this question; and

"Be it further Resolved, That the New York County Medical Association request the New York State Medical Association to appoint a committee of conference in case the Medical Society of the State of New York shall appoint a similar committee." OGDEN C. LUDLOW, M.D.,
Secretary.

Pathological Society of Philadelphia.—At a stated meeting held December 19, Drs. J. M. Anders and Jos. McFarland exhibited a specimen of "gangrene of the lung," in which the condition had been latent during life. On post-mortem examination, however, almost the entire lower lobe of the lung was found in a gangrenous state. Dr. Jos. McFarland exhibited a specimen of "Diverticulum of the Œsophagus," obtained from the body of a man who during life had been addicted to alcoholic excess, and was supposed to be suffering from carcinoma of the œsophagus. Dr. David Riesman exhibited a specimen of "Bothriocephalus latus," obtained from a Russian, but concerning the source of which no additional information could be gained. Messrs. E. B. Vedder and

C. W. Duval presented a communication upon "The Etiology of Dysentery in the United States," in which they detailed the outcome of an investigation of cases of acute dysentery in various parts of the country, undertaken by means of a grant from the Rockefeller Institute for Research, and as a result of which they found in every instance bacilli, indistinguishable from those described by Shiga, Flexner, and others, as the causative agent of the disease in question. Dr. J. Dutton Steele exhibited specimens from "A Case of Diabetes, in which autopsy showed Chronic Interstitial Pancreatitis with Involvement of the Islands of Langerhans." Dr. Alfred Stengel exhibited a specimen of "Mucoid Cyst of the Vermiform Appendix," known also as mucocele. Dr. M. P. Ravenel exhibited a specimen from "A Case of Tuberculosis of the Skin Due to the Bovine Tubercle Bacillus." The specimen was obtained from a laboratory assistant who was inoculated from a tuberculous cow, and who developed tuberculosis of the skin, in the lesions of which were found tubercle bacilli and giant cells, and with the tissue from which guinea-pigs were successfully inoculated.

Vaccination by Osteopaths Not Recognized.—The School Board at Ashley, Pa., has refused to accept certificates of vaccination performed by osteopaths. Several hundred children are affected by this, and before they can get into school will be required to have a second operation in order to get a certificate from a registered physician.

Consumptives Excluded from Liberty.—The Health Board of Liberty, N. Y., has ordered that no hospital or sanitarium for the reception of consumptives shall be maintained within the village limits, and that tuberculosis shall be classed as an infectious disease, like smallpox and diphtheria, and sufferers from it be reported and quarantined if thought necessary. This is one of the logical results of the intemperate outcry regarding the infectiousness of tuberculosis, another being the ridiculous and cruel, but fortunately in the long run, futile attempt of the immigration authorities to prevent the entrance into this country of any tuberculous subject.

The Pathological Institute.—Dr. Adolf Meyer of the State Hospital and Clark University, Worcester, Mass., has been appointed by the Lunacy Commission to be Director of the Pathological Institute of the New York State hospitals in place of Dr. Ira Van Gieson, who resigned early last summer. Dr. Meyer is a graduate of the University of Zurich in 1890. In 1893, he went to Chicago, where for two years he was pathologist at the Illinois Eastern Hospital for the Insane and lecturer on neurology at the University of Chicago. He was then called to Worcester, Mass., as director of the clinical work and laboratory of the Worcester Insane Hospital. The scientific work of the reorganized institute will be begun as soon as possible in a building connected with the Manhattan State Hospital for the Insane on Ward's Island. The investigation and research will be developed along lines to be formulated by Dr. Meyer in association with the Advisory Board of the Pathological Institute. Dr. Meyer is to be left free to select his assistants in the various departments of the laboratory work, but will be assisted in this selection by the Advisory Board. A salary of $5,000 is attached to the position.

A Centenarian Squaw.—An Indian squaw, Mus-Su-Ga, mother of the Winnebago Chief Red Snake, died near La Crosse, Wis., on Saturday last, at the reputed age of 128 years. She lived most of her life in northern Michigan, but had recently moved to an Indian camp on an island in the Mississippi River opposite La Crosse.

Obituary Notes.—Dr. George Bayles, of Orange, N. J., died suddenly on December 20, at his home in that city, of heart disease. He was born in this city in 1836, and was graduated in arts from the College of the City of New York in 1856, and in medicine from the College of Physicians and Surgeons in 1859. He was at once made curator of the pathological department of the New York Hospital, but soon resigned in order to go abroad to study. At the breaking out of the Civil War he was appointed assistant surgeon in the Twenty-fifth Regiment, New York Volunteers. He was afterward transferred to the First Regiment, New York Heavy Artillery, which later became the Fourth Regiment, and was made a surgeon with the rank of Major. Returning from the war, Dr. Bayles settled at Irvington-on-the-Hudson, and for a time was sanitary inspector for that place, as well as inspector of children's diseases for the New York Board of Health. He became a fellow of the New York Academy of Medicine in 1867. He moved to Orange in 1879. Dr. Bayles had been a member of the staff of the Orange Memorial Hospital for the past thirteen years. He was a member of the Orange Mountain Medical Society, the Essex District Medical Society, and the State Medical Society. With the outbreak of the Spanish War, Dr. Bayles tendered his services to the Government, and they were promptly accepted. He was made Post Surgeon at Fort Hancock, where he organized and equipped the military hospital at that place. At the close of the war he returned to his home in Orange and resumed his practice. A widow and six children survive him.

Dr. John Stark of Kansas City, Mo., died at his home in that city on December 17, of pneumonia. He was a graduate of the Royal University of Glasgow in 1863, and a licentiate of the Faculty of Physicians and Surgeons, Glasgow, the same year. Immediately after graduating, he came to this country and volunteered his services as surgeon in the army, and for two years was on the staff of General McClellan. At the close of the war he went West and entered upon private practice.

Dr. Timothy D. Wadsworth, aged sixty-four years, a retired physician, dropped dead from heart disease on December 17, at Warehouse Point, Conn.

Dr. Vincent Nager of Newark, N. J., died on December 20 at his home in that city. He was born in Switzerland fifty-two years ago, and received his medical education there. He came to this country at the age of thirty years and established himself in Newark. He was a member of the staff of the German Hospital in that city. A widow and three children survive him.

Dr. Rush S. Huidekoper died in Philadelphia on December 17, at the age of forty-seven years. He was born at Meadville, Penn., and was educated at Phillips Academy, Exeter, and at the University of Pennsylvania. He was graduated in medicine at the latter institution in 1877, and immediately proceeded to a study of veterinary surgery. He attended the National Veterinary School, at Alfort, France, and continued his investigations in the laboratories of Pasteur, Virchow, Koch, and Chauveau. Returning to America, he was appointed a professor at the University of Pennsylvania, and later filled the Chair of Internal Pathology and Contagious Diseases at the New York College of Veterinary Surgeons. Dr. Huidekoper was connected with the Medical Corps of the National Guard of Pennsylvania for several years, occupying various positions of importance. He was also Lieutenant-Colonel and Chief Surgeon of the First Army Corps and of the United States troops in Porto Rico.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

MEDICAL COUNCIL—MOVABLE KIDNEY—ALKAPTONURIA—REMOVAL OF GASSERIAN GANGLION—LONDON WATER BILL—SMALLPOX—ROYAL BART'S—DEATH OF SIR W. MACCORMAC.

LONDON, December 7, 1901.

THE Medical Council continued its session to Tuesday afternoon. A whole day and a half were occupied with the case of a doctor who is medical officer to a friendly society which was said to tout for patients. The charge was made by the defense union, and it was alleged that a canvass was carried on from door to door, without regard as to whether the patients had advisers or could pay. Of course, the doctor denied that he was aware of any such proceedings, and said, so far as he could find out, there was no canvassing. In the end, the council pronounced the charges to be satisfactorily proved, but adjourned action until next session, to give the doctor an opportunity of reconsidering his position. Unless he wants to be removed from the register, he had better cut all connection with medical aid associations, apologize, and promise to have no more to do with them; for otherwise the council, having pronounced him guilty, can hardly refrain from pronouncing sentence.

Although so long a time was spent on this case, there is a good deal of satisfaction expressed that the matter was fully gone into, as it is hoped that the council will abide firmly by its decision, and that these medical aid associations may be put down.

The revolt of the London colleges was fully discussed, and a resolution taken which may mean much. A committee was appointed to prepare a report on the differences that exist, and a special meeting is to be held to consider such report and decide what action, if any, should be taken. The weak point in this move is that a special meeting will further deplete the funds, and there is really no need of a committee, for every member of the council knows the facts. The council has hardly the courage of its convictions. The disgraceful climb down to the obstetrical society is fresh in every one's remembrance, and the fear is consequently general, that the bluff of the colleges will lead to another retreat.

Sir William Turner was unanimously re-elected president of the council for the next five years.

The report on Italian degrees was adopted. It stated that they showed a sufficient standard for registration.

The report of the education committee on the request of the Society of Anæsthetists to make their subject compulsory in the curriculum was approved. The report said the committee fully appreciated the importance of the subject, but were not prepared to advise its compulsory teaching as a separate subject. This is only reasonable, for all the hospitals teach anæsthesia, and to set up another course would only oppress students with additional fees and worry.

Some electioneering squabbling was introduced and would probably do no good to any candidate. Mr. Housley's vigorous attacks on some of them are hardly worthy of his position.

Movable kidney was discussed at the last meeting of the medical society. The paper was by Mr. Henry Morris, whose name is associated with renal surgery. It was, therefore, refreshing to find that so great an authority is no advocate for a hasty resort to operation. He laid it down explicitly, that when a movable kidney gives rise to no inconvenience, an operation ought not to be thought of, and a belt need not be worn. When the condition is associated with enteroptosis, nephropexy may be resorted to, but not unless it is clear that the serious symptoms are due to the kidney alone, and not until after well-fitting abdominal support and dietetic and medicinal treatment of gastric and intestinal disorders have failed to afford relief. A similar course applies when the liver is also mobile. When both kidneys are movable, Mr. Morris fixes one after the other, leaving only a week's interval, so that convalescence may proceed simultaneously from the two operations. In hysterical patients, all palliatives must be tried before operation, and if undertaken, the friends should previously be told how uncertain is the result, only about half such cases succeeding.

In uncomplicated cases of floating kidney, with pain and gastrointestinal troubles as the principal symptoms, Mr. Morris said operation might be carried out without previous trial of belts or of rest. Further, when renal crises are a feature, nephropexy ought to be recommended because of the impossibility of keeping the kidney in its place by belts, and because of constant risk of hydronephrosis, nephropexy is successful.

It has entirely superseded nephrectomy, and is the only justifiable operation for movable kidney.

Mr. Morgan remarked that rest was of little value. Operation generally relieved the symptoms, but he had known them to recur.

Dr. Maclagan differed as to the value of rest. One of his patients after six weeks' rest continued quite well when seen about a year later, and the kidney was not then movable. Other cases were also successful. He also mentioned cases in which operation was undertaken for gallstone, but no stone found, only a movable kidney which was fixed, and jaundice was cured as well as the attacks of colic.

Mr. Bruce Clarke attributed the cases cured by rest to enteroptosis. The most important point was the degree of pain endured. He thought the pain due to retention of urine in the pelvis of the kidney, and it could sometimes be relieved by squeezing out the fluid by abdominal pressure. The gastric troubles he thought due to the direct traction on the stomach.

Mr. Swinford Edwards said it was important to replace the kidney above the margin of the ribs. He mentioned a case in which the kidney became movable again some time after nephropexy.

Mr. Bidwell had also observed a tendency to return of the symptoms after two or three years.

Mr. Spencer considered the pain often due to slight hydronephrosis, and he had sometimes incised the kidney as well as fixed it.

In reply, Mr. Morris thought the cases cured by rest were probably enteroptosis; deficiency of nephritic fat tended to movable kidney; jaundice he did not think due to pressure on the biliary passages, but perhaps to dragging on the duodenum obstructing the duct at its entrance; increase of size, he thought due to obstruction of veins rather than hydronephrosis; he had never seen hydronephrosis follow operation; Vallet's operation, he regarded as too severe, though it had the advantage of drawing the kidney up under the ribs.

Mr. Bryant related to the Medico-Chirurgical a case of intestinal obstruction, which on operation was found to be due to pressure of a vesical sacculus. Somewhat similar cases were mentioned by others, but not precisely the same, as adhesions had been found in all. The surprising point in Mr. Bryant's case was that there was no sign of inflammation or adhesion. The intestine was empty below the pressure, but on lifting the obstruction, fæces flowed freely enough.

Dr. A. E. Garrod then read a communication on alkaptonuria, a subject on which he read a paper before the society in 1899. In four families he found alkaptonuria in eleven members; in three of the families the parents were first cousins, in the fourth there was no blood relationship. This is certainly a curious observation when we consider the rarity of the condition, and the small proportion of marriages of cousins. It is not a question of intensification of family peculiarities, for none of the parents were subjects of alkaptonuria—a condition, moreover, which has not been recorded in two generations of a family. One of the cases was an infant; the staining of napkins was not present the first day of life, but was pronounced fifty-two hours after birth and continued constantly, suggesting that the homogentisic acid, to which such urine owes its peculiarity, follows the introduction of food into the alimentary canal, and supporting the view that the acid is produced from tyrosin in the digestion of proteids.

Further, that the homogentisic acid is produced in the tissues, and not in the intestines, as has been sometimes thought.

At the Clinical Society on the 22d inst., Mr. Morse related two cases of intracranial section of the trigeminal for neuralgia, cure resulting in both.

Mr. Hutchinson, Jr., reported five cases in which he had excised the Gasserian ganglion, and exhibited four of the patients. In not one was there any recurrence of the neuralgia. He urged that the temporal route should always be taken to reach the ganglion—this (Krause's) being in every way superior to the pterygoid route (Rose's). He thought the mortality in skilled hands probably under 10 per cent., and so lasting were the results that other operations would be abandoned in favor of the Hartley-Krause. He felt that the victims of epileptiform neuralgia should not be left to develop suicide before having the chance of permanent cure by operation.

Mr. Wallace mentioned a case in which the whole ganglion could not be removed, but the patient recovered and remained free from neuralgia. He did not seem decided as to which operation should be preferred, and had heard that the temporal route was falling in favor in America.

Mr. Ballance had removed the ganglion in ten cases—in one woman of eighty-four and another of seventy-one

ears, and thought old age no bar. He operated in two stages, with four or five days interval, if at one sitting the risk was much greater. He hoped the time would come when it would be possible to separate the sensory from the motor fibers, and divide the former without the latter.

Mr. Wallis mentioned a case in which arrangements had been made for operation, but previously the teeth were once more carefully examined and three stumps removed, which cured the neuralgia.

A paper was afterward read by Mr. Howard on a case of fragilitas ossium, and some other cases were mentioned in the discussion. Some of these were associated with congenital syphilis, but in others there was no trace of this.

Government having intimated that a water bill for London will be one of their chief undertakings for the coming session, the subject is again attracting attention. Whatever the statement may be worth that they are determined to push a bill through, there is sure to be opposition and the monopolies of the companies will find sympathizers in both parties. The County Council will again put in its claim to control the supply and find a new one, and the success which has attended the municipalization of the supplies of other large towns is a strong argument with oppressed rate-payers for permitting London to do likewise, instead of setting up another board elected on a complex plan.

Smallpox is still on the increase—from twenty-eight to thirty-three notifications a day have been made this week.

On Tuesday, the Prince of Wales was duly installed President of St. Bartholomew's Hospital, in succession to the King. So the ancient foundation of old Bart's retains its connection with royalty.

The committee of Macclesfield Infirmary, having forced the staff to resign by appointing in opposition to their wishes a woman house-surgeon, are now asking them to come to a conference.

Sir Wm. MacCormac, Bart., died suddenly on Wednesday. He was Hon. Sergeant-Surgeon to the King, Consulting Surgeon to St. Thomas' Hospital, and was President of the Royal College of Surgeons for the long period of five years. He had also received an unusual number of honors, academical, social, and knightly.

His sudden death came as a surprise to many who had noticed the vigor of his speeches since he returned from South Africa. But they were deceived by his fine presence and energy. Some knew that he contracted dysentery at the Cape, and was not free from its consequences, and with this guide were able to see that with all his energy in public there were signals of diminished vital force to the careful observer.

You will remember that he joined the Anglo-American ambulance in Paris during the Franco-German War, and received honorary distinctions for his services from both combatants. He went also to the Servian War. It was not surprising, therefore, that when our government decided to seek civil surgeons to aid in South Africa, they should turn to one with his experience of military surgery. He was Secretary-General to the International Medical Congress here in 1881, at the close of which year he was knighted. In 1897, while president of the college, he received a baronetcy. The next year he was called to treat the Prince of Wales—now king—for fractured patella, and afterward received the K.C.V.O. This year the K.C.B has been added in acknowledgment of his services in South Africa.

SOME OBSERVATIONS ON DECAPITATION IN CHINA.

To the Editor of the Medical Record:

Canton, China, November 10, 1901.

Sir: The following points of interest were noted to-day while closely observing the decapitation of thirty-six Chinese criminals in the City of Canton.

The prisoners were all placed in a kneeling position in a double row, and rather close to one another. The arms were tied behind, the queues were twisted into a knot on the head, with a tag on each queue and on the shirt. The men showed no signs of being under the influence of opium.

The sword used was about twenty-seven inches long, four inches wide and was a heavy, two-handed, chopping affair. Two executioners did the work cleanly and rapidly, and in all but three cases the heads fell at a single stroke; in two of the three exceptions the necks were only held by a small skin attachment; in the third case the blow seemed to strike about the sixth cervical vertebra and cut about two-thirds through.

Among the interesting features of the execution I noticed: (1) In many of the cases a decided effort to swallow was shown by the expression of the mouth, and the movement and downward bulging of the throat were repeated two or three times; (2) In several cases there was a pronounced attempt to articulate, judging from the labial expressions and movements. This movement was not convulsive, but most deliberate and expressive; the men were not in the act of speaking when the blow fell; (3) On close examination of the faces at the instant when the head fell, several showed a look of surprise and intelligence; this was, of course, but for a second; a natural movement of the eyes as if looking, and an opening and closing of the lids occurred. (4) There were no convulsive movements in any of the bodies or legs. The bodies fell forward, often covering the heads; (5) Close examination of the facial expression impressed me with the idea that it was the face of a person in syncope; the eyes, eye-lids, lips, color, and general expression were those of a person who was about going into a deep faint. (6) The hemorrhage from the trunk was tremendous; the carotids, during their three to six pulsations, each with diminishing force and volume, threw a stream of blood variously estimated in some cases from two to three feet. There was no spurting from the head.

I was strongly impressed with the idea that death was not instantaneous, but that it came almost immediately after the stroke and in syncope.

Oliver D. Norton, M.D.
Surgeon U. S. Navy,
U. S. S. *Monadnock*.

PROPOSED INCREASE IN THE POWERS OF THE ARMY MEDICAL CORPS.

To the Editor of the Medical Record:

Fort Thomas, Ky., December 11, 1901.

Sir: I request that you will publish the following response to your editorial of November 30, 1901. I thank you for the editorial.

Paragraph 1393, Army Regulation, 1895, to which reference is made, has, as your writer most truly said, wrought great good for army sanitation. This regulation, however, is based upon the results arrived at by the British, when they had an investigation of their army medical department following the Crimean War. The sanitary faults of that investigation the world knows. It was based upon the knowledge of that day. In this day sanitary science has greatly advanced. The world tends toward specialism. The line officer is already a highly specialized man, the purpose of whose education is the destruction of the force opposed to his own. When this purpose is to be attained, every other consideration must be laid aside. For this reason the line must have absolute and unquestioned control of men and material present.

No man can question but that the line officer who would deliberately compel his men to occupy a hospital infected with the contagion of smallpox should be punished for needlessly exposing his men. On the other hand, should this same infected building be the key to a battle position, and he refuse to occupy it on account of the contagion, and lose his battle thereby, all would properly condemn him. It is far better to risk smallpox contagion than to lose the entire command through fear of the disease. Therefore, the line must always retain the right to encounter sanitary dangers, just as other dangers must be encountered, for they may be but a small percentage of the totality to be faced. Whenever men are given power to control, they must do so with the responsibility resting upon them that the judgment used was accurate, and they must be made to feel that there is a penalty to be paid when men's lives are lost from a misapplication of the powers with which the Government must, per force, intrust them.

Your writer does me injustice when he attributes to me the opinion that commanding officers, as a rule, pay no attention to the recommendations of the medical officers. All the better men do pay attention, do try to have the recommendations carried out. One meets with all classes of men, from bitter oppositionists to active, earnest assistants.

My contention is and was that the duties of the Army Medical Department should be defined by statute law, and not left to be controlled solely by regulations. Regulation is only another name for the orders of the Secretary of War that the responsibilities be fixed by law, so that, when unusual losses occur from disease, some one man, who under the law is responsible, may be punished by due legal process. No line officer, knowing that if he countermands the recommendations of the medical officer, he thereby renders himself liable for results, will hesitate for a moment to compel the medical officer to enforce the sanitary law as the medical officer thought was for the best interests of his command, for then the

medical officer remains responsible for the result. On the other hand, when the enemy is at hand, the line will at once treat sanitary dangers on precisely the same footing as any other danger is handled. To defeat the enemy should be the sole aim—with small cost, if possible, but at any cost that may be necessary.

It is a difficult matter so to draw a law that it will apply to each and every case, and if your writer can compose such a law, he should announce it to all and undertake for the general good to have it become law. Certain it is that such a law is greatly needed.

The bill which was introduced by the Hon. Jas. Hay is the only attempt of which I have knowledge to fix the responsibilities and penalties.

The regulation which your writer proposes does not require the action of the Secretary of War; it is entirely within the province of any commanding officer to order it for himself and his command.

I quote from your editorial: "Something may certainly be done toward the improvement of sanitary conditions, but not in the manner or to the extent proposed by Major Owen. Under no circumstances will military conditions tolerate any division of the powers of the commanding officer; and, so far as he himself is concerned, the recommendations of his surgeon must be advisory." Continuously throughout my paper will be found the thought that no commanding officer can afford any division of his authority, for this must be absolute and unquestioned. There can be no reason, however, why a commanding officer may not be held to a legal responsibility for his actions, nor can there be good reason why he may not act under statutory law rather than regulation.

Sanitation is a study which embraces almost every science. Its laws are delicate and difficult of application, and it is my belief that too many of these laws are now known to allow the application of that which is known to depend upon the haphazard of regulation. We should have at least a statute upon which to base the regulation. Demand good results, and punish failure to obtain them. Fix the responsibility on some one man, give him power to enforce his orders, with penalties for failure to obtain results, and you will have the same results that obtain in civil life.

Very truly,

W. O. Owen, M.D.,
Major and Surgeon, U. S. Army.

Curable Bulbar Encephalitis.—According to B. A. Muratoff all acute inflammations of the nervous system may be divided into three forms—hemorrhagic, interstitial, and parenchymatous. The last two forms he considers curable. He defines encephalitis as a parainfectious form of inflammation, *i. e.* a malady occurring in connection with various infectious diseases. Encephalitis thus presents the following clinical characteristics: (1) It may be due to a past acute infection; (2) It may occur independently of any previous infection; (3) It may occur in the absence of any specific microorganism and the corresponding specific symptoms; (4) It may be due, not to the direct action of the microorganisms, but to that of their toxins.—*Meditsinskoe Obozrenie.*

The Influence of Various Metals on the Morphological Composition of the Blood and the Formation of Hæmoglobin.—M. A. Iliasheff arrives at the following conclusions: (1) Copper, mercury, and manganese salts introduced in small quantities per os produce no perceptible influence on the number of the red blood corpuscles; (2) The iron salts under the same conditions always produce an increase in the number of the red blood corpuscles; (3) Not only are the iron salts thus absorbed and produce a stimulating influence on the blood-producing organs, but they are also assimilated and go to build up the components of hæmoglobin; (4) The increase in the number of the red blood corpuscles and the amount of hæmoglobin occurs in such a manner that first the maximum of the number of the red blood corpuscles is reached, while the maximum of the amount of hæmoglobin appears later; (5) With the use of iron the percentage of the eosinophile cells of the blood is always raised; this does not occur under any other conditions in the same animals; (6) The eosinophile granules contain iron, and apparently in stable organic combination, since, like the hæmatogen of Bunge, they give the reaction of iron with ammonium sulphate only after from twelve to twenty-four hours.—*Vratch.*

Progress of Medical Science.

Boston Medical and Surgical Journal, December 19, 1901.

Acute Intestinal Obstruction Occurring Twice in the Same Subject.—Homer Gage reports the case of a man seventy-five years old on whom another surgeon had operated for cancerous stricture of the intestine in the lower half of the sigmoid flexure, resecting about six inches of intestine, and making a careful end-to-end anastomosis with suture. Five years later another operation was done for constriction due to a coil of small intestine on the left side just below the umbilicus being tightly constricted by a fatty band which passed directly over it, and which seemed to be a part of the mesentery of an adjacent coil. The contents of the abdomen were thoroughly examined, and it was demonstrated that there was entire absence of any recurrence of the cancer. An instance of such long-continued immunity is most encouraging, and serves to stimulate to greater boldness and to more radical thoroughness of excision.

A Discussion of the Relation Between Human and Bovine Tuberculosis, with Special Reference to Primary Infection in Children Through the Alimentary Tract.—A. D. Blackader reviews the literature of the subject, taking up both sides of the question. He concludes that in the past the general profession has undoubtedly exaggerated the danger of infection from ordinary milk. Other acid-fast bacilli have been taken for true tubercle bacilli, and we have also been unduly afraid of a few bacilli in otherwise normal milk. It is also to be remembered that tubercle bacilli do not develop in milk under ordinary circumstances, as many other microorganisms do, and that their virulence is inhibited by the many modes in which the milk is prepared for the child. Adami suggests that in the slowly progressive forms of the disease, bacilli taken in the food, especially bovine bacilli, may by long residence in the human body acquire increased proliferative powers and toxicity against the human tissues. The author is convinced that much clinical and bacteriological work still remains to be accomplished before the latest statements of Koch can be either accepted or contradicted.

The Formation of Cysts in the Faucial and Pharyngeal Tonsils.—J. L. Goodale reports two cases in which histological examinations were made of the growths removed. In the first, the cavity was lined with stratified pavement epithelium in the interior of the adenoid, lying directly below a short, abruptly terminating furrow or crypt, the mucous membrane at the base of the latter extending nearly to the wall of the cavity. It seems reasonable to infer that the cavity represents a former portion of the crypt, and has been cut off by the adhesion of the walls of the latter near its orifice. It was evident from appearances that a heightened pressure existed within the cavity. In the second case there was a cavity lined with pavement epithelium, occurring in the middle of the tonsil which showed advanced atrophy of its lymphoid tissue with fibrous changes in the reticulum. These findings render it probable that the formation of the cavity was dependent on the occlusion of a pre-existing crypt, either by old fibrous contraction or by adhesion of its walls through inflammation, or by the covering of its orifice from a fold of overlying, adherent membrane. In both cases, there was absence of acute inflammation in the vicinity of the cavities.

Journal of the American Medical Association, Dec. 21, 1901.

Treatment of Neurasthenia.—H. N. Moyer would first secure the patient's confidence, and then employ persistent suggestion—not hypnosis. The patient should not be allowed to discuss his ailments with any one except his physician, while the latter should keep up a careful regulation of the former's mode of living. Rest is the sheet anchor in treatment, though some patients do well to indulge moderately in golfing. Milk and eggs, where digested, are of special dietetic value, and several glasses of water should be taken during the day. While drugs are, as a rule, of little value, some cases are benefited by strychnine in large doses. Agitation and insomnia call for the bromides. Hydrotherapy is beneficial. Exposure to cold air under the precautions employed in tuberculosis has, in the writer's hands, proved of great benefit.

Intracellular Occurrence of Diplococcus Pneumoniæ in Cerebrospinal Meningitis.—Two cases occurring in human beings and two in horses are mentioned by L. B. Wilson. Microscopical examinations of preparations made from the cases show that it is possible occasionally for diplococcus pneumoniæ to occur abundantly within the cells of the exudate in meningitis. This may indicate a closer relation than is ordinarily supposed to exist between diplo-

coccus pneumoniæ and diplococcus intracellularis meningitidis. The point merits further investigation. The position of the coccus relative to the cell is occasionally of less importance than its shape, arrangement, staining reactions, or cultural characteristics. Pathogenesis in all its phases as yet has been insufficiently studied to be of much help in differentiating these microorganisms. It would certainly appear that great care must be exercised in diagnosing, from direct cover-slip preparations of meningeal exudates, between diplococcus pneumoniæ and diplococcus intracellularis meningitidis.

Corneal Lesions in Acquired Syphilis.—Three clinical histories are related by W. H. Wilder. He notes that the clinical features of acquired syphilitic keratitis vary. Different writers have described cases of diffuse interstitial keratitis differing in no essential particular from the lesion as seen in inherited syphilis, except that it is more frequently unilateral, and the degree of vascularization is much less. Iritis may or may not be associated with this form. More distinctive, however, is the form in which the lesion develops at some point of the corneal circumference as a rather dense grayish infiltration, which remains limited to this part of the cornea, passing through all its phases with no tendency to ulceration. Sometimes the dense opalescent opacity may extend quite up to the margin of the cornea and appear to be merged in the sclerotic; in other cases there may be a clear space between the site of the lesion and the limbus. In this form of the disease, vascularization is not a prominent feature, and is absent in most of them. Iridocyclitis and choroiditis may be associated with this condition, so that this form may be the same as that described under the name of "keratitis interstitialis punctata."

Therapeutic Indications Suggested by the Condition of the Blood.—O. T. Osborne briefly reviews the physiology of the blood, and claims that a proper management of the circulation is all that is necessary in many conditions of disease. But we are apt to neglect many potent and simple procedures. For instance, in febrile processes we are not careful enough to keep the blood or the skin where it cools, and keeps down the temperature, and therefore saves the waste which high temperature will cause. Again, the condition of vasomotor ataxia plays an important part in many functional disorders, notably in neurasthenic persons. When the blood should be at the surface, the surface vessels are contracted, and there is too much blood in the internal organs, perhaps notably the brain, as at night, causing insomnia; when there should be anæmia of the surface, there is a flushing of the skin in these cases, giving sleepiness in the daytime, and perhaps an imperfect digestion, constipation, and other functional disturbances. This condition of vasomotor ataxia seems to be present in marked degrees in most cases of hysteria. Osborne further states his conviction that neurotic and possibly hysterical cases have an increased thyroid secretion, and that various functional disturbances, such as palpitation, cerebral irritability, insomnia, sweating, nervousness, hot flashes, muscular weakness due to lack of blood-vessel tone, can be due and is due to this increased secretion. On the other hand, he feels that continued high tension o the arteries, with the consequent chronic endarteritis, gouty and atheromatous conditions, can be due in later life to the diminution of the thyroid secretion, and the predominance of the suprarenal secretion, causing the contraction of the peripheral blood vessels.

New York Medical Journal, December 21, 1901

Amygdalotomy Rash.—E. A. Forsyth records the history of a boy of eleven, from whose pharynx adenoids were removed under cocaine anæsthesia. All antiseptic precautions were observed. The second day after operation a rash appeared on the face, neck, and chest, with slight fever. Scarlatina was suspected, but the child was perfectly well in two days.

Medical News, December 21, 1901.

The Biological Relationship of Proteids.—P. A. Levene speaks of the new work of Uhlenhuth, which indicates that there is a biological similarity between proteids having a different chemical individuality, but obtained from the same animal. The results obtained in the writer's laboratory indicate that chemically different proteids derived from the same or closely related animals have the power of producing similar "precipitins" when injected into animals. The writer thinks that human milk could be used for obtaining serum for the detection of human blood.

Artificial Milks.—Louis Kolipinski declares that without milk the treatment of many diseases is futile. It is a complete and perfect food. Its sole and persistent use is directly curative. Physically, milk is the most perfect of emulsions. Chemically, its ingredients are so proportioned as to satisfy every organ of digestion and nutrition. The formula which is given in this article represents a milk that contains all of the component parts of the natural animal secretion. The product is cheap, and easily and readily prepared. The ingredients are easily obtained. They should be fresh and palatable and sterile. The formula is: Extract of malt (sirupy), one tablespoonful; olive oil, one tablespoonful; roasted flour, two teaspoonfuls; one broken raw egg. Beat up in a bowl or dish with a spoon or egg-beater for three or four minutes. Add by degrees, while stirring, a tumbler or gobletful of pure cold drinking water. Season with salt. To be taken one or two hours after meals. In hot weather add crushed ice. This general formula is modified in various ways according to the case. The flavor is rich and the aftertaste pleasant. This milk is very useful in temporary exhaustion, mental or physical. It is an excellent galactagogue. For the use of travellers, explorers, and sportsmen, the milk is also theoretically well adapted.

Philadelphia Medical Journal, December 21, 1901.

The Value of Blood Examination in Diagnosis.—Frederick J. Kalteyer reviews the recent article on blood examination by Dr. Deaver and Dr. Moore, and states that to the medical man unfamiliar with the methods of blood examination the article may suggest adverse criticism as to the value of these examinations in diagnosis. He believes that it is reasonable to infer that the more irregular the symptoms of tertian or quartan fever, the less difficult should be the finding of parasites in the blood, for in these cases sporulation continues over a longer period than in typical cases. The writer speaks of the technique of obtaining blood for examination, and states that the pain and discomfort of this operation are scarcely more than are caused by the subcutaneous insertion of a hypodermic needle. He believes that the diagnosis of ulcerative endocarditis may be aided if pyogenic cocci are isolated from the blood. He declares that the agglutination test in typhoid fever is often of decided advantage, especially in atypical cases. As to the value of the estimation of hæmoglobin, he thinks that a general anæsthetic should not be given, except in cases of absolute necessity, when the hæmoglobin is low. He refers to a case in which the leucocytic count was low, but in which an abscess containing 500 c.c. of pus was found at operation. His explanation is that the abscess was thoroughly walled off. The fact is well established that in cases of this kind the leucocytic count is generally low.

Hepatic Drainage.—John B. Deaver and Edward Kemp Moore declare that the surgery of the gall-bladder and the bile ducts is still in the stage of development. Diseases of these parts are remarkably frequent in their occurrence. Gall-bladder disease shows itself in fully as many different forms as appendicitis, and it calls for the most careful study. The symptoms of pericholecystitis depend in great measure upon the adhesions which exist. These should be freed, but the prevention of the reappearance of these symptoms will be accomplished by attention to their cause—defective drainage of the gall-bladder and liver. Whatever the nature of the symptoms, then, their cure will lie in the establishment of free hepatic and cystic drainage. The success in the treatment of gall-stone disease depends upon the ability to institute and maintain free drainage. The reputation of the Sprudel Spring, at Carlsbad, for the cure of gall-bladder troubles, is owing to the ability of this water to free the hepatic drains from infection, thus reducing inflammatory tumefaction and making room for the establishment of free drainage. The pathological lesions still persist. The gall-bladder is an organ with very little function in the human race. In the late stages of cholangitis it is imperative to open freely and drain the bile ducts, for it is only in the free escape of the infected bile that there will be any hope for the cure of the condition. In early cases of gall-bladder disease, before the occurrence of any marked anatomical changes, temporizing and Carlsbad are indicated; but in the late stages, temporizing is dangerous.

A Case of Morphine Poisoning; Successful Employment of Cocaine as an Antidote.—Albert C. Barnes reports this case of a girl aged seventeen years. She was engaged in moulding finely powdered morphine sulphate into hypodermic tablets. About two hours after beginning the work, she began to show the symptoms of morphine poisoning. Unconsciousness became profound. The respiratory and cardiac functions were extremely depressed. The usual restoratives were applied before the writer was called. The primary effects of toxic doses of cocaine are directly antagonistic to the late effects of toxic doses of morphine, and so cocaine was employed. This drug stimulates the respiratory centers, the heart, and vessels by direct action, and, by a specific effect upon the accelerator mechanism, produces in-

dose. Quinine was sometimes taken to avert a future attack, but not sooner than an hour after the administration of the iodine mixture.

Revue de Médecine, October 10, 1901.

Rare Complications of Dysentery.—Paul Remlinger reports in detail some rare complications or sequelæ of dysentery, such as nephritis, anasarca, arthritis, epididymitis, phlebitis, and splenic abscess. In the first case reported from the post-mortem results, it is evident that the chain of events was as follows: Dysentery, acute nephritis, articular and muscular rheumatism, toxic pulmonary lesions. There were two cases of anasarca, which at first suggested nephritis, but no albuminuria was found. There was, however, a lessened amount of urea, and of solid substances, and the methylene-blue test indicated a disturbed condition of the renal filter. The treatment usual in cases of nephritis caused improvement in all the symptoms.

Hysterical Stammering.—Georges Guillain reports the case of a man of forty-five years, without nervous family taint, but who had become extremely emotional and nervous since the death of his wife in 1889. In 1896, he fell at night in a badly lighted street, and although he was apparently uninjured, forty-eight hours later he had complete paralysis of the upper and partial paralysis of the lower limbs, with dysarthria. Two months later the paralyses disappeared as rapidly as they had come, but the disorders of speech remained. When seen four years later, he was in excellent health, but affected with a species of stammering and in addition had intermittent periods, when the grammatical arrangement of phrases was difficult, and when words were forgotten. He could not put out his tongue or move it laterally, and any effort to do so would cause a spasm. The affection is deemed hysterical by the author

Revue de Chirurgie, October 10, 1901.

A Case of Staphylococcæmia.—E. Reymond and M. Alexandre report the case of a man who was suffering from an abscess in the dorsal region. Staphylococci were found in the pus of the abscess, in the blood, and in the urine. The abscess followed the appearance of boils of the left arm and axilla that were not operated on, and to which the generalized infection was undoubtedly due. The secondary localization of staphylococci is apt to be influenced by local fatigue, contusion, or congestion. In this case the abscess was situated in the dorsolumbar muscles, which were constantly exercised, as the patient was a baker.

Goundon.—M. Jeanselme says that this name is given to two bony, ovoid, symmetrical tumors which arise at the root of the nose on each side, and by their growth narrow the nasal fossæ and interfere with vision. It occurs among the negroes of the Western Coast of Africa, and begins usually in late childhood, being accompanied at the onset by violent headache, slight epistaxis, and mucopurulent discharges from the nose. Later these symptoms disappear, but the tumors progress. They are formed of areolar or spongy tissue, covered with a thin layer of compact tissue. Goundon is not due to syphilis, tuberculosis, or leprosy, nor is it hereditary. Its origin is as yet unknown.

A Case of Goundon.—Pacheco Mendès reports a case of this affection, consisting in a tumor situated at the left side of the nose, osseous in nature, and of the size of a pigeon's egg. The tumor was removed by operation. The author reviews the literature and history of the subject, and concludes that the disease is one peculiar to the negro race, and belongs to the class of trophoneurotic lesions of the jaw. Section of the inferior maxillary nerve has been known to determine hypertrophy of the maxillary bone of the same side. There is, therefore, nothing unreasonable in the supposition that goundon is due to a central nerve lesion which causes peripheral vascular troubles that induce an exaggerated nutrition of the bone and periosteum.

The Practitioner, December, 1901.

Bright's Disease in Children.—Henry Ashby urges systematic examination of the urine in sick children. The common type of nephritis in early life is the acute or subacute type of inflammation with exudation of blood and fibrin, which more or less choke the tubules, and the urine, in consequence, is dark in color and albuminous. Chronic nephritis is much less common, and granular contracted kidney, chronic from the beginning, and associated with cardiac hypertrophy and vascular changes, occurs but rarely. There is the septic form of nephritis with local rather than general inflammation, the chief feature of which is an exudation of leucocytes from the vessels, and sometimes minute points of suppuration; and there are toxic degenerative changes associated with the acute febrile disorders, especially diphtheria, though these can hardly be classed with nephritis. The author describes each variety in detail.

Some Affections of the Nervous System in Connection with Renal Disease.—F. E. Batten says that in the course of acute, but more especially chronic, nephritis, various nervous phenomena manifest themselves, the most common of these being uræmic convulsions. The presence of aphasia, word blindness, loss of vision, hemiplegia, or, in rare cases, loss of power on the one side and spasmodic twitching on the other, have all been observed. Of the various theories held in regard to the cause of the paralysis following convulsions, that which attributes the condition to a chemical poison produced within the body, owing to the want of normal elimination by the kidneys, is that which most readily accounts for the headache, the eclampsia, the coma, and the general symptoms. The psychoses which occur in uræmia are apt to be either mania or melancholia. Cases of insanity of uræmic origin are, on the whole, rare. As to the frequency of renal disease among the insane, an examination of 1,034 patients showed that in 60 per cent. albumin or casts were present.

The Treatment of Bright's Disease.—William Hale White considers the treatment of acute Bright's, of chronic tubal nephritis, and of chronic interstitial nephritis, giving details as to diet, clothing, climate, habits, and the treatment of special symptoms. In acute nephritis the diet should always be milk, because it is simple and unirritating, is suitable for fevers (Bright's in its acute form is often accompanied by pyrexia), and because it is a fluid, and it is important to wash out the renal tubules and so get rid of all the epithelial débris that blocks them. The patient may well take four pints of milk in twenty-four hours. He should have it every hour, and it does not follow that he is doing badly if the urine contains numerous casts; indeed, the reverse is often the case. In chronic tubal nephritis, patients should not be kept too rigorously to milk, but be allowed a little meat, bread and butter, and simple pudding. In chronic Bright's, as we do not know the cause of uræmia, the best way to avoid it is to give such diet as will keep the patient in the best general health, which will generally be such a combination of fats, carbohydrates, and proteids as is usually desirable in health.

The Ocular Symptoms in Bright's Disease.—Walter H. H. Jessop thus enumerates the ocular symptoms in Bright's. The naked-eye appearances are those of œdema of the lids, especially the lower, which is of a fugitive nature. The eye has often a bright, shining, watery appearance, due to conjunctival changes. Spontaneous hemorrhages beneath the conjunctiva and in the substance of the lids are not infrequently to be found. *Albuminuric retinitis* is usually bilateral, and is most often met in chronic interstitial nephritis, but is also found in parenchymatous nephritis, especially when associated with pregnancy and scarlet fever. As to vision, patients rarely, if ever, become blind from the changes in the retina. Very few cases live beyond two years after the retinitis has been diagnosed; but it must be remembered that as the acuity of vision is seldom much affected at first, many patients would not seek advice until the disease was well advanced. *Uræmic amaurosis* is, as a rule, bilateral, and comes on suddenly, clearing up in a few days with complete restoration of sight.

Pregnancy and Albuminuria.—D. Berry Hart says that when albuminuria is present, milk diet and rest in bed, with attention to the bowels and an occasional hot bath, are all that is necessary in the way of treatment, cases so treated seldom going on to the more serious stages. When, however, the case becomes worse, and headache or eye symptoms supervene, with the urine still albuminous, induction of labor is indicated As to eclampsia, the author is convinced that such heroic remedies as powerful purgatives, the use of pilocarpin, or venesection are a mistake. Renal, pulmonary, and cardiac conditions should be ascertained, the temperature and pulse observed, and any paralytic condition ascertained. Hypodermic injections of morphine should be given, beginning with $\frac{1}{8}$ to $\frac{1}{3}$ grain, repeating in two or three hours if necessary, but with only $\frac{1}{4}$ grain. Not more than 1 to 2 grains should be given in the twenty-four hours. Next give a large saline injection by the bowel, or, if necessary, a submammary transfusion of two to three pints of a saline (3j. of salt to each pint). One smart purge may be given, but pilocarpin is dangerous, as it may increase lung œdema, and cause a distressing accumulation of saliva.

Annals of Surgery, December, 1901.

Note on X-Ray Burns and Their Treatment.—T. W. Huntington enumerates the views at present held as to the nature and pathology of this class of injuries, and relates one case cured by excision of the affected area

and skin-grafting. He says that if excision of the ulcer be determined upon, it must be performed with extreme boldness to the end that all tissue supplied by defective blood-vessels be removed. He also alludes to the value of silver-foil dressing for Thiersch grafts. It is dry, aseptic, and mildly antiseptic; but its chief value seems to lie in its efficient prevention of adhesion of the gauze to the grafts.

Treatment of Tuberculosis of the Peritoneum.—This is a historical review of the question by C. Fengar, who adds certain comments based on his personal experience. He says that the advantage of laparotomy over puncture, as regards its effect on the exudate, is probably more apparent than real. It seems likely that the termination of the progress of the tuberculous process is the main factor in the causation of improvement, and in one or the other of these conditions the method of evacuation of the exudate is immaterial. The frightfully disappointing results of the energetic surgical treatment of peritoneal tuberculosis—curetting, excision of tuberculous tumors in the omentum, adhesions, and mesenteric glands—must teach us that nature cures tuberculosis of the peritoneum better than the surgeon.

Pathology, Symptomatology, and Diagnosis of Tuberculosis of the Peritoneum.—D. E. Eisendrath enumerates four pathological varieties of this affection as follows: (1) Hæmatogenous or disseminated miliary form. This generally occurs as a part of a general miliary tuberculosis, characterized by small grayish nodules scattered universally over the peritoneum and omentum, each surrounded by a hyperæmic zone; (2) A local lymphogenous form most frequently secondary to an intestinal tuberculosis, less frequently to that of the mesenteric glands, retroperitoneal glands, or vertebræ. This is characterized by grayish or yellowish tubercles which follow the course of the lymph vessels closely, and are often arranged in rows on the intestine. The tissue around the same is hyperæmic, at times there are a few hemorrhages, often they are covered by granulation tissue or fibrin; (3) The third form is exudative in character. We find in the peritoneal cavity a more or less serous, sero-fibrinous, or, if there is mixed infection present, even purulent exudate. In some cases, especially in alcoholics, the exudate may be hemorrhagic. There is often a very thick eruption of grayish tubercles, the remainder of the peritoneum being more or less covered by a fibrinous exudate; (4) The adhesive form, sometimes spoken of as the fibrous form. This is the slowest in development; it is the most frequent in children, and there is usually no ascites present. It is characterized by the formation of fibrinous membranes, inclosing tubercles with extensive adhesion of the intestinal coils to each other, to the solid viscera, and to the parietal peritoneum.

Differentiation Between Inflammatory Processes and Neoplasms of the Bones by the Röntgen Rays.—In a series of excellent skiagraphs, Carl Beck illustrates the points suggested by the title of his paper. He says that many limbs have been sacrificed by unnecessary amputation, and many lives lost by deferred amputation on account of errors in differentiating the various inflammatory processes from the growths of the bones and joints. The Röntgen rays have opened entirely new fields in this sphere. If they cannot always give a positive answer, they often, by the method of exclusion, increase the chance of arriving at a correct diagnosis. If in a case of an obscure swelling of the knee-joint, for instance, the Röntgen rays reveal no impairment of the integrity of the joint, ostitis, tuberculosis, syphilis, or a bone injury can be excluded. It is certain, then, that only the soft tissues are involved. Thus we may, in conjunction with other clinical symptoms, be satisfied that we have to deal with a rheumatic swelling, for instance. But in many instances the Röntgen rays give a positive information. Again, in periostitis as well as in osteomyelitis the skiagraphic signs are well marked. Abscesses cannot be localized, but their extent is also so well outlined that the technical steps of the operation can be definitely traced in advance. The feeling of security the surgeon has while proceeding under the mentorship of the skiagraph gives a satisfaction unknown in former years, when often the whole femur, for instance, has had to be exposed simply in order to ascertain whether all foci were detected. If the Röntgen rays show but one focus, no other regions of the bone need be attacked. In arthritis deformans the osteitic proliferations are easily recognized by means of the rays. In tuberculosis the latter give information, not only as to the seat and extent of the tuberculous areas, but also offer means, and at times the only means, of differentiation from other affections with similar clinical signs. In the differentiation of the various forms of sarcoma, the rays are of the greatest value. It is true that the skiagraphic characteristics described are not expected to serve as substitutes for our well-tested clinical methods of diagnosis, but should be regarded as valuable adjuncts in general, and sometimes as determining factors in doubtful cases.

Archives of Pediatrics, December, 1901.

Primary Intestinal Tuberculosis in Children; Its Frequency and the Evidence of Its Relation to Bovine Tuberculosis.—David Bovaird concludes from his investigations: (1) That English reports alone show any considerable number of cases of primary intestinal tuberculosis; (2) That it is a very rare affection among children in or about New York, little more than 1 per cent. of the cases of tuberculosis having this origin; (3) That the proportion of tuberculous cases found at autopsy in New York is lower than that of European observers; (4) That the evidence connecting tuberculosis among children with the consumption of the milk of tuberculous cows is very scant.

Great Fluctuations in Temperature in the Terminal Stage of Pulmonary Tuberculosis.—Samuel S. Adams reports eight cases in which the temperature charts illustrate the apparent harmlessness of wide fluctuation of temperature in the terminal stage of the disease. The temperature may reach 108° F. and in a few hours drop to 95° F. without any apparent effect upon the child, either mentally or physically. Such wide variations have occurred in some of the cases without disturbing their appetite, disposition, intelligence, or play. It is not unusual to see a child enjoying his breakfast with a rectal temperature too low to be registered by the thermometer, and to find him eating his evening meal with relish in spite of the fact that his rectal temperature is now 106° or 107°. The absence of evidence of collapse and of the usual phenomena of hyperpyrexia can only be explained upon the assumption that some irritant acts upon the heat centers differently from that present in purely septic conditions.

Treatment of Tuberculosis in Infancy and Childhood, with Special Reference to the Use of Guaiacol.—B. K. Rachford holds that this drug far outclasses all others in the treatment of tuberculosis. The prescription which he uses is the following: ℞ Guaiacol, ʒj.; lanolin, ʒij.; lard, ʒv. One level teaspoonful to be rubbed into the chest at bedtime each day. Guaiacol is one of the few drugs which when applied to the skin is rapidly absorbed by the lymph channels, and thus into the general circulation. This treatment is of the greatest value in all forms of lymphatic tuberculosis. In tubercular peritonitis the good results commence at once; and the patient, as a rule, slowly but steadily recovers. When the active symptoms are in abeyance, the author usually substitutes carbonate of guaiacol internally for the inunction treatment. It is easy of administration, mixed with a little milk-sugar, and is valuable in all forms of tuberculosis in infancy and childhood, but especially in the treatment of intestinal and mesenteric tuberculosis. Guaiacol holds first rank as an intestinal and as a pulmonary antiseptic.

Zeitschrift für Klinische Medicin, Bd. 44, H. 3 und 4.

Etiology of Myelitis.—L. Huismans says that myelitis is exclusively of bacterial origin. The view formerly held that intoxication by various chemical poisons can produce myelitis is erroneous. These agents are capable of producing only a predisposition to myelitis or of increasing a susceptibility already existent. The predisposition to this disease consists in a natural or acquired condition of the spinal blood-vessels which favors thrombosis. Acute myelitis follows various forms of embolism. Chronic myelitis appears as a sequel to primary arterial thrombosis. While both acute and chronic myelitis are due to bacterial infection, in only the latter is a predisposition as previously mentioned necessary. The acute form either subsides into a non-irritating sclerosis or passes into the chronic form. In many cases the condition pursues a chronic course from the beginning.

Pathogenesis of the Micrococcus Catarrhalis (Pfeiffer).—A. Ghon and H. Pfeiffer report the bacteriological study of this microorganism, together with the clinical observation of five cases in which it was present. This coccus without the assistance of other microbes is able to produce simple bronchitis, bronchopneumonia, and the clinical picture at least of lobar pneumonia. In addition to the local symptoms, evidences of general infection may be present. The objective and subjective appearances produced by this microorganism are entirely similar to those seen in infections due to the influenza bacillus and pneumococcus. Bacteriological examination is necessary in these cases in order to determine the exact bacterial excitement. Many cases show a mixed infection with these three microbes. In other cases the micrococcus catarrhalis is present merely as a saprophyte.

Book Reviews.

WHAT A YOUNG WIFE OUGHT TO KNOW. By Mrs. EMMA F. ANGELL DRAKE, M.D., Graduate of Boston University Medical College. Phila.: The Vir Publishing Company.

THIS little book is one of a set comprising "A Self and Sex Series." It is written for woman by a woman. It contains nothing either to commend or to condemn, except that the repetitions are so very numerous making their perusal exceedingly tiresome.

MODERN OBSTETRICS: GENERAL AND OPERATIVE. W. A. NEWMAN DORLAND, A.M., M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania; Associate in Gynecology, Philadelphia Polyclinic. Second edition, rewritten and greatly enlarged. Cloth, 8vo, 797 pp., with 201 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901.

A COMPARISON of the present volume with its predecessor shows evidence of careful revision and many additions, which bring it fully up to date.

The important subject of puerperal sepsis is carefully elaborated, especial attention being paid to the most recent views with regard to pathology and treatment.

Chapter VI deals with the pathology of the new-born in a clear and thorough manner. Puerperal eclampsia is considered at length, attention being given to the modern theory of autointoxication. The sections on prophylaxis and treatment are well written, as are also the chapters on ectopic gestation, the induction of premature labor, and the manual dilatation of the cervix.

The chapters on operative obstetrics are entirely in the line with the most approved modern teaching. As an evidence of the thoroughness of the revision, we find a careful description of the condition known as *deciduoma malignum*.

The chapters on the physiology, hygiene, and mechanism of labor are duly elaborated. The illustrations (many of which are new) are clear and helpful, the style is direct and pleasing.

PEDIATRICS, THE HYGIENIC AND MEDICAL TREATMENT OF CHILDREN. By THOMAS MORGAN ROTCH, M.D., Professor of Diseases of Children, Harvard University. Third edition. Philadelphia and London: J. B. Lippincott Co., 1901. 8vo, pp. 1,021.

THE third edition of this admirable work has been entirely rewritten and rearranged, placing it as a whole in the front rank of pediatric literature. While the changes in many respects have been quite radical, they add very materially to a more thorough and systematic study of the different subjects, especially those which refer to symptomatology, diagnosis, and treatment. In so far the practical value of the work is very much enhanced. As might be expected, a great deal of space is devoted to the anatomy and physiology of early life, and to the advances which have been made in infant feeding, in bacteriology, and in the bacteriological study of the blood. The subject of substitute feeding and the use of laboratory modifications are very exhaustively discussed from a distinctly authoritative standpoint, and much valuable and suggestive information is offered to the reader concerning the fundamental principles governing all kinds of artificial alimentation. The text is plentifully supplied with illustrations and the colored plates are admirably well done. The general practitioner who desires an up-to-date work on pediatrics will find this one admirably suited to all his practical needs.

DISEASES OF THE UPPER RESPIRATORY TRACT, THE NOSE, PHARYNX, AND LARYNX. By P. WATSON WILLIAMS, M.D., Lond., Physician in charge of the Throat Department at the British Royal Infirmary, Physician to the Bristol Institute for the Deaf and Dumb. Fourth edition, illustrated. New York: Longmans, Green, & Co; London and Bombay, 1901.

THE work, in its fourth edition, has been much enlarged and brought fully up to date. There are twenty-eight plates, many of which are colored, and two hundred and seven illustrations in the text. Eighteen stereoscopic plates are given, which, when viewed through the stereoscope that accompanies the volume, give a most realistic idea of form and dimension. The idea of including stereoscopic views and fitting each volume with a stereoscope is novel and effective. The volume is one of 436 pages, and is an excellent example of the printer's art—paper good, type clear and large, and the illustrations better than the average. The text is in excellent English, is simple, clear, and direct. A thorough acquaintance with the subject is manifest. The essential portion of the text is printed in large type, while "matters of detail" are in smaller type and may be considered only as an elaboration of the main part of the text.

Illustrations appear wherever they are of value in aiding to elucidate the text. They have been chosen with rare judgment. The first chapter is devoted to a description of the anatomy, histology, and physiology of the upper air passages. Then follows a chapter on the methods of examination employed in relation to these parts; after this the various chapters devoted to the consideration of the diseases of the upper air passages follow in logical order. The author does not lose sight of the relation of the system at large to diseases of the upper respiratory tract. The advice given is of a conservative nature and is safe to follow. Chapters of particuar interest are those on diphtheria, the neuroses of the various parts, the various paralyses met with, and diseases of the accessory sinuses of the nose. An appendix giving formulæ and therapeutic methods, also directions for post-mortem examinations, is found. The work is an excellent one and deserves a place among the "active" volumes of every medical man's library.

PRACTICAL X-RAY WORK. By FRANK T. ADDYMAN, B.Sc. (Lond.), F.I.C., Radiographer to St. George's Hospital, Member of the Röntgen Society of London, etc. With fifty-two illustrations and twelve full-page plates. London: Scott, Greenwood & Co., 1901; New York: D. Van Nostrand Co.

THIS book is a treatise on the subject of the *x*-ray from the point of view of the physicist and electrician, rather than the medical man. The clinical use of this form of radiant energy is only considered secondarily, while most of the space is given to a consideration of the methods for developing, using, and controlling the rays and to the various forms of apparatus which are likely to prove most satisfactory. This has only a secondary interest for the physician or surgeon, to whom clinical use and results must always be of first importance. One important point which receives adequate discussion relates to the localization of a foreign body in the tissues, as to depth, and to other objects whose shadows are seen. This is a matter of much importance in surgery, and is one which is not often discussed clearly. Precise directions are given for the preparation of plates and the printing therefrom, and a number of excellent reproductions of printing from *x*-ray negatives are introduced into this chapter. The book forms an interesting monograph on the subject of *x*-rays, and familiarity with its contents will enable us to make a success much greater than usual in our use of this remarkable force.

MATIÈRE MÉDICALE ZOOLOGIQUE. Histoire des Drogues d'Origine Animale. Par H. BEAUREGARD, Professeur à l'École Supérieure de Pharmacie de Paris. Révisé par M. Coutière, avec préface par M. D'ARSONVAL. Paris: G. Naud, éditeur, 1901.

THE author has here accomplished a most delicate task, presenting a history of the animals and drugs of animal origin employed in therapy. An immense amount of research and careful study is incorporated in the 388 octavo pages, which are embellished with excellent drawings and interleaved with plates, several of which are in colors. The author has left for himself in this work a lasting monument, having corrected the proof sheets on his deathbed. A fitting introduction in the nature of a eulogistic discourse presents the work to the medical and scientific public.

PROGRESSIVE MEDICINE, a Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc., assisted by H. R. M. LANDIS, M.D., Assistant to the Out-patient Department of the Jefferson Medical Hospital. Vol. III., September, 1901. Philadelphia and New York: Lea Brothers & Co., 1901.

FOUR contributors have furnished the manuscript for this number, which takes in diseases of the thorax and its viscera, including the heart, lungs, and blood vessels, dermatology, and syphilis, diseases of the nervous system, and obstetrics. The authors are William Ewart, William Gottheil, Richard Norris, and William Spiller. That the work of each has been well done goes without saying. One hundred and thirty-three pages are required for the first retrospect, which begins with croupous pneumonia and ends with aortic aneurysm. Gottheil has given an excellent résumé of new things in his branch, and has made a special feature of illustrations, which is commendable. Spiller's review of nervous disorders is worth reading from start to finish, and Norris has covered the ground of obstetrics and its disorders in an acceptable manner.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, December 9, 1901.

JOHN B. WALKER, M.D., CHAIRMAN.

A Case of Hemorrhagic Pancreatitis with Fat Necrosis; Operation.—Dr. H. LILIENTHAL presented a man, fifty-three years of age, who had been admitted to the Mount Sinai Hospital on June 4, 1900. Nineteen years before, he had had an alleged similar attack to the present one. Nine days before admission, the attack had begun with cramplike pain in the abdomen and a chill. There was constipation, with light-colored stools. On examination, the abdomen had been found very much distended and rigid, and especially tender in the right hypochondrium. Here there was a mass which was dull on percussion. The pulse was 104 and the temperature 101° F. There was slight conjunctival icterus, and the man looked extremely ill. The following day an incision was made with the idea that the gall-bladder was the organ at fault. However, on exposing the omentum, there were found numerous circular indurated plaques, ranging in size from that of a pin's head to more than 1 cm. in diameter. On introducing the hand, the mass was found near the head of the pancreas, and on aspiration, blood was withdrawn. One of the plaques was cut out for examination. There was a large quantity of bloody fluid in the abdomen. The wound was closed with drainage. The man had been discharged well on June 30. Examination of the specimen by Dr. F. S. Mandlebaum showed the case to be a typical example of fat necrosis.

Cases of Intussusception.—Dr. LILIENTHAL presented three cases of intussusception. The first was a boy of three years, seen by him on January 30, 1901. There was a history of abdominal cramps for eight days previously. There had been but little vomiting; the temperature was 100°, and there was a peculiar transient cyanosis at times. There had been no blood in the stools. Suspecting intussusception, the child had been sent into the hospital. The next day it had become extremely cyanotic, and the pulse very rapid, so an incision had been made along the outer border of the rectus. This had exposed an ileocæcal intussusception about eight inches long. The appendix being large and œdematous, it was removed, and the cæcum was anchored to the lower end of the wound by a single suture. At the end of sixteen days, the child had been discharged from the hospital.

The second case was that of a boy of three years, who was shown because of the interest attached to the diagnosis. The boy had been discharged from the Mount Sinai Hospital on March 10 as cured after an alleged attack of typhoid fever, associated with a neuritis and a partial hemiplegia. On April 14, at noon, he had been readmitted with a history of having been well up to the previous noon, when he had been seized with a desire to go to stool. A few hours after this, he had had bloody stools. Rectal examination had been negative, but had been followed by a copious discharge of blood and mucus. The operation had been done at 4 P.M. the same day, an incision being made along the outer border of the rectus on the supposition that there was a mass on that side. This incision had exposed a distended gall-bladder and an intussusception of the ileocæcal variety. It had been reduced with considerable difficulty, and the upper part of the cæcum had been anchored by a single suture to the lower angle of the wound. The child had recovered perfectly. The speaker said that he favored making the incision on the right side if it were thought that the tumor was on that side, but if it appeared to be in the middle or on the left side, he employed a median incision.

The third case was a female infant, five and a half months old, who had been admitted to the hospital on October 18, after having been seen by Dr. Koplik. A diagnosis of intussusception had been made. The child's eyes looked sunken. An immediate operation had been done through a median incision, and this had revealed an ileocolic intussusception. The reduction had been effected with great difficulty. The child had been discharged one week later.

Supracoracoid Dislocation of the Humerus.—Dr. CARL BECK presented a man with a supracoracoid dislocation of the humerus, which had been sustained six months ago, and had been treated by a druggist for about five months as a contusion. It had only been after incision and extensive dissection that he had been able to reduce the dislocation, and in order to make this permanent, he had sawn off the head of the bone and inserted a silver wire suture.

Gangrenous Intussusception in a Child of Four Years; Intestinal Resection; Recovery; a Method of End-to-End Suture.—Dr. CHARLES N. DOWD presented this case and read a brief paper in connection with it. The child had been well up to May, when he had begun to suffer from abdominal pain and discomfort. When first seen by Dr. Dowd in July, there had been chylous vomiting, and the child had been losing flesh and strength rapidly for the past ten days, and the bowels had not moved in this time. The pulse was 120 and the temperature 100°. Tympanites was excessive. He had operated at once through a median incision below the umbilicus. Greatly distended and congested coils of intestine had rolled out, and an intussusception had been found at about the middle of the ileum. There was a spot of gangrene through which a perforation was discovered after making gentle manipulation. Two inches of this portion of the intestine, together with some omentum, were resected and a circular enterorrhaphy done. The patient had been put to bed in fairly good condition, and the next day the bowels had moved. The child had left the hospital in about one month.

The speaker said that recovery from non-reducible intussusception, and especially with a gangrenous intussusceptum, in young children was very rare. The formation of an artificial anus was fast losing favor and was not to be recommended as a rule in cases of intussusception. It takes almost as long to do that operation as to suture the resected ends of the intestine together. Unless the artificial anus was in the lower part of the intestine, life was maintained with difficulty. The most favorable results had been obtained by resection and circular enterorrhaphy. The modes of performing intestinal suture were various; one author had enumerated no less than eighty-one different methods of intestinal suture. The Murphy button usually gives satisfactory support and good union, and each year finds this device more generally employed by surgeons; however, there were certain conditions to which it was not well suited. There were numerous method of end-to-end suture, the Czerny being the one most commonly employed. The mucous membrane, however, tends to evert with this suture, and the mesenteric border is particularly weak. The suture of the mucous membrane could not be depended upon to prevent leakage into the triangular space formed by the mesentery. A specimen was exhibited to show how much union might take place after an end-to-end anastomosis done only nine hours before death. The specimen emphasized the importance of bringing the intestinal wall firmly against the peritoneal covering. He believed that an inner row of sutures going through all of the coats of the intestine, and reinforced by a row of Lembert's sutures would afford the best results. Personally, he did not feel that it was safe to leave a row of through-and-through sutures in the intestine unless reinforced by a row of Lembert's sutures. It could not be doubted that the mucous layer of the intestine is frequently pierced in the effort to pass a suture only through the

thin submucous layer, and yet no serious results follow. It had been found by actual experiment that the Maunsell suture, reinforced by the Lembert suture, gives practically no diaphragm formation in the bowel. The method advocated by the speaker was in effect the same as this, though done somewhat differently. So far as he had been able to ascertain, the method which he advocated was original with him.

Dr. Robert Abbé said that he had learned that no one method was applicable to all cases. In the majority he had preferred to use the Murphy button, though he was free to say that he had achieved no such results as were implied in the statistics collected by Murphy's assistant. Certain modifications in the use of this button were useful, such, for example, as slipping it within the bowel and pressing the parts together so as to punch out a portion of the bowel and give rise subsequently to an annular necrosis. The weight of the Murphy button, tending to produce kinking of the bowel, the occasional occlusion of the lumen of the button, and its retention were certainly serious disadvantages. The union of two ends of the intestine was the method which surgeons would eventually employ in a large proportion of cases. It was most important that the entire inner coat of the bowel should be grasped in the inner suture, as this would secure fixation of the bowel and insure good union. The question of the diaphragm made by this suture seemed to him of decidedly minor importance, although Murphy seemed disposed to magnify it. In the future, if the patient's condition warranted it, he would again adopt this revival of the old method of end-to-end suture. The plastic exudate formed in from twenty-four to forty-eight hours is usually sufficient to protect and close the parts. He wished to congratulate Dr. Dowd on the excellent result attained in the desperate case of gangrenous intussusception.

Dr. Lilienthal said that he now practically uses the Murphy button only in gastroenterostomy. He had already published a method of intestinal suture precisely similar to the one described by Dr. Dowd. Laplace's clamps seemed to him wholly unnecessary.

Dr. Joseph A. Blake said that he believed the best method of intestinal suture was by means of a suture passing through all of the coats, and then reinforced with another. The result in Dr. Dowd's case was a most excellent one.

Dr. Carl Beck said that he, too, thought surgeons would come back to the use of the intestinal suture. It had been his good fortune to see Czerny operate upon the first undisputed successful case of intestinal suture. The speaker said that he had made some experiments on cats, and had published them in *Langenbeck's Archives* in 1879. In some of these animals, resection and intestinal suture had been employed, while in others an artificial anus had been established. It had been found that greater success had followed the use of the former plan.

Dr. Dowd said, that after looking over the illustrations of the method published by Dr. Lilienthal, he saw that it was practically the same method of suture as that which he had himself worked out and had advocated in his paper. It was a great gratification to him to find that those present were so generally in favor of intestinal suture.

Acute Pancreatitis, with a Report of Three Cases.—Dr. George Woolsey read this paper. He said that formerly, for some unknown reason, the classification of pancreatic inflammation had been different from that employed for inflammation elsewhere. In acute cases, leading to sudden death, hemorrhage was a prominent feature. It was still uncertain whether this hemorrhage is primary or secondary to the inflammation. Besides the hemorrhages, a hemorrhagic similar to that observed in cholæmia was present in acute pancreatitis. Acute pancreatitis was often associated with fat necrosis, and was essentially due to the interference with the discharge of the pancreatic secretion, and to its escape into the tissues. Lesions of, or near, the pancreas had been found experimentally to lead to necrosis of that organ. A localized abscess might occur in or about the pancreas, with or without necrosis of the pancreas itself. The cases reported in the paper threw little light upon the etiology farther than to show that alcoholism may be an important factor. None of these cases gave a history of previous injury. Severe cramp-like pain, distention of the colon, vomiting, and irregular temperature were the common symptoms, and if associated, as was sometimes the case, with constipation, might lead to an error in diagnosis. The diagnosis was almost always difficult. The sudden onset and collapse, and the abdominal distention in connection with the history of injury, alcoholism, or biliary colic, sometimes allowed of making a probable diagnosis, but most cases were not determined before operation. In all three of the cases reported, the pancreas was hard and enlarged. Diminution of the ethereal salts in the urine had been demonstrated to be an unreliable sign, but glycosuria afforded useful confirmatory evidence. Where the diagnosis was clear, some authors had recommended the use of the posterior as well as the anterior incision, the former being made at the costo-vertebral angle. The prognosis was bad in all cases of pancreatitis, but was worse in acute hemorrhagic pancreatitis, and best where there is a localized abscess. Recovery without operation was almost out of the question.

The first case reported was that of a woman of twenty-three years, who looked ill and septic. The greatest tenderness had been in the region of the vermiform appendix. Several ounces of dark fluid had been evacuated at the operation, and the gall-bladder found distended. There were several small spots of fat necrosis on the peritoneum, and in the region of the pancreas two or three necrotic patches. On admission, the leucocyte count had been 39,000, whereas a week after operation it had been 15,000. The patient had left the hospital after nineteen days. The second case was that of a man of fifty-two, giving an alcoholic history. His illness had begun with a chill the night before admission, and the next morning there had been vomiting, abdominal distention, and abdominal cramps. He had been operated upon the same day through a three-inch incision above the umbilicus. The pancreas was hard and enlarged, especially at its head. The temperature ran up to 104° and the pulse to 140 for the first four days, and two saline infusions were required. His recovery was largely attributable to the free use of whiskey, which seemed favorably to influence his restlessness and delirium better than anything else. The urine contained a little albumin, but no sugar. Very large non-pathogenic cocci had been found in the fluid from the peritoneal cavity.

The third case was that of a man, twenty-nine years of age, a truckman by occupation. He had been admitted on July 27, 1901, and gave a history of excessive use of tobacco and spirits. The present attack had followed a debauch. The vomiting was greenish, and the bowels moved regularly, but the stools contained no free fat. The urine contained some sugar. As the symptoms had improved at first, no operation had been undertaken immediately. Finally, however, the symptoms of septic peritonitis had developed, and the patient had then been promptly operated upon through an incision in the median line above the umbilicus. There was a walled-off abscess in the pelvis in which the appendix was found. The adhesions were broken up, and the cavity thoroughly flushed out. For a few days after the operation there had been some vomiting of a brownish fluid. The bowels had moved freely on the third day, and for two weeks thereafter there had been a profuse diarrhœa. When discharged from the hospital, in September, his general condition had been much improved.

Dr. Charles N. Dowd said that Halsted had recently

published a case of acute hemorrhagic pancreatitis in which there had been obstruction of the gall-duct, thus leading to a retroinjection of the bile into the pancreas. Opie had performed some experiments on animals which seemed to point to this retroinjection of bile as one of the causes of acute hemorrhagic pancreatitis.

Dr. Abbé said that he had had no case in which he had recognized fat necrosis during operation. Three cases of pancreatic cyst, secondary to inflammation, he had drained with good result. Nine years ago he had seen a gentleman who had been steadily losing health for about six months before an epigastric tumor had been discovered. On exploratory operation, a large, hard, and solid tumor had been found in the head of the pancreas, and had been mistaken for a cancer. In order to relieve him, an anastomosis had been established between the gall-bladder and the colon, and to his surprise the man's health had been completely restored. Dr. Abbé said that he had examined this man only about a year ago, and had found no evidence at that time of the former trouble; hence it could not have been a malignant growth. The case was very instructive, because it seemed as if this man's life had been saved by relieving the pressure of bile.

Dr. Benjamin T. Tilton said that he had recently observed a case of acute hemorrhagic pancreatitis which had shown all the usual signs of this affection, together with those of intestinal obstruction. He had operated, and had found a large quantity of hemorrhagic fluid in the peritoneal cavity, but no evidence of fat necrosis. At the autopsy the pancreas had been found small and infiltrated with blood, and there was a fat necrosis in the adjacent omentum and mesentery. The man was decidedly alcoholic. The condition of the gall-bladder in Dr. Abbé's case was probably the result of hyperplasia of the head of the pancreas, and consequent pressure and stagnation of bile.

Dr. Joseph Wiener said that the disease under discussion is quite obscure. The therapy employed in the cases reported in the paper seemed to be identical with that considered appropriate for peritonitis. In the second case reported it seemed to him not at all improbable that the drainage used had actually drained the pancreas.

Dr. Woolsey said that the experiments of Opie, though very interesting and instructive, did not seem to explain all the cases of pancreatitis. Dr. Abbé's case would probably come under the heading of subacute pancreatitis, a class of cases not very uncommon, and often leading by pressure to gallstone formation. Pancreatitis with acute invasion does not necessarily involve hemorrhage, necrosis, or abscess. In the second case, there had been pancreatic fluid free in the peritoneal cavity, and a peritonitis of more or less obscure origin, though it was known that peritonitis is often associated with pancreatitis. In the last case there had been no fat necrosis.

Orchidectomy for Torsion of the Spermatic Cord.—Dr. Joseph Wiener presented this specimen, which had been taken from a boy of fifteen, who, five days previously, had lifted a heavy weight. He complained of pain in the right groin and lower part of the abdomen, accompanied by fever and restlessness. There was a swelling in the right groin about the size of a hazel nut. The pulse was 84 and the temperature 101°. The right side of the scrotum was red and œdematous. In the upper portion of the scrotum and in the inguinal canal was a swelling, about the size of a hen's egg. The case was supposed to be one of strangulated hernia. On opening the tunica vaginalis, a considerable quantity of bloody fluid was found. Inside was a tumor about the size of a small lemon, which proved to be the testicle and epididymis. About one inch outside of the external ring, the spermatic cord was found twisted, and as the circulation could not be restored, the testicle was removed.

Orchidectomy for Syphilis.—Dr. Wiener also presented this specimen, which had been taken from a man, fifty-six years of age. He denied syphilis. For seven weeks previous to admission, he had noticed a swelling of one testicle. He also had profuse expectoration, but examination failed to show any tubercle bacilli. The testis and epididymis were removed under local anæsthesia, and Dr. Mandlebaum examined the specimen and reported it to be syphilis of the testis. According to authorities in pathology, it was impossible to differentiate between syphilis and tuberculosis of the testis except by microscopical examination.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, December 12, 1901.

William L. Stowell, M.D., Chairman.

Malnutrition.—This was the general topic for the evening's discussion, and it was considered under the following heads:

Syphilis.—Dr. C. G. Kerley read this paper. He said that according to his observation the severity of the disease in the offspring corresponds to, and is dependent upon, the activity of the disease in the parent. A severe infection results in sterility or death of the fœtus; with a lesser degree the child may show no evidence of the disease until some time after birth. One can never promise the man or woman who has had syphilis that their children will be free from syphilis. Syphilis is a cause of malnutrition in the early months of life, but it differs in many respects from the malnutrition associated with various other disorders, and hence it is not of special diagnostic value. In children varying in age from three years to puberty, the persistence of malnutrition in spite of good treatment was strongly suggestive of syphilis. Two cases were cited to show how debility and malnutrition might be present after months of treatment by different physicians according to the most approved methods, and yet rapidly disappear under the use of mercury and iodide. In one of these cases the father had finally confessed to having had syphilis fifteen years before marriage. He said that he had received good treatment, and had been told that he was thoroughly cured and might safely marry. Children who are under size and under weight, who are easily tired and show a lowered vitality, should be given the benefit of a course of specific treatment regardless of the statements or social position of the parents.

Tuberculosis.—Dr. Floyd M. Crandall took up this part of the subject. He called attention to the fact that tuberculosis is one of the most protean of diseases in its manifestations. The anæmia accompanying tuberculosis is usually marked by a diminution of the red blood corpuscles and of the hæmoglobin; it is secondary and not due to disease of the blood-making organs. The author gave special attention to the concealed forms of tuberculosis in children. He said that children sometimes waste away and die without showing signs of any organic lesion. They seem to be suffering from simple marasmus, yet at autopsy tuberculous lesions are discovered. In other cases, after the symptoms of marasmus have existed for a greater or less period, the signs of organic disease develop, usually in the lungs. It was because of the existence of such cases that the theory of a "pretuberculous" stage had been propounded. This so-called pretuberculous stage was probably nothing more than an early stage of tuberculosis in which the disease had not yet been recognized. The deeper lymph nodes were the most common seat of concealed tuberculosis. These nodes may be seriously affected without involving the superficial nodes. On the other hand, involvement of the superficial nodes without constitutional disturbance affords no evidence of involvement of the deeper nodes. The anæmia of tuberculosis was certainly not characteristic of the disease. Loss of weight was common, but did not necessarily proceed steadily. Ca-

chexia rarely occurs early enough or is sufficiently distinctive to be of value in making the diagnosis before other symptoms can be recognized. An absence of cough in tuberculosis was by no means uncommon; even with pulmonary involvement it might occur rather late, and be so slight and at such long intervals as to be entirely overlooked by the physician. Sometimes it is of a paroxysmal character, simulating pertussis. Marked fever may not be present until late in the disease. The indigestion, loss of appetite, and vomiting so often seen in these cases were by no means characteristic. There was a type of tuberculosis in children resembling typhoid fever. In this type, wasting in the first stage, and wasting and fever in the second stage, were never absent. Unfortunately, even after pulmonary signs had developed, it was not possible to be too dogmatic in one's statements, for such symptoms are sometimes met with in pure marasmus. While none of the symptoms are characteristic of tuberculosis, taken together they form a group which should place the physician on his guard, and lead to a timely diagnosis. Anæmia and wasting in a young child, in whom thorough examination fails to show an adequate cause, should always lead to a suspicion of incipient tuberculosis. In tuberculous families, children between the ages of fourteen and twenty should receive special care, and any anæmia should receive prompt and careful treatment. He had come to look upon chlorosis as a much more serious disorder than is generally supposed. A chlorotic girl is a candidate for almost any wasting or infectious disease, and foremost among such diseases should be placed tuberculosis.

Rachitis.—Dr. A. Jacobi made some remarks on this subject. He said that in connection with malnutrition of rachitis one should differentiate between malnutrition occurring in a rachitic child, and malnutrition dependent upon rachitis. Symptoms of starvation and of atrophy were present in rachitis, but also in other conditions. There might be a deficiency of lime in the bones of rachitic children, but also in other conditions. Disordered nerve action could not be considered as one of the principal causes of rachitis, though it occurs in this disease as well as in others. The causes generally given for rachitis were found in a number of other disorders. While many cases of rachitis could be traced back to hereditary syphilis, there were a great many more cases of hereditary syphilis that had nothing whatever to do with rachitis. Artificial alimentation was justly given as a cause of rachitis, yet it also led to many other diseased states. There were really only a few forms of malnutrition which give rise directly to rachitis. These were a moderate excess of lactic acid in the stomach and the absence of hydrochloric acid. The absence of hydrochloric acid would certainly lead to an absence of lime and a diminished supply to the bone. The absence of lime alone was not sufficient to constitute rachitis. Rachitis had generally been studied in the bones, and here it showed itself either as an epiphysitis, with considerable swelling of the epiphysis, or as soft deposits on the periosteum, or as an absorption of the interior portion of what had been previously normal bone. The last gives rise to a process resembling osteomyelitis in appearance, and results in deformities which are apt to be permanent. The part of the body which suffers most, and gives rise to malnutrition, is the chest. First, the chest loses its elliptical shape, and in this way interferes with the action of both the lungs and the heart. Where scoliosis was also present, as was frequently the case, the aorta was drawn out and distorted so as to interfere with the circulation in this great vessel. The thymus gland was apt to be unusually large in rachitic babies, and the space between the vertebræ and the manubrium was thereby narrowed. Even with a moderate amount of chest compression these children appear to have enlargement of the liver and spleen, because of the downward displacement of these viscera. The blood had been studied in connection with rachitis. Jaksch found less salts present, while Schiff found less hæmoglobin and the normal amount of red cells. John Lovett Morse, on the other hand, had been unable to find any characteristic changes in the blood. It was evident, therefore, that rachitis is not a disease of the bones alone, but a constitutional disease. It often manifests itself almost wholly in the muscles. The striped muscles may be so much affected as to give rise to a form of debility so marked as to have led to the improper designation "pseudoparalysis." The intestinal muscles share in this weakness. When a breast-fed infant that was not constipated at birth becomes so in the second or third month, one may feel pretty sure that rachitis is present. Because of the weakness of the muscles there is a tendency to pulmonary atelectasis and bronchial catarrh, and the latter is the original cause of the enlargement of the lymph bodies, beginning with those of the mediastinum, and finally extending all over the body. The liver is frequently large, and is apt to exhibit fatty degeneration. The infectious theory of rachitis had been first suggested by Oppenheimer of Heidelberg, because of the restlessness at night and the enlargement of the spleen. The digestive organs share in the malnutrition, and hence tympanites, colic, and vomiting may be present. Rachitis of the base of the cranium frequently begins in intrauterine life, and is the cause and anatomical explanation of many cases of cretinism. This shortness of the base of the cranium arises from an early ossification of the synchondrosis between the occipital and the sphenoid bones, and when this synchondrosis becomes ossified, further growth cannot take place. Thus, the large basal ganglia are considerably damaged. Such a cranium is always the seat of hyperæmia and œdema. Laryngismus stridulus in forty-nine cases out of fifty is the result of cranial rachitis. It was evident, therefore, that there are many forms of malnutrition which are directly dependent upon rachitis.

Dr. William Henry Porter opened the discussion on malnutrition. In his opinion, all forms of malnutrition take their point of deviation from: (1) Defective quantity or quality of food; (2) A lack of a proper amount of exercise, or (3) From conditions disturbing the nervous mechanism. In every case of malnutrition, he thought, one or more of these factors were at work, and each case should consequently be analyzed with reference to these elements. It was only when the health had been deteriorated in one of these ways that a suitable soil would be found for the reception of the germs of the various infectious diseases. Our treatment, therefore, should be directed toward correcting these fundamental conditions.

Dr. Walter Lester Carr said that he had been interested in some cases of congenital syphilis in which malnutrition had been a very marked feature. In the first case, there had been marked evidence of direct inheritance. The child had been kept on the breast and had nevertheless lost weight. It had seemed to him that the first thing demanding attention was the improvement of the nutrition. Owing to the diseased condition of the nose the child could not suckle properly; hence his first step had been to have the milk drawn out of the breast and fed to the infant. This had resulted very satisfactorily, and it emphasized the importance of looking into the associated states, and not merely directing treatment to the one underlying disease.

The Nursing of Syphilitic Infants by the Mother.—Dr. Joseph E. Winters said that recently, in a conversation with a distinguished teacher on venereal diseases, he learned that this gentleman was teaching his classes that infants with inherited syphilis, who are at the breast of an apparently healthy mother, should be weaned. He thought this notion had long ago been abandoned—indeed, he did not think there was any statement in the textbooks warranting such a belief. Many foreign writers state that a majority of cases of inherited

syphilis die, yet the speaker said he had seen a great many of these cases at the Demilt Dispensary, all of them breast-fed. He could not recall that one of them had died. Two had been in one family, and had congenital syphilis, in contradistinction to inherited syphilis. Both of them are living and well to-day. The large mortality from inherited syphilis abroad was probably dependent upon feeding them artificially. The great advantage of breast-feeding, aside from the easy assimilation of such milk, was that the infant could be treated through the mother. He did not rely upon this alone, as a rule; but if the administration of mercurials to the baby disturbs digestion, these remedies should be discontinued and the medication kept up through the mother. There was no danger of the mother inheriting syphilis because she must have already had it before giving birth to the infant.

Dr. David Bovaird, Jr., said that he had seen a case of congenital syphilis occuring at the New York Foundling Hospital in the service of the late Dr. Joseph O'Dwyer, and this physician had directed that the child be taken at once from the mother for fear she might become infected. Dr. O'Dwyer insisted that he had seen syphilitic infants infect apparently healthy mothers, and produce syphilitic lesions in the mother. He mentioned this case because of the high standing of Dr. O'Dwyer as a clinician, though he had no personal experience to support this notion.

Dr. Winters said that in 1837 David Colles of Dublin had first called attention to the fact that there was no case on record of a syphilitic infant having infected its mother and caused a syphilitic lesion. Jonathan Hutchinson had comparatively recently called attention to this same law, and had supported this position by careful investigation, including correspondence with observers in all parts of the world. A number of other prominent clinicians took the same ground, and hence if any physician had himself observed a syphilitic lesion on the nipple of a mother nursing a syphilitic infant, it was his duty to report the case. Dr. Winters said that in a large personal experience he had never seen such infection occur. In his opinion, it was not possible for a mother to give birth to a syphilitic infant without having syphilis, for, if she did not get the disease from the father before conception, she must have contracted it during gestation.

Dr. Kerley said that a physician in Munich had reported ten or twelve years ago a case in which such an infection had occurred.

Dr. A. Jacobi said that when a baby is born to a syphilitic father and mother, the father almost always being the guilty one, the baby does not infect the mother, but may infect the wet nurse. It was, of course, criminal to put a baby with hereditary syphilis to the breast of a healthy wet nurse without letting her know what she must expect. It was a law that such a baby does not infect its own mother, probably because the mother has been rendered immune, nevertheless there were some exceptions. He had himself seen some of these exceptions, and had spoken of them, one of these cases being reported by him in the "Twentieth Century Practice of Medicine." These cases were, however, so exceptional that they "proved the rule," and he agreed with Dr. Winters that a syphilitic baby should nurse from its mother, although the mother should be carefully watched and should be warned of the possible though not probable danger.

Puny Children and Specific Medication.—Regarding children who are well enough developed, yet lack in muscle, bone, and general vitality, Dr. Jacobi said that unless treated correctly they would rarely amount to anything. They were most commonly found in well-to-do families, and though given the benefit of change of air and the best of food, they would not thrive until given anti-syphilitic treatment. It was often necessary to repeat this medication at intervals for a number of years, or up to puberty. He had observed this again and again, and had come to the conclusion that probably one of the reasons why our ancestors gave calomel in every disease of childhood was that they had discovered that puny children who do not thrive on ordinary tonics do well on small and frequently repeated doses of calomel. Cases of so-called retarded syphilis were really not retarded syphilis, but examples of syphilis appearing in childhood, and being suppressed by treatment, only to reappear years afterward, perhaps not until the age of twenty or thirty. This later development could be prevented if the treatment in childhood were persisted in for at least a year, and the child were brought for inspection at intervals of a year or two.

Dr. William L. Stowell said that one occasionally met with children having congenital syphilis, who, when grown up, show no evidence of the disease, and have healthy offspring.

Dr. H. D. Chapin said that sometimes syphilitic babies are well nourished, and even stout, though presenting a mucous patch or some other evidence of their constitutional dyscrasia.

Medical Items.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended December 21, 1901:

	CASES.		DEATHS.	
SMALLPOX—UNITED STATES.				
California, San Francisco	Dec. 1-8	1		
Georgia, Elberton	Dec. 12	12		
Indiana, Evansville	Dec. 7-14	3		
Maryland, Baltimore	Dec. 7-14	1		
Massachusetts, Boston	Dec. 7-14	60		6
Cambridge	Dec. 7-14	1		1
Medford	Dec. 7-14	1		
Minnesota, Winona	Dec. 7-14	2		
Nebraska, Omaha	Nov 30-Dec. 14	22		
South Omaha	Nov 30-Dec. 14	40		
New Jersey, Camden	Dec. 7-14	10		
Jersey City	Dec 1-15	23		
Newark	Dec. 7-14	26		3
New York, New York	Dec. 7-14	10		2
Ohio, Ashtabula	Dec. 7-14	3		
Cincinnati	Dec. 6-13	6		
Pennsylvania, Allegheny City	Nov. 30-Dec. 7	1		1
Lebanon	Dec. 9-16	25		
Norristown	Dec. 7-14	2		
Philadelphia	Dec. 7-14	125		8
Tennessee, Memphis	Dec. 7-14	7		
Nashville	Dec. 7-14	1		
Utah, Salt Lake City	Dec. 7-14	2		
Vermont, Burlington	Dec. 7-14	4		
Washington, Tacoma	Dec. 1-8	1		
West Virginia, Wheeling	Dec. 7-14	1		
Wisconsin, Fond du Lac	Dec. 3-10	1		
Green Bay	Dec. 8-15	11		
SMALLPOX—FOREIGN.				
Austria, Prague	Nov. 16-23	7		
Brazil, Pernambuco	Oct. 15-31			2
Canada, Quebec	Dec. 7-14	25		
St. John	Nov. 30-Dec. 7	16		
Windsor	Dec. 7-14	1		
Colombia, Panama	Dec. 2-9	25		
France, Paris	Nov 23-Dec. 30			2
Rheims	Dec. 16-20	2		
Great Britain, Glasgow	Nov 29-Dec. 6	4		
London	Nov 23-30	427		23
Russia, St. Petersburg	Nov. 16-23	1		
YELLOW FEVER				
Mexico, Vera Cruz	Nov. 30-Dec. 7			8
CHOLERA				
India, Bombay	Nov 12-19			2
Madras	Nov. 9-15			17
PLAGUE—INSULAR.				
Philippines, Manila	Oct. 12-25			5
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Karachi	Nov. 10-17			49

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